



Skills Provision for the Construction Sector in Wales – Research to inform Transformational Change

Final Report

October 2011

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Job Centre Plus	Zero Carbon Hub

Executive Summary

Background

This project was supported by the Welsh Government's Sector Priorities Fund Pilot (SPFP) programme which is in receipt of support from the European Social Fund (ESF).

1. The Welsh Government is seeking to secure greater choice and less duplication of courses, more collaborative and higher-quality providers, and better-targeted, demand led learning.
2. The Welsh Government's Economic Renewal Programme (ERP) aims to pick up the pace in tackling the challenges faced by the Welsh economy. The programme sets out a vision for the future of the economy in Wales, taking forward an approach that is built upon five key objectives:
 1. Investing in high quality and sustainable infrastructure;
 2. Making Wales a more attractive place to do business;
 3. Broadening and deepening the skills base;
 4. Encouraging innovation;
 5. Offering targeted business support.
3. Policy decisions relating to Economic Renewal are taking place during a period of transformation for education services in Wales. In 2011 and following an independent review, the Education Minister accepted key recommendations relating to the need for a more collaborative approach between education institutions and a wide range of partners, to raise quality and make savings through shared delivery of services.

Research Objectives and Methodology

4. The objectives of this research were to:
 - explore current and anticipated future training needs among construction employers in Wales;
 - assess the suitability of existing construction training provision at meeting demand;
 - determine and recommend possible models for transforming construction training provision.
5. The project brief provided four possible options for future construction skills provision, thereby forming the context for the research:

Four options for change to skills provision in Wales

Option 1	<i>The case for a new build National Construction College (NCC); based on the model of the rest of the UK's NCCs to satisfy the demand for courses not currently available in Wales</i>
Option 2	<i>Partnering an existing proposal for a 'construction centre' in Wales, with a view to ConstructionSkills becoming a partner in that proposal and working under the brand of NCC</i>
Option 3	<i>Retraining of staff in existing institutions to deliver training required to meet the future skills demands of the sector</i>
Option 4	<i>No change - ConstructionSkills continues to deliver qualifications as a Managing Agency</i>

6. The study involved the following strands of research:

1. Literature review and analysis of existing Further Education, work based learning and Higher Education construction training provision in Wales, including the identification of gaps in provision¹;
2. Telephone survey of 400 Wales-based construction sector employers (targeted by sub-sector according to Standard Industrial Classification codes);
3. Telephone survey of 100 construction sector employees (targeted by Region of Wales – North/Mid/South East and South West);
4. Focus groups principally involving training providers and professional bodies;
5. Telephone interviews with National Construction College representatives.

7. It is recognised that, in conducting this research, the options explored will have varying impacts on the different types of training providers operating in Wales. Whilst Further and Higher Education are the prominent infrastructure to support skills and training – other organisations, such as private training providers and even Local Authorities, make a positive contribution in supporting workforce development across the construction sector.

Construction in Wales

8. Although at an extremely fragile stage of economic recovery – some reports have indicated positive signs of growth. Experian has projected that, between 2011 and

¹ Both the literature review report (Word format) and matrix of construction provision in Wales (Excel format) have been delivered to ConstructionSkills as separate annexes to this main report.

2015, construction output in Wales will rise at an annual average rate of 1.2% - slightly higher than the forecasted figure of 1% across the UK as a whole.

9. On this basis there is expected to be a small increase in total construction employment in Wales to 107,500 by 2015 (an increase of about 5% although still 20% down on 2007 levels). The projection implies an average annual recruitment requirement² of 4,160 individuals³.
10. Future planned construction projects are expected to require a significant rise in activity across Wales as a whole. Of the twenty three planned £100m+ projects, seventeen are in South East Wales, five are in North Wales and one is planned for Mid Wales. These figures indicate a rise in demand for construction-related skills in North Wales in the coming years⁴.
11. Providers and industry representative bodies expect the size of current and planned construction projects in Wales, coupled with projected employment growth to 2015, to increase demand for both traditional and higher skills over the next five to ten years.
12. They also expect the size and nature of the expected large-scale projects to place specific emphasis on advanced and new skills in materials, low energy building techniques, and new building technologies including advanced building methods, and the integration of high technology systems into the new buildings including advanced glazing, heat reclamation systems, and carbon reduction techniques.

Drivers of change

13. A number of external drivers are expected to steer change in the industry over the coming years, in particular legislative change relating to the Low and Zero Carbon agenda. These drivers are currently offset by uncertainty and caution within the industry following the recent recession and forced contraction in employment, meaning that many employers, particularly SMEs, are focussing on short term survival.
14. Industry representative bodies and providers, however, both expect the need for change to new techniques and technologies and the subsequent need for new knowledge and skills to be felt within the next five to ten years and, therefore, that the need to transform provision in Wales is pressing. A 'Delivering Low Carbon Skills' project is already being delivered by the Sector Skills Councils through Welsh Government and ESF funding support. The project is aimed at establishing a variety of new training provision associated with emerging low carbon skills needs.

² The Annual Recruitment Requirement is a gross requirement that takes into account workforce flows into and out of the construction sector. However these requirements do not include movements into the industry from training. In this respect, the ARR represents the recruitment needed by the industry to fulfill the output levels forecast.

³ Experian - Construction Skills Network 2011-2015: Wales LMI.

⁴ Glenigan data: Quarter 4 2010.

Demand-side evidence

15. As a result of the recession, a key challenge for employers is winning new work, and there is evidence that a minority of employers are seeking out new market opportunities. Where training is concerned post-recession, attentions have turned more towards in-house provision, including more 'immediate' and short-course training.
16. At present, just over half of employers are training in low carbon skills which are likely to underpin the future development of the workforce. This is echoed by the fact just under half of employers believe low carbon skills to be important.
17. The majority of construction employers in Wales have provided learning and training for the workforce within the last two years, and have used a variety of on-the-job and off-the-job approaches.
18. Despite overall levels of satisfaction with existing provision being high – a third of employers (particularly those within the 'other professional, scientific and technical activities⁵) report a range of barriers to training, most notably cost and time to train.
19. Looking to the future, employers want more convenient forms of training, i.e. short courses appropriate to their business and accessible geographically.
20. Just over half of employers support the development of some form of new or additional education and training facility along the lines of the existing National Construction College (NCC) either as a new physical site (28.5%) or through a partnership approach (24.7%). These represent options 1 and 2 respectively and in practice may mean different applications depending on the perspective of respondents.
21. Around 21% would prefer to see staff retrained in existing institutions and a further fifth would prefer no change to construction provision. These represent options 3 and 4 respectively.

Supply-side evidence

22. While 'traditional' construction training is considered by providers to be adequate, participants in the focus groups highlighted skills for eight specialist areas that they regard to be most critically required in Wales:
 - Earth Moving Equipment;
 - Heavy plant materials (because of the size of the equipment and the space required);
 - Heritage (including specialist skills needed to retrofit historic/listed buildings);

⁵ Other professional, scientific and technical activities include roles such as environmental consulting and quantity surveying.

- Interior wall insulation (the ARBED programme for regeneration in Wales has led to increased demand for these skills);
 - Prefabrication, timber framing and pods;
 - Scaffolding;
 - Steeplejacking;
 - Street Works.
23. Generic (i.e. not specific to Wales) priority areas for skills development also extend to management and supervisory skills. Research carried out by IFF for ConstructionSkills in 2011 highlighted a number of gaps across the sector, most significantly: understanding the importance and implications of 'green' issues; managing sustainable practices; keeping up to date with legislation; IT skills; identifying and winning new business opportunities; as well as risk management⁶.
24. With respect to the options for change the providers and employer representatives prefer a partnership approach to transformational change in provision for the sector. This represents option 2 within the original specification.

Conclusions

25. The construction industry in Wales is apparently making a slow recovery following a hard recession. However, employment forecasts to 2015 are tentatively positive, showing total construction employment in Wales rising by a conservative 5% over the five years to 2015. The total employment figures this would generate would still be 20% down on 2007 levels⁷.
26. It is impossible to predict precisely what the industry will look like when it eventually begins to grow strongly once more. Neither is it entirely possible to identify the sub-sectors which will be able to grow fastest even within a very slowly expanding industry over the next five years.
27. Growth will be driven by a number of factors and over 70% of employers need more help in adapting to future change. The most influential drivers for change affecting employers are legislation and the need to maximise commercial opportunities in the interests of survival. Welsh Government targets with relation to low carbon and renewable energy present new market opportunities that have the *potential* to stimulate demand for new types of training.
28. Knowledgeable industry stakeholders, including the providers, are of the opinion that, while current education and training provision is adequate, there will - at some point in the recovery - be a need for different, specialised skills to support UK and Wales priorities. This is especially relevant if Wales is to be seen to export skills to other parts

⁶ IFF research for ConstructionSkills (2011) *Management and Supervisory Skills Research*.

⁷ Experian - Construction Skills Network 2011-2015: Wales LMI.

of the UK (and beyond) and in maximising the overall productivity of the Welsh workforce.

29. Focus group attendees pointed out that training and development in these skill areas requires facilities, equipment and space not available to many of the individual colleges or other providers. They also stressed the need to address future needs of the industry in high technology areas such as carbon reduction materials and techniques. There is also the issue of the adaptation of traditional trades – such as carpentry – and how these roles will need to be supported as new technologies and building practices emerge.
30. Approximately four fifths of employers are in favour of change to construction skills provision in Wales (aggregating responses to Options 1, 2 and 3), with only one fifth preferring the no change scenario (option 4). This is substantiated by focus group participants who were strongly of the opinion that, for Wales to remain competitive in terms of its construction skills base, training provision would need to be better equipped not only in terms of both physical space and plant but in terms of the knowledge and skills of the teaching resources.
31. Enhanced teaching skills and resources would be required for advanced knowledge and skills in such areas as:
- Advanced construction materials,
 - New building systems,
 - The use of insulation materials,
 - The installation of energy recycling systems,
 - Building and installation of waste heat recovery,
 - Advanced glazing systems (integration into existing building)
 - Techniques for upgrading the energy efficiency of existing buildings,
 - Building and maintenance of deep bore and ground heating systems
 - The building of green roofs,
 - The integration of solar and wind power systems into and alongside new and existing buildings,
 - and many more.
32. Option 1: The new build option has significant advantages in terms of resources, purchasing and teaching economies of scale, and space for modern heavy plant and street works, etc. However, it would take considerable time to build and commission, would entail fairly high costs and require careful integration with existing provision in order to avoid duplication and to make best use of staff skills and knowledge.
33. Option 2: The partnership option would appear to have many of the strengths of the new build one while potentially costing significantly less, being easier and quicker to

establish (subject to further development), and optimising the strengths of the existing provision. A number of Welsh providers have already expressed interest in such an arrangement. It would also be able, like the first option, to take advantage of the branding of, and links with, the wider NCC network at the same time as maintaining a separate Welsh identity.

34. Option 3: Retraining existing staff - while superficially attractive - is not considered by providers or industry representatives to be a viable option. While costs would be relatively low, the providers are already finding it difficult to up-skill their staff (even in traditional and current skills) and they feel that they would find it extremely difficult to meet the need for new, high-tech skills particularly in view of the competition between colleges for a limited number of skilled tutors.
35. The evidence of this study supports the case for change in construction skills provision in Wales; whilst there were benefits to all Options, the evidence from employers, providers and representative bodies pointed towards a more collaborative "partnership" arrangement more in line with Option 2.
36. The precise structure and nature of such an arrangement would require some further research and development, particularly in terms of the ways in which ConstructionSkills could utilise the most appropriate elements of its existing NCC model to enhance and support education and training provision in Wales. This would also require further dialogue with the relevant stakeholders needed to move proposals forward.

Recommendations

A number of project proposals have already been put forward by existing providers to develop some form of 'centre of excellence' for construction. Further consideration of the relative merits of one or more of these proposals and the way in which they could be linked to the existing NCC network (or other similar models) would potentially result in a solution which has the potential to enhance existing provision, be more sustainable in terms of effectively utilising existing infrastructure, whilst also creating a new and exciting opportunity for specialist skills provision in Wales.

General recommendations:

- It is recommended that Option 2 be taken forward as the basis for continued dialogue with the construction sector and relevant stakeholders. This will require more detailed research and development work to be carried out in the short term to identify more precisely the ways in which it would operate and the costs involved.
- It may be possible that one or more of the existing proposals mentioned above could enable this research activity to be achieved in a shorter timescale given the relative merits of these proposals and the development work they have already undertaken.

- It is further recommended that the delivery model for the partnership arrangement should be of the 'hub and spoke' variety as this offers greater potential for links to be made more widely across Wales, more efficient use of all facilities - whether physical or human – and less danger of duplication or competition in provision.

Specific Recommendations:

In consulting with the sector and key stakeholders it is apparent that there will be some underlying requirements which must be met in order for their expectations of a more forward thinking and responsive training infrastructure to be achieved. It is recommended that these are taken forward as the blueprint for any further analysis work and in reviewing proposals already having been developed. These have been grouped as follows and are in no particular order:

- Cost (e.g. setup, running, financial reserves and access to finance);
- Provision of Services (e.g. types of services to offer);
- Accessibility (e.g. geography, access for those with additional learning needs);
- Duplication (e.g. relationship to existing providers and their services);
- Evidence Base (e.g. planning of future provision and predicting long term training needs);
- Governance (e.g. transparency, industry led);
- Timescales (e.g. setup timescales).

1. Introduction

In 2010, Pye Tait Consulting was commissioned by ConstructionSkills to conduct a review of skills provision for the built environment in Wales, with the aim of providing the Welsh Government with a 'case for change' and a suitable proposal for skills provision that satisfies this change.

The project was supported by the Welsh Government's Sector Priorities Fund Pilot (SPFP) programme which is in receipt of support from the European Social Fund (ESF).

This report presents the evidence and recommendations as part of a case for change.

ConstructionSkills is a partnership between CITB-ConstructionSkills (the Industry Training Board representing Great Britain); the Construction Industry Council (representing professional bodies); and, CITB-ConstructionSkills Northern Ireland (the Industry Training Board for Northern Ireland). Partnership members bring together bodies with many years' experience working on skills issues for the benefit of the industry, not just to develop ideas but also to test them out and if necessary to directly deliver support for the construction sector.

ConstructionSkills has two core remits. As the Industry Training Board, it has powers to raise a levy on industry and provide grants to help employers train their workforce. As a Sector Skills Council, it is tasked with improving standards and identifying trends to help the industry adapt and keep pace in an ever changing environment.

In order to fulfil this remit ConstructionSkills delivers a range of products, services and information including training courses; careers advice and support; Apprenticeships; Health and Safety Testing; grants and advice to firms that wish to train; training materials; S/NVQs and Higher Education scholarships. More generally it also wishes to improve the image of the construction industry, encouraging people to see construction as a positive and fulfilling career choice.

In Wales ConstructionSkills has been awarded a contract and receives funding via the new Work Based Learning contracts to deliver apprenticeships which is procured by the Welsh Government and is supported by the European Social Fund (ESF).

1.1 Delivering skills that work for Wales

“A key priority for the Welsh Government is to secure a workforce that is sufficiently skilled to access future high level employment opportunities. Evidence suggests that to help achieve this, the Welsh Government should seek ways to more fully integrate the work of schools, Further Education Institutions, Higher Education Institutions and other post -16 providers to transform the ways in which education and training provision is delivered”.

Transforming Education and Training Provision in Wales: Delivering Skills that Work for Wales
Welsh Government, September 2008

The Welsh Government is seeking to secure greater choice and less duplication of courses, more collaborative and higher-quality providers, and better-targeted, demand-led learning.

Recognising that Wales’ network of learning providers are a key driver of skills, the Welsh Government’s ‘transformation agenda’ aims to drive excellence within work-based learning by creating provision with the capacity, scale and quality to deliver the skills of the future.

The Transformation Policy which was launched in September 2008, challenges providers of post-compulsory education and training in Wales to modernise their practices; it requires all providers to plan provision collectively; direct more of the funding available to teaching and learning and learner support; and thus transform the network of providers.

The policy sits alongside the Learning and Skills (Wales) Measure 2009, which also aims to provide wider learner choice, reduce duplication of provision and encourage higher quality learning and teaching, but in this case across all post-16 provision. These aims cannot be achieved by any single provider therefore providers are expected to collaborate to underpin the existing 14-19 entitlement and maximise the chances of successful learner outcomes.

For over four decades, ConstructionSkills Wales and its predecessor organisations have been working to deliver a well-qualified, highly skilled, world class construction workforce in Wales. Through close links with employers and training providers, ConstructionSkills is able to gather detailed and extensive labour market intelligence which is used to support the needs of employers by providing decision makers with accurate, up to date, and representative information upon which to make their decisions.

Following elections to the National Assembly for Wales in May 2011, the new Welsh Labour Government laid out plans to develop skills to make Wales a “highly attractive place to live, invest, employ and grow”. The basis for these plans was laid out in *Standing Up for Wales*, the Welsh Labour Manifesto of 2011. This document highlighted the important role of skills to the Welsh

economy and, in particular, it stressed the crucial importance of sustainable economic growth, and stated that such growth should be developed through a resource efficient, low carbon, green economy with a focus on developing low carbon skills to promote investment in sustainable jobs⁸.

1.2 The drive for economic renewal

The Welsh Government's Economic Renewal Programme (ERP) aims to increase the pace with which the challenges faced by the Welsh economy are tackled. The programme sets out a vision for the future of the economy in Wales, taking forward an approach to support it that is built upon five key objectives:

1. Investing in high quality and sustainable infrastructure;
2. Making Wales a more attractive place to do business;
3. Broadening and deepening the skills base;
4. Encouraging innovation;
5. Offering targeted business support.

The programme includes a framework to evaluate the success of the approach allowing the Welsh Government to improve its efforts in evaluating progress and achievement and reporting on findings in these areas.

Since 2009, and as things stand at the time of writing, the drive for economic renewal is focussed on six sectors considered by Ministers to offer the best chance for growth and rejuvenation and of providing financial return on government investment⁹. The 'six sector' approach was instituted as part of the previous coalition government's Economic Renewal Programme¹⁰. The sectors are:

- Advanced Materials and Manufacturing;
- Creative Industries;
- Energy and Environment;
- Financial and Professional Services;
- ICT ;
- Life Sciences.

With the advent of a new majority Labour Government in early 2011 it is possible that this list of sectors may be amended. In the light of ConstructionSkills responsibilities for its sector - and particularly for the provision of high quality training which meets the needs of a modern and changing economy - it is clearly an issue of some importance to the sector that, if at all possible, it be formally recognised as having a high degree of importance to the Welsh economy.

⁸ Standing Up for Wales (2011), *Welsh Labour Manifesto*

⁹ Welsh Assembly Government (2010) A Guide to Welsh Assembly Government Support for Business.

¹⁰ Launched by the Minister for the Economy and Transport Ieuan Wyn Jones

The Welsh Labour Party Manifesto, *Standing up for Wales*, recognised that much of Wales' economic base, including the capacity for growth in jobs and wealth creation, lies outside the six key sectors and include business services, construction and tourism. The manifesto contains a commitment to "support quality companies in all those parts of the economy which can create employment, Wealth and a sustainable Wales"¹¹. That manifesto item was referred-to when the new Minister for Business, Enterprise, Technology and Science, Edwina Hart AM, mentioned that she would consider expanding the priority sectors¹².

Policy decisions relating to Economic Renewal are taking place during a period of transformation for education services in Wales. In 2011 and following an independent review, the Minister for Education and Skills has accepted key recommendations relating to the need for a more collaborative approach between education institutions and a wide range of partners, to raise quality and make savings through shared delivery of services. In July 2011 Coleg Menai and Coleg Llandrillo formally agreed in principle to collaborate, with a view to strengthening and extending services to communities, individuals and employers, operating across 14 campuses¹³. A number of other Further Education Institutions are already considered, or are implementing, collaborative agreements or mergers. Pressures for transforming education services also falls beyond the FE sector with Higher Education Institutions also having to consider similar options for ensuring their provision remains sustainable and responsive in the future.

The importance of collaborative arrangements for the delivery of training also emerged from an independent study into the case for developing National Skills Academies (NSAs) in Wales. The study suggested that although there was no straightforward answer to the question of whether Wales needs a network of Skills Academies – sector-based approaches to learning delivery can yield significant benefits. Therefore, although it was recommended that the Welsh Government should not proactively seek to develop a network of skills academies, it was felt that it should consider proposals, on a case by case sector basis, where employer demand, skills gaps and clear provider buy-in exist. There are already examples of organisations pursuing NSA models in Wales. For example, the NSA for Nuclear which operates albeit exclusively in North Wales. SEMTA, another Sector Skills Councils, is also piloting aspects of a centre of excellence network, as part of their project under the Sector Priorities Fund Pilot Programme.

Other recommendations contained within the report included: addressing concerns about what is perceived as a clear lack of signposting employers to appropriate provision; that any scheme to badge existing specialist provision should be led by the Welsh Government; and that the Welsh Government should consider the appropriateness of developing Networks of Excellence based on voluntary partnerships between providers¹⁴.

¹¹ Welsh Labour Manifesto 2011

¹² 9th June 2011 - the Minister's first interview on taking up her role in the new Labour administration. Ms Hart is expected to announce her final decision when the Welsh Government reconvenes after the summer 2011 parliamentary recess. www.walesonline.co.uk/business...wales/business.../business-minister-favours-expansion-of-wales-six-sector-support-system-91466-28846818

¹³ Western Mail [online] 'Colleges' merger to create one of the biggest in UK'. Accessed 12 July 2011.

¹⁴ Old Bell 3 Ltd in association with York Consulting LLP (2010) Skills Academy Research.

1.3 Sector Priorities Fund Pilot Programme (SPFP)

This project is supported by the Welsh Government's *Sector Priorities Fund Pilot* programme (SPFP) which has the aim of piloting strategic project based activities with Sector Skills Councils. The programme draws down support through the European Social Fund (ESF), as part of the European Structural Funds Programmes in Wales for 2007-13.

The objective of the SPFP is to better align post-16 skills and training provision to the needs of employers by becoming more responsive. This is in line with the UK Commission's *Employer Voice* report which calls for a more demand-led skills system governed by employer choice¹⁵.

The SPFP was established following the 2008 publication of the Welsh Government's *Skills that Work for Wales* report¹⁶. The action plan sets out a strategic Welsh agenda to encourage businesses to grow and help the economy to recover from recession.

It requires SSCs to work with employers to draw up Sector Skills Agreements and Sector Qualification Strategies detailing exactly what skills needs there are in specific industry sectors and which skills are required most urgently by employers.

In 2011 the Fund has been used to ring-fence a proportion of the annual recurrent funding allocated by the Welsh Government for post-16 learning. This finance is being used to target those qualifications and training courses considered most valuable to employers in developing the skills of their workforce. SSCs, including ConstructionSkills, have been asked to identify value-adding qualifications and courses, underpinned by the intelligence gained through their Sector Skills Agreements (SSA) and Sector Qualifications Strategies (SQS).

¹⁵ UKCES (2010) *What's the Deal? The Employer Voice in the Employment and Skills System*.

¹⁶ Welsh Assembly Government (2008) *Skills that Work for Wales; A Skills and Employment Strategy and Action Plan*.

2. Research Objectives

The current work forms part of ConstructionSkills overall objective to transform education and training provision in Wales to widen choice for learners, reduce unnecessary duplication of provision, and move further towards excellence across the network of providers.

Work associated with this overarching objective includes mapping existing provision and identifying gaps, analysing suitable and cost-effective methods of plugging any gaps, providing an evidence base for more demand-responsive provision, and promoting best practice.

The objectives of this research as agreed with ConstructionSkills were to:

1. Explore current and anticipated future training needs among construction employers in Wales;
2. Assess the suitability of existing construction training provision in Wales at meeting the needs of employers, including the identification of training gaps;
3. Establish levels of employer and employee support for transformational change, including four options for the future delivery of construction skills provision;
4. Explore and determine possible models for transforming future provision and plugging gaps that currently exist;
5. Provide recommendations for future construction skills provision in Wales

A note on the National Construction College (NCC)

An element included within two of the four options is ConstructionSkills' own National Construction College (NCC) model. The NCC is a large-scale provider of courses and other forms of education and training across the UK through a wide network of different providers operating under the same broad badge and therefore recognisable by employers and employees alike.

The NCC works in many different ways through pre-existing colleges, private training providers, dedicated facilities, and even virtual channels.

The study uses the term NCC as shorthand to describe this sort of institution without prejudice with respect to the conclusions and recommendations.

Table 1 Four options for change to skills provision in Wales

[These options were provided by ConstructionSkills as part of the project Brief]

Option 1	<i>The case for a new build NCC; based on the model of the rest of the UK's NCCs to satisfy the demand for courses not currently available in Wales</i>
Option 2	<i>Partnering an existing proposal for a 'construction centre' in Wales, with a view to ConstructionSkills becoming a partner in that proposal and working under the brand of NCC</i>
Option 3	<i>Retraining of staff in existing institutions to deliver training required to meet the future skills demands of the sector</i>
Option 4	<i>No change - ConstructionSkills continues to deliver qualifications as a Managing Agency</i>

3. Methodology

3.1 Literature review and analysis of existing construction provision

The study was initiated with a detailed literature review to establish:

- the current picture of construction in Wales;
- drivers of change affecting the industry;
- issues and opportunities associated with demand for skills and training;
- the suitability of existing construction skills provision.

The literature review was supplemented by the development and analysis of a matrix of construction provision in Wales, made up of:

- Further Education (FE) and Work Based Learning (WBL) qualifications listed on the Lifelong Learning Wales Record (LLWR)¹⁷;
- Higher Education (HE) qualifications listed by the Higher Education Statistics Authority (HESA) – including starts, completions and destinations statistics spanning three academic years from 2006 to 2009¹⁸.

The findings of the review of secondary data were used to set the context for the subsequent stages of the research.

The matrix of construction provision in Wales contains 136 instances of HE construction-related provision involving 1,983 students (2008-9); 379 instances of FE provision covering around 7,625 people in learning; and 466 instances of WBL provision from 50 providers covering some 7,625 people in learning.

Both the literature review report (Word format) and matrix of construction provision in Wales (Excel format) have been delivered to ConstructionSkills as separate annexes to this main report.

¹⁷ LLWR will only provide publically funded programmes; non-public activity (i.e. private investments in skills) will not be captured and this also applies to HESA data.

¹⁸ This HESA data analysis used Principal Subject Area Codes as defined by HESA and agreed by ConstructionSkills - including: H2 Civil Engineering; K1 Architecture; K2 Building; K3 Landscape design; K4 Planning (urban, rural and regional); K9 Others in architecture, building and planning.

3.2 Surveys of employers and employees

3.2.1 Survey of employers

A telephone survey of employers, carried out between January and March 2011, acquired both quantitative and qualitative data relating to:

- Labour Market Information;
- Business challenges;
- Low and zero carbon agenda;
- Views on current training provision;
- Views on future training needs.

The survey was targeted to achieve 400 completions from construction employers across Wales, based on an estimated population of 14,235 construction enterprises¹⁹. This figure was set to ensure a robust and reliable set of responses by achieving a 95% confidence interval with $\pm 5\%$ margin for error. In the end, the survey yielded 420 completions.

The survey had a tightly controlled sample frame to ensure a representative set of responses. The main criterion for the sample frame was industry sub-sector – established using 2007 Standard Industrial Classification (SIC) code categories as published by the Office for National Statistics (ONS).

Employer contact information was sourced from a reputable data supplier MarketScan, and pre-filtered according to the SIC code of each organisation.

The employer survey sample frame is presented in Appendix 3.

3.2.2 Survey of employees

A telephone survey of construction industry employees was carried out between March and April 2011, providing learner perspectives on training and taking into account both on-the-job and off-the-job-provision including recognised qualifications and non-accredited training.

The survey achieved 100 completions and respondents were nominated by participants in the employer survey on the basis these employees had received construction-related training within the last two years.

The main criterion for the employee survey sample frame was 'geography'; i.e. completions across North, Mid, South East and South West Wales:

¹⁹ ONS: UK Business Activity, Size and Location Guide 2010, Table B3.4.

Figure 1 Regions of Wales



The employee survey sample frame is presented in Appendix 4; a full administrative map of Wales is presented in Appendix 6.

3.3 Focus groups and interviews with key stakeholders

3.3.1 Focus Groups

The surveys of employers and employees provided quantitative and qualitative evidence with respect to existing construction skills provision, including perspectives on each of the four options for future change previously mentioned.

It was recognised, however, in the design phases of the study that employer perceptions are, inevitably, retracted to their own specific companies and by a limited relationship with, and understanding of, the wider education and training environment for the industry. They provide an indication of demand-side perceptions but do not provide the whole story.

It was, therefore, vital to acquire an overview from those on the supply side of the market and to add to these expert, supply-side inputs, the views of those with a wider view of the employer situation.

Three focus groups were therefore arranged and conducted to review the desk, employer and employee evidence and to explore the overall feasibility of the four options for future change. This involved discussing in greater detail, the opportunities and threats associated with each option.

The focus groups were held in Cardiff, Swansea and Abergele during March and April 2011. They included representation from relevant FE and HE training providers, key industry stakeholders such as industry bodies and professional associations, as well as a small number of employers.

As such, the focus groups provided important and knowledgeable qualitative input to complement that from the two surveys and the secondary desk research.

As with any other market research study, the object of the focus groups was to complete the penultimate stage of the circle of evidence:

- The qualitative findings from wide-ranging and neutral desk research;
- The necessarily narrow but extremely focussed employer and employee perspective – both providing qualitative and quantitative demand-side evidence;
- The expert qualitative views of overall representative bodies and education and training providers – inputting both informed supply-side perspectives and an overall qualitative demand side appreciation;
- Further qualitative input from Construction Skills staff with considerable experience of the wider education and training environment and of the way in which the NCC model works in practice.

3.3.2 Interviews with ConstructionSkills representatives

Following the focus groups and on-going analysis, six in-depth telephone interviews were carried out with key ConstructionSkills representatives experienced in general education and training in the sector and involved with the National Construction College (NCC) network. The purpose of these interviews was to gain their perspective on the strengths and weaknesses of the models and their perceptions of the various emerging models for future skills provision.

These views and perspectives were analysed alongside those of the different stakeholders from the focus groups and the views of employers and employees gained through the earlier surveys.

3.3.3 Qualitative Bias

As experienced researchers, we recognise that all evidence is to some extent biased by the world-view, knowledge, and economic or even political agendas of the respondents.

It was for this reason that as many stakeholders as possible in the education and training system in

Wales, for the construction sector, were involved in providing evidence.

The inclusion of employers, employees, employer representative bodies, experienced ConstructionSkills staff, and Welsh providers ensured that we received a comprehensive evidence-set. The variety of research methods also reinforced our ability to consider all aspects and all views.

4. Construction in Wales

4.1 Economic overview

4.1.1 Impact of the recession

The recent recession has caused widespread redundancies across the construction industry in Wales resulting in the loss of a great many skilled construction workers²⁰. The vast majority of those who leave the industry do not return, resulting not only in skills gaps but also a lack of mentors to pass on their expertise to less experienced workers²¹. The implication of this loss of valuable skills and experience is that provision must respond appropriately to ensure skills gaps are filled and the industry can move forward progressively and competitively when economic conditions permit.

4.1.2 Fragile growth

Although at an extremely fragile stage of economic recovery – some reports have indicated positive signs of growth. Experian has projected that, between 2011 and 2015, construction output in Wales will rise at an annual average rate of 1.2% - slightly higher than the forecasted figure of 1% across the UK as a whole. On this basis there is expected to be a small increase in total construction employment in Wales to 107,500 by 2015 (an increase of about 5% although still 20% down on 2007 levels). The projection implies an average annual recruitment requirement² of 4,160 individuals²².

Many of the flows into and out of construction occupations can be estimated, being due to factors such as migration to or from other industries, through death or retirement, and from other demographic changes such as increasing population size. The number of skilled and qualified workers required by the industry over and above these estimated flows is the Average Annual Requirement. This is the number of workers that will need to be recruited whether from new and appropriately qualified graduates, from the pool of skilled but unemployed workers, via promotion within the firm, or through migration.

Not all of the recruitment requirement will require ab-initio training but the figure provides an indication of the potential for a combination of ab-initio and refresher training, particularly in crucial areas such as health & safety.

Repair and maintenance works are likely to account for the bulk of growth activity over the next five

²⁰ In 2007, new construction work orders in Wales declined by 14.9% and this figure reached 22.6% in 2008. The most significant sub-sectors of the industry to suffer declines during this period were Private Housing, Industrial and Commercial (Experian LMI 2010-2014).

²¹ CITB-ConstructionSkills - Annual Report and Accounts 2009.

²² Experian - Construction Skills Network 2011-2015: Wales LMI.

years, with the energy efficiency agenda firmly behind this. The Strategic Energy Performance Investment Programme (ARBED) delivered over £30million of improvements between 2010 and 2011 with 28 projects targeting low income communities in regeneration areas²³.

Private housing is expected to be a key growth area. Significant declines in recent years appear to have turned a corner with evidence of an increase in employee starts on-sites across the Wales. Other areas where growth is anticipated are industrial and commercial; the former likely to benefit from strong export growth and the latter from long-term regeneration projects such as work planned for Newport.

The full impact of the carbon agenda remains unclear as much depends on how the Welsh Government will seek to develop and implement its policies in this respect.

Whilst in 2009 the public housing and non-housing sectors experienced strong growth, the forecast for 2011-2015 is for decline by an average of 7.8% per year. The fall is expected to be less severe than in England (which is impacted by cuts to the *Buildings Schools for the Future* programme) but cuts within the Welsh Government's Departmental Capital Budget (DEL) will impact on education, health and transport, leading to a possibly significant impact on public sector construction work in Wales.

4.1.3 Current and planned construction projects in Wales

South East Wales contains the largest concentration of current construction activity, with five out of six £100m+ projects based in South East Wales and one in South West Wales. Future planned construction projects are expected to herald a significant rise in activity across Wales as a whole. Of the twenty three planned £100m+ projects, seventeen will take place in South East Wales, five in North Wales and one in Mid Wales. These figures indicate a rise in demand for construction-related skills in North Wales in the coming years²⁴.

There are major developments planned to take place in North Wales, most notably the building of a nuclear power station. Attractive salaries and working conditions could result in a drain of construction skills from the wider industry across the country as skilled workers are attracted to the large projects. As a result, small and medium sized businesses might struggle to bid competitively for work generated by these projects, resulting in the needs to import skills from across the border and from Europe. This highlights the need for the construction industry in Wales to attract workers and to have the best skilled workforce it can as well as being in a position to export these skills, in a sustainable manner, outside of the domestic employment market.

4.1.4 Skills needed for economic recovery

Although slow growth from a relatively low base is assured for the next one to two years we have no

²³ Experian - Construction Skills Network 2011-2015: Wales LMI.

²⁴ Glenigan data: Quarter 4 2010.

way of reliably anticipating the industry's numerical demand for skills beyond that point in time. Indeed, UK Government approaches to macro-economic policy could change the situation at almost any time (should decisions be taken, for example, to slow the rate of debt repayment and divert additional borrowing to public sector spending). There are also implications from approaches to be taken on areas of devolved competence to the Welsh Government.

Past experience of recessions shows, however, that while construction as a whole can be one of the very last sectors to feel the benefits of recovery, certain parts of the sector can lead the economy out of recession (where public spending for Keynesian purposes perhaps focuses on the construction sector).

Construction offers one of the lowest import ratios of any economic activity and is also one in which, because wages play so high a part in their cost structure, the multiplier operates at a slightly higher level. It is, therefore, a relatively attractive policy tool for Governments seeking to stimulate economic activity.

In seeking to anticipate the effect of the prolonged recession and any adjustments to UK Government macro-economic policy (and Welsh Government policy where relevant), one should also take into account further confounding variables such as the extent to which the sector would attract back the trained operatives and managers made redundant during the current recession. Again, past experience indicates that this does not happen to the extent that might assist the sector substantially to adjust to any increase in orders.

4.2 Drivers of change

A number of external drivers are expected to steer change in the Welsh construction industry over the coming years, in particular legislative change relating to the Low and Zero Carbon agenda. These drivers are currently offset by uncertainty and caution within the industry following the recent recession and forced contraction in employment, meaning that many employers, particularly SMEs, are focussing on short term survival.

4.2.1 Low and Zero Carbon agenda

Low and zero carbon priorities are high on the agenda for Wales. In particular, the Welsh Government - as detailed in *Standing up for Wales* - aims to:

- achieve a 55% reduction in carbon emissions for new housing by 2013²⁵;
- generate up to double the renewable electricity per year by 2025 (compared to present day);

²⁵ <http://wales.gov.uk/docs/desh/publications/100709housingbuildregslongen.doc>.

- meet almost all energy needs with renewable electricity by 2050²⁶.

These priorities are being targeted against a background of extensive UK-wide initiatives that impact on Wales in the same way as other UK nations. These include: the Feed in Tariffs (FITs) programme to support domestically-produced electricity being sold back to the electricity companies; the Renewable Heat Incentive (RHI) which will be launched in September 2011, targeted mainly at promoting heat reclamation initiatives in non-domestic environments (although there will be a small proportion of the scheme allocated to domestic schemes); and, of course, the UK Government's Green Deal initiative which is a large scheme intended to create a step-change in the energy efficiency of UK properties, commercial, industrial and domestic.

In parallel, and to achieve *'A step change in the energy efficiency performance of all housing stock in Wales'*²⁷, the Welsh Government is aiming for the delivery of:

- **Energy Efficiency:** Revised Home Energy Efficiency Scheme (improving over 3,000 homes per year); information and support to local action groups/communities;
- **Funding:** Wales Strategic Energy Performance Investment Programme (Arbed) – stimulating investment of £350m into energy performance of domestic stock; including £30m investment from the Welsh Government to secure private sector funding for whole house assessments and improvements for over 10,000 homes;
- **Building Regulations:** Improving standards to zero carbon; changes in public sector procurement (see below);
- **Reform:** Energy tariffs to encourage reduction in energy consumption; roll-out of installation programme for smart meters (although areas of this work may fall outside of those competencies devolved to the Welsh Government).

The National Housing Strategy sets out the need to reduce the carbon footprint of housing stock in Wales, including tackling climate change through: improving the energy performance of existing and new-build homes; and ensuring the design and location of new housing considers environmental issues²⁸.

The Welsh Government is also keen to maximise support from programmes emerging from the Carbon Trust, such as the Partnership for Renewables²⁹ (supporting the public sector to manage onsite renewable energy projects).

²⁶ Welsh Assembly Government (2010) A Low Carbon Revolution: The Welsh Assembly Government Energy Policy Statement.

²⁷ Welsh Assembly Government (2010) A Low Carbon Revolution: The Welsh Assembly Government Energy Policy Statement.

²⁸ Welsh Assembly Government (2009) Climate Change Strategy – Programme of action consultation.

²⁹ Welsh Assembly Government (2009) Climate Change Strategy – Programme of action consultation.

Through the *Cut the Carbon* campaign, ConstructionSkills is helping to identify opportunities for small and medium sized organisations and to provide them with skills and training to be able to bid for and win green contracts. This includes the creation of qualifications to fulfil increasing demand for skills relating to environmental sustainability.

As part of this campaign ConstructionSkills provides an email alert system which keeps employers up to date with legislation and policy updates and requirements they need to be aware of such as the Green Deal, Renewable Heat Incentives and the Green Investment Bank. The alerts are intended to help employers know when and what specialist training is required to help them comply to ever evolving procurement requirements, for example.

The construction industry in Wales is making steady progress against sustainability and low carbon targets. The Welsh Assembly Government's 2009-2010 annual report for sustainable development stated that good progress had been made against the *One Wales: One Planet* scheme³⁰ which comprises four main themes: Climate Change; Waste; Planning; and the Wales Spatial Plan as well as a further four themes based upon the policy areas that contribute most to Wales' ecological footprint, i.e. Housing; Food; Transport; and Consumer items³¹.

4.2.2 Skills implications of the low and zero carbon agenda

Recent research in Wales by Pye Tait Consulting on behalf of ConstructionSkills' Future Skills Unit (2010) explored future change across the construction sector in light of six key drivers (low and zero carbon, environment, change, innovation and renewables). The study revealed much of current provision does not 'match' industry needs; Further and Higher Education provision can be out of date compared with specific market requirements, and there is an urgent need for learning and training providers in Wales to quickly catch with the rest of the UK especially in relation to the low carbon agenda as it develops.

The study also found the industry wants more provision to be offered through virtual means and via 'bite-size chunks'. Many construction organisations are small and medium sized companies, a large proportion of which have less than 5 employees therefore virtual and short courses are often more cost effective and better value. This is especially the case among employers in rural locations with limited access to provision. Furthermore, the main drivers for up-skilling are legislation and market opportunity; this is particularly the case in the wake of the recent recession.

The need for low carbon skills is having a significant influence on construction clients' procurement requirements. This influence is set to grow in Wales, due to the Welsh Government's legislative and policy targets, the emergence of the renewables sector and the rising cost of traditional energy.

³⁰ Welsh Assembly Government, *One Wales: One Planet*, The Sustainable Development Scheme of the Welsh Assembly Government, May 2009.

³¹ Welsh Assembly government, *One Wales: One Planet*, The Sustainable Development Scheme of the Welsh Assembly Government, May 2009.

There are likely to be significant business opportunities for carbon conscious SME contractors in Wales, and businesses which are slow to acquire low carbon knowledge and skills may find it much harder to win work in the coming years.

The development of skill needs within the construction industry is likely to be driven hard by low and zero carbon targets together with the anticipated growth of the renewables sector. Unless action is taken to meet these emerging and increasing requirements there is a significant risk that skills shortages and gaps will severely damage the potential of the construction industry in Wales to respond to global industry demand. A 'Delivering Low Carbon Skills' project is already underway with a number of Sector Skills Councils involved. This project aims to support the development of training provision associated with the emerging skills needed for a low carbon Built Environment sector in Wales.

4.2.3 Industry perceptions

Another very important driver for change within the construction sector in Wales, and across the whole UK industry, is the well-recognised need to dispel the negative perceptions held by the wider public about the sector. The most common of these is that construction is a low skilled industry, populated by 'rogue traders', with unstable career choices considered a last resort for those who possess neither the skill nor the intellect to pursue more 'worthy' careers³².

Research into employer attitudes and motivations to learning and training in the construction industry, carried out by IFF Research in 2010, found almost half of 1,511 employers surveyed feel the sector has a low career appeal to school and college leavers. Reasons for the sector being unappealing were found to consist of the following factors (presented in order of significance):

- Hard physical work;
- Sector does not promote itself well;
- Not many jobs available;
- Preference for working in an office environment;
- Low pay relative to other sectors;
- Career structure/progression unclear³³.

In addition, 55% of employer respondents to this research felt the sector is less appealing now than 10 years ago, whilst 16% felt it is more appealing³⁴.

³² Institute of Welsh Affairs (2005) *Plugging the Gap – The Case for Establishing a Site for a CITB-ConstructionSkills National Construction College in Wales*.

³³ IFF Research (2010) *Employer Attitudes and Motivations to Learning and Training (Wave 10)*.

³⁴ Ibid.

The construction industry has the potential to work against these negative perceptions by capitalising on advances in research and development, new technologies and more efficient construction processes, carried in part by global, national and regional commitments to the low carbon agenda. These changes can only be fully embraced across the industry by improving the skills, knowledge and understanding of employers and the wider workforce, with a key role for training in encouraging this transition.

5. Demand-side evidence: Employers

In total, 420 employers responded to the survey, the base number of respondents/responses are included below each of the tables and charts.

A note on 'respondents' and 'responses'

Questions which required a single response from an employer are analysed according to the number of respondents who selected each option.

Questions which invited multiple responses from an employer are analysed according to the number of overall responses received, which may include several counts per employer, per question.

The findings from each question are cross-tabulated by industry sub-sector (the principal element of the employer survey sample frame) using 2-digit Standard Industrial Classification (SIC) codes. For the purpose of the following tables, the SIC descriptors are abbreviated but their full titles are as follows:

- **41 – Construction of Buildings** (residential and commercial);
- **42 – Civil Engineering** (such as roads, motorways, railways, bridges, tunnels and utility projects);
- **43 – Specialised Construction Activities** (such as demolition, site preparation, electrical, plumbing, heating, air conditioning, plastering, joinery, floor and wall coverings, painting, glazing and roofing);
- **71 – Architectural and engineering activities; technical testing and analysis;**
- **74 – Other professional, scientific and technical activities** (such as environmental consulting and quantity surveying).

5.1 Characteristics of survey respondents

The composition of survey respondents presented by SIC code, as well as region and number of premises, illustrates the range of sub-sectors represented by the research, with the majority of respondents based in South East Wales and operating from one business location.

Table 2 Respondents by 2-digit SIC code

SIC description	Number	%
41 Buildings	107	25.5%
42 Civil Eng.	47	11.2%
43 Specialised	197	46.9%
71 Architectural & Eng.	51	12.1%
74 Other professional	18	4.3%

Base: 420 respondents

Figure 2 Respondents by 2-digit SIC code

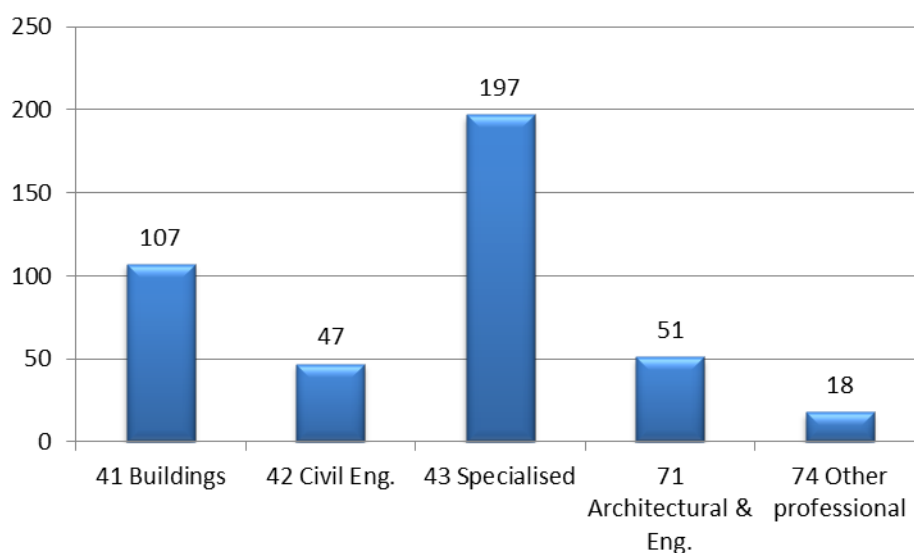


Table 3 Respondents by Wales region (by location of head office)

Region	Number	%
North Wales	74	17.6%
Mid Wales	25	6.0%
South East Wales	265	63.1%
South West Wales	56	13.3%

Base: 420 respondents

The vast majority of construction employers operate out of just one business location, although civil engineering activities tend to be more widespread across a number of sites (Tables 4 and 5).

Table 4 Proportion of employers by no. premises (Wales only)

No. premises	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
1	83.5%	75.7%	61.7%	91.3%	84.0%	100.0%
2-9	15.8%	22.4%	36.2%	8.7%	16.0%	-
10+	0.7%	1.9%	2.1%	-	-	-

Base: 418 respondents

Table 5 Proportion of employers by no. premises (whole of UK)

No. premises	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
1	78.9%	72.9%	55.3%	88.8%	73.5%	83.3%
2-9	17.5%	23.4%	31.9%	10.2%	20.4%	16.7%
10+	3.6%	3.7%	12.8%	1.0%	6.1%	-

Base: 417 respondents

5.2 Business challenges

There has been a decline in direct workforce numbers over the last 12 months by an average of 2.5 individuals per organisation (Table 6) - this equates to an overall workforce decline of some 9.3%.

This workforce decline has affected all sub-sectors with the apparent exception of specialised construction activities – likely to be due to a more constant demand for these services within the domestic market. The impact on the sector has been disproportionately felt at the professional end of the industry - although in numerical terms the building sector's decline has been far greater. The most significant decline has taken place within architectural (down almost 20%) and other professional (down by 29%). The building sector has declined by about 6% in the same time period.

Table 6 Number of direct employees per organisation

SIC Description	Current (avg. numbers)	12 months ago (avg. numbers)	% change
Overall	24.3	26.8	-9.3
Building	18.6	19.8	-6.1
Civil Engineering	40.7	42.4	-4.0
Specialised	15.7	15.6	0.6
Architectural & Engineering	62.1	77.5	-19.9
Other professional	3.1	4.4	-29.5

Base: 420 respondents (419 for 12 mth figures)

The pattern of decline in sub-contracted workforce numbers has been more marked than in the direct workforce even though the process has affected lower numbers of employees. As can be seen from Table 7 overall change has not been very much higher but the building and civil engineering sub-sectors appear (probably predictably) to have laid off greater proportions of their sub-contracted employees than their direct-employees.

Table 7 Number of subcontracted employees per organisation (current)

SIC Description	Current (avg. numbers)	12 months ago (avg. numbers)	% change
Overall	5.9	6.6	-10.6
Building	10.8	13.1	-17.6
Civil Engineering	10.6	12.2	-13.1
Specialised	3.7	3.5	5.7
Architectural & Engineering	1.3	1.6	-18.8
Other professional	2.4	2.6	-7.7

Base: 417 respondents for current and 416 for 12 mths ago

Almost all of the employers we surveyed in Wales mentioned challenges currently facing their organisations (Table 8). The key issues across all sub-sectors are of a commercial nature and indicate employers' principal concerns are focussed on overcoming short-term challenges.

Top three challenges:

- **Economic downturn/recession generally**
- **Need to increase sales/get more work in**
- **Increased regulations/legislation**

Table 8 Key challenges currently faced

Challenge faced	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Economic downturn/recession generally	21.6%	23.1%	21.9%	20.7%	21.3%	22.0%
Need to increase sales/get more work in	20.5%	18.5%	21.9%	19.6%	26.9%	28.0%
Increased regulations/legislation	15.8%	15.4%	14.4%	15.3%	17.6%	26.0%
Clients slow to pay/late payment	13.9%	12.8%	15.6%	14.0%	16.7%	8.0%
Finding suitably skilled employees	10.2%	10.8%	10.6%	11.7%	2.8%	2.0%
Obtaining finance to expand	7.3%	8.0%	8.1%	7.7%	0.9%	8.0%
Have more work than can handle	4.4%	5.7%	3.1%	4.6%	2.8%	-
Retaining suitably skilled employees	3.8%	4.3%	3.1%	4.3%	1.9%	-
Other	2.1%	1.1%	1.3%	1.8%	7.4%	4.1%
None	0.4%	0.3%	-	0.3%	1.9%	-

Base: 1,320 responses from 420 respondents

In both the architectural and the "other professional services" categories the most important concern for employers is that of finding work and increasing sales.

The recession has affected employers in a number of ways. Redundancies have been most prevalent within architectural and engineering activities but this sub-sector - with other professional services also has the highest proportion of employers reporting no impact at all from the recession.

Cut-backs in recruitment and reductions in training spend are - for most sub-sectors - the most important effects of the recession.

The results also illustrate the main responses of companies to threats to their turnover and bottom line - expanding into new markets, increasing their marketing activities and picking up business from

other companies.

Top three impacts:

- **Cut-back on recruitment**
- **Cutback on training spend**
- **Reduced working hours**

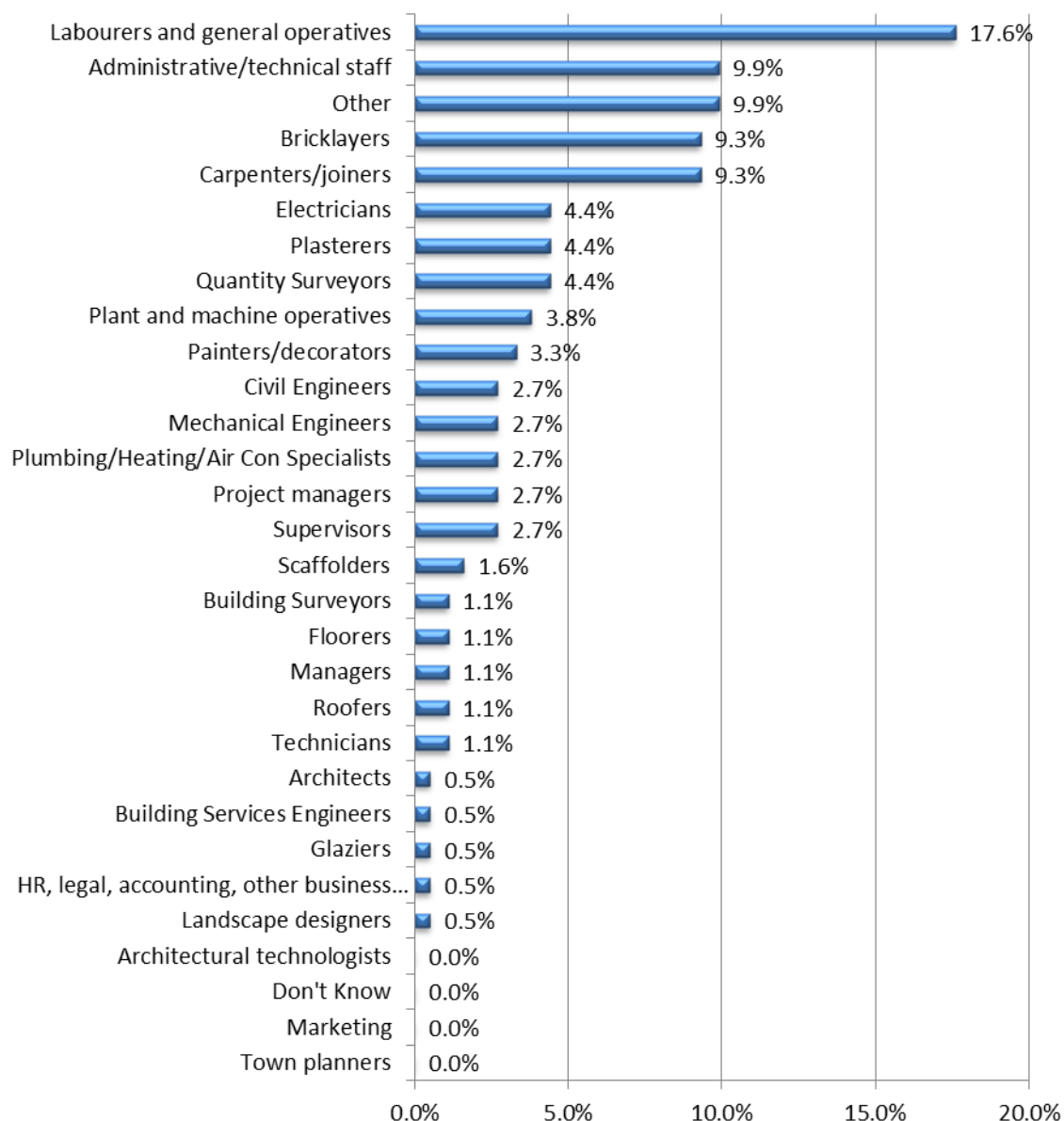
Table 9 Main impacts of the recession

Challenge faced	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Cut back on recruitment	15.6%	18.7%	19.2%	13.3%	11.0%	19.40%
Cut back on training spend	14.9%	17.4%	15.2%	14.8%	5.5%	16.7%
Reduced working hours	13.7%	13.7%	13.6%	15.0%	8.2%	11.1%
Expanded into different markets/ changed focus of work	13.3%	12.4%	14.4%	14.0%	13.7%	5.6%
Increased redundancies	11.5%	13.7%	12.8%	8.3%	21.9%	8.3%
No impact	10.8%	8.7%	8.0%	11.4%	16.4%	16.7%
Increased advertising and marketing activities	8.0%	7.1%	8.8%	9.3%	2.7%	8.3%
Picked up more business from other businesses	7.8%	5.0%	7.2%	9.5%	6.8%	11.1%
Other	4.2%	3.3%	0.8%	4.3%	13.7%	2.8%

Base: 895 responses from 416 respondents

Figure 3 breaks down the occupations according to the proportions of employers reporting redundancies. General labourers and operatives appear to have been the most common occupational target. This is likely to be due to a reduced need for low and unskilled labour where contracts and work volumes have seen a marked reduction and where there is no clear advantage to retaining these individuals.

Figure 3 Occupations from which redundancies made



Base: 183 responses from 103 respondents

Two thirds of employers have either maintained the amount of training they are doing or have actually increased it during the recession (10% of employers).

Around a third have reduced the amount of training offered. The most notable downward pattern in training activity has been among organisations involved in the construction of buildings.

Table 10 Impact of the recession on approach to training

Impact of recession on training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Remained the same	56.2%	50.5%	57.4%	57.9%	58.8%	61.1
Reduced the amount of training undertaken	33.3%	40.2%	34.0%	29.9%	29.4%	38.9
Increased the amount of training undertaken	10.5%	9.3%	8.5%	12.2%	11.8%	

Base: 420 respondents

Of those employers who reported **reductions in training** as a result of the recession, the most commonly reported type of training is ‘job-specific and technical training’ – accounting for over a third of responses. This is closely followed by ‘cut-backs in apprenticeship involvement’.

Of those employers who reported **increases in training**, the most commonly reported reasons are the need to enhance existing skills, to develop skills in new areas and to provide the business with improved competitive advantage.

Table 11 shows the types of skills and training employers have sought to develop in organisations where increases in training have taken place during the recession. Job specific and technical training accounts for around a third of responses, followed by health and safety training.

Top 3 increases in training activity as a result of the recession:

- **Job specific/technical training**
- **Health and safety training**
- **Apprentice training**

Table 11 Increase in training activity as a result of the recession – types of skills/training developed

Type of skill/training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Job specific/technical	33.8%	21.4%	40.0%	42.9%	33.3%	33.8%
Health and safety	28.7%	25.0%	20.0%	31.4%	33.3%	28.7%
Apprentice training	13.8%	21.4%	-	14.3%	-	13.8%
Management/ Supervisory	10.0%	14.3%	-	5.7%	16.7%	10.0%
Other	7.5%	7.1%	20.0%	5.7%	8.3%	7.5%
Induction	3.8%	10.7%	-	-	-	3.8%
Customer handling	1.3%	-	20.0%	-	-	1.3%
IT	1.3%	-	-	-	8.3%	1.3%
Marketing/sales	-	-	-	-	-	-
Don't know	-	-	-	-	-	-

Base: 80 responses from 44 respondents

Just over a fifth of employers have changed their methods of training as a result of the recession, Table 12 illustrates the nature of these changes. The responses indicate a marked shift away from the use of current external provision in favour of more in-house training³⁵, requiring shorter, more focussed training.

Top three changes made to training as a result of the recession:

- **Less use of external providers**
- **Sent staff on fewer courses**
- **More use of in-house training**

³⁵ National datasets such as the Lifelong Learning Wales Record (LLWR) are unable to capture information relating to internal non-accredited provision of this nature.

Table 12 Changes made to training as a result of the recession

Change to training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Less use of external providers	28.0%	22.1%	25.0%	32.1%	26.3%	42.9%
More use of in-house training	20.3%	19.1%	25.0%	21.8%	10.5%	21.4%
Sent staff on fewer courses	21.3%	25.0%	17.9%	17.9%	26.3%	21.4%
Sent staff on shorter courses	12.6%	13.2%	14.3%	7.7%	26.3%	14.3%
More use of online/self-directed learning	9.2%	11.8%	10.7%	10.3%	-	-
Other	8.2%	7.4%	7.1%	10.3%	10.5%	-
Customer handling	0.5%	1.5%	-	-	-	-
Don't know	-	-	-	-	-	-

Base: 207 responses from 90 respondents

On average, just over 12% of employers report an expected increase in training activity over the next 12 months (Table 13) – the exception being among employers involved in Other Professional activities, where there is no early sight of increases to training budgets.

Overall some two-thirds of employers appear to be maintaining their training budgets and almost 80% are either maintaining or increasing training budgets.

Table 13 Forecast change in training budget over next 12 months

Change in training budget	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Remain the same	66.6%	67.0%	68.1%	61.4%	78.4%	83.3%
Fall	16.2%	19.8%	12.8%	16.8%	9.8%	16.7%
Rise	12.6%	11.3%	12.8%	14.7%	11.8%	-
Don't know	4.5%	1.9%	6.4%	7.1%	-	-

Base: 419 respondents

Of those employers whose training budgets are expected to rise, their focus is primarily on developing job-specific and technical training, particularly within both civil engineering and specialised construction sub-sectors (Table 14). In the case of employers whose training budgets are expected to fall – Apprenticeships and job-specific training are at risk. In the architectural and engineering subsector, management and supervisory training is also expected to be sacrificed (Table 18).

Top 3 reported increases to training over next 12 months:

- **Job specific/technical training**
- **Health and safety training**
- **Management/supervisory training**

Table 14 Training which employers expect to increase over next 12 months

Change to training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Job-specific/technical training (non-Apprenticeships)	34.0%	17.2%	66.7%	41.2%	23.5%	-
Health and safety	22.6%	27.6%	11.1%	21.6%	23.5%	-
Management/supervisory	13.2%	20.7%	-	9.8%	17.6%	-
Apprenticeships	11.3%	17.2%	-	11.8%	5.9%	-
Other	7.5%	3.4%	22.2%	7.8%	5.9%	-
Induction	4.7%	10.3%	-	2.0%	5.9%	-
Marketing/sales	1.9%	-	-	2.0%	5.9%	-
Customer handling	1.9%	-	-	2.0%	5.9%	-
IT	1.9%	-	-	2.0%	5.9%	-
Don't know	0.9%	3.4%	-	-	-	-

Base: 106 responses from 51 respondents

Top 3 reported decreases to training over next 12 months:

- **Job specific/technical training**
- **Apprenticeships**
- **Health and safety training**

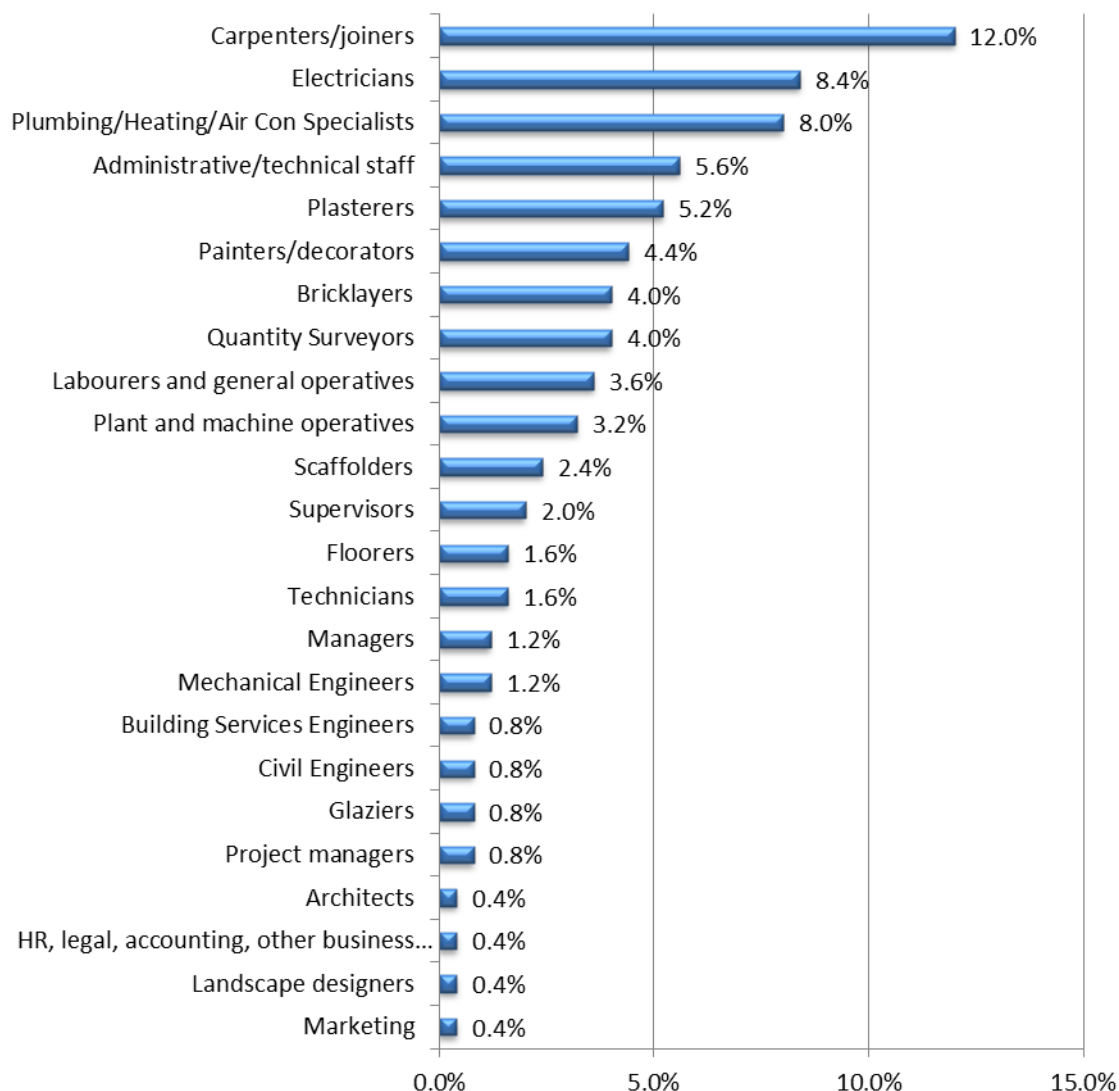
Table 15 Training which employers expect to decrease over next 12 months

Change to training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Apprenticeships	22.1%	23.9%	11.1%	25.5%	22.2%	16.7%
Job-specific/technical training (non-Apprenticeships)	22.1%	15.2%	16.7%	29.1%	33.3%	16.7%
Health and safety	13.6%	19.6%	11.1%	10.9%	11.1%	8.3%
Management/supervisory	10.0%	4.3%	11.1%	9.1%	33.3%	16.7%
Other	7.9%	13.0%	11.1%	3.6%	-	8.3%
Induction	5.7%	4.3%	11.1%	5.5%	-	8.3%
Marketing/sales	5.7%	8.7%	5.6%	3.6%	-	8.3%
Customer handling	5.0%	4.3%	5.6%	5.5%	-	8.3%
IT	5.0%	4.3%	5.6%	5.5%	-	8.3%
Don't know	2.9%	2.2%	11.1%	1.8%	-	-

Base: 140 responses from 64 respondents

Figure 4 illustrates the range of occupations which employers find hard to recruit, due to a shortage of skills. Around half of all respondents listed hard-to-recruit skills with 12% of responses mentioning carpenters and joiners, and around 8% listing electricians and plumbing and air-conditioning specialists.

Figure 4 Occupations hard to recruit due to a shortage of skills (unprompted)



Base: 251 responses from 198 respondents

Section Summary

In the last 12 months, the construction workforce in Wales has declined in number. Among the majority of employers this has either not affected levels of training undertaken or has led to an increase in training (around 10% of employers). A third of employers have reduced overall training levels, with job-specific and technical training, as well as Apprenticeships, being cut back. Of those employers who have changed their approach to training as a result of the recession – attention has turned more towards ‘immediate’ training that can be delivered in short bursts and/or in-house.

5.3 Low and Zero carbon agenda

Approximately three quarters of employers consider themselves to be either very or reasonably aware of the implications of the low carbon agenda for the construction industry (Table 16). Employers within the 'other professional, scientific and technical' sub-sector appear on the whole to be most aware, in contrast to employers in the civil engineering sub-sector.

Table 16 Awareness of the implications of the Low Carbon agenda for the construction industry

Low Carbon awareness	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Reasonably aware	42.8%	54.2%	42.6%	41.6%	28.0%	29.4%
Very aware	33.0%	26.2%	23.4%	32.0%	48.0%	70.6%
Not very aware	15.6%	8.4%	25.5%	18.3%	16.0%	-
Not at all aware	8.6%	11.2%	8.5%	8.1%	8.0%	-

Base: 418 respondents

Just under half of employers believe that low carbon issues are very/fairly important to their organisation's success (Table 17). Positive views exist mainly among architectural and engineering employers, whereas those involved in specialised construction appear to be the least concerned about the impact of the low carbon agenda at this time.

Table 17 Importance of Low Carbon issues to business success

Importance of Low Carbon issues	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Very important	21.5%	19.6%	17.0%	20.3%	32.0%	29.4%
Fairly important	23.4%	27.1%	34.0%	19.3%	24.0%	17.6%
Neither important nor unimportant	12.7%	15.0%	6.4%	12.2%	8.0%	35.3%
Not very important	15.6%	11.2%	10.6%	21.3%	10.0%	5.9%
Not at all important	11.0%	9.3%	17.0%	10.7%	12.0%	5.9%
Don't know/too early to say	15.8%	17.8%	14.9%	16.2%	14.0%	5.9%

Base: 418 respondents

Importance of low carbon issues to business success – employers’ views

Employers who consider low carbon issues to be important to business success justify this using primarily commercial as opposed to environmental reasons. These include meeting the requirements of legislation , fulfilling the demands of clients, seizing new market opportunities, realising the potential for increased business, as well as being innovative and staying ‘ahead of the game’.

Employers who do not consider low carbon issues to be important feel new technologies are cost-prohibitive for clients and fear the associated benefits will not be fully understood by the end user. Others are concerned about the business costs associated with following new processes and a lack of information generally.

Several industry changes relating to the low carbon agenda are set to have an impact on skills needs (Table 18). Employers were asked to rate the skills implications relating to specific industry changes on a scale of 1 to 5, with 1 being ‘no impact’ and 5 being ‘significant impact’. The average rating is just under 3 out of 5, indicating a cautious acceptance by employers that skills will be affected by the changes³⁶. It is notable that, as yet, industry employers do not rate the potential impact of Low and Zero Carbon Legislation as impacting very markedly on skills (a score of 2.4 on the 5 point scale).

Table 18 Skills implications of specific forecast industry changes – employer ratings

Industry changes	Average rating
Low and Zero Carbon legislation	2.4
Waste management	2.9
Recycling	2.9
Installation of renewable technologies	2.8
Use of low carbon products/techniques	2.8

Base: 369 responses from 391 respondents

On the whole, the majority of employers have not yet taken steps to train staff in respect of low carbon skills (Table 19) especially within the specialised construction subsector.

³⁶ On a scale of 1 to 5 - with 1 being 'very low impact' and 5 being 'very high impact' - to what extent do you think the following construction industry changes will impact on the skills your workforce will need to undertake their role in the future?

Table 19 Whether employers training in Low Carbon skills

Training in Low Carbon skills?	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Yes	40.4%	40.6%	45.7%	34.5%	52.0%	58.8%
No	54.8%	54.7%	50.0%	60.4%	46.0%	29.4%
Don't know	4.8%	4.7%	4.3%	5.1%	2.0%	11.8%

Base: 416 respondents

The specific areas where training has been focussed in low carbon skills are illustrated in Table 20 below.

Table 20 Focus of Low Carbon skills training

Focus of Low Carbon skills training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Waste management	25.1%	26.8%	28.1%	23.4%	24.1%	20.0%
Recycling	24.4%	23.2%	26.3%	25.3%	24.1%	20.0%
Use of low carbon products/techniques	20.0%	16.2%	12.3%	22.7%	25.9%	30.0%
Installation of renewable technologies	14.8%	15.5%	10.5%	16.2%	13.8%	15.0%
Sustainable and ethical procurement	13.5%	16.9%	17.5%	10.4%	12.1%	5.0%
Don't know	0.9%	1.4%	3.5%	-	-	-
Other	1.4%	-	1.8%	1.9%	-	10.0%

Base: 431 responses from 165 respondents

Section Summary

Three quarters of employers believe they are either very or reasonably aware of low carbon issues, although there are variances between subsectors. Just under half of employers believe these issues are important to business success but the majority (55%) of employers do not currently train in low carbon skills. Given the importance of the low carbon agenda and associated performance targets, particularly those set by the Welsh Government, the apparent lack of willingness on the part of employers to train accordingly could impact on how successfully Wales can respond.

5.4 Views on current training provision

In the last two years, the majority of employers (76%) have provided access to at least some form of learning and training to their workforce, although just under a quarter have not provided any training. (Table 21).

Table 21 Whether provided access to training in last 2 years

Training provided in last 2 years?	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Yes	75.6%	71.7%	89.4%	72.1%	80.4%	88.2%
No	24.2%	28.3%	10.6%	27.4%	19.6%	11.8%
Don't know	0.2%	-	-	0.5%	-	-

Base: 418 respondents

Around a third of all employer respondents stated they have received financial support from CITB-ConstructionSkills to access training. Almost two-thirds of those in the building sub-sector and just over half of the civil engineering employers have received such support. (Table 22).

Table 22 Whether ConstructionSkills grant received in last 2 years

CSkills grant received in last 2 years?	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Yes	33.5%	59.2%	52.4%	23.2%	14.6%	-
No	62.7%	36.8%	42.9%	72.5%	82.9%	100.0%
Don't know	3.8%	3.9%	4.8%	4.2%	2.4%	-

Base: 316 respondents

A wide variety of methods and approaches have been used by employers to deliver learning and training in the last two years, including a mixture of on the job and externally sourced provision (Tables 23 and 24). Use of the existing National Construction College Network by employers in Wales appears to be the least preferred option for acquiring learning and training, used by an average of only 2.7% of employers.

Top 3 methods used to deliver training in last 2 years:

- On-the-job learning or training
- Private training provider
- Further Education college

Table 23 Methods used to deliver training in last 2 years

Methods of training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
On-the-job learning or training	18.6%	17.1%	15.2%	21.9%	17.1%	19.4%
Private training provider	16.0%	14.8%	16.7%	16.9%	13.4%	19.4%
Further Education college	13.9%	13.1%	8.8%	16.4%	15.9%	16.1%
Self-directed learning	10.6%	9.7%	12.7%	11.6%	4.9%	6.5%
CITB-ConstructionSkills	10.2%	14.8%	11.3%	7.8%	3.7%	-
Courses or seminars run by own staff	8.4%	8.5%	8.8%	6.9%	14.6%	9.7%
Trade federation/ professional inst.	7.8%	5.7%	7.4%	9.0%	8.5%	16.1%
External conferences	7.1%	7.7%	10.3%	5.0%	9.8%	-
Higher Education (e.g. university)	4.0%	4.8%	4.9%	1.9%	11.0%	-
National Construction College	2.7%	3.4%	3.4%	2.1%	1.2%	-
Don't know	-	-	-	-	-	-
Other	0.7%	0.3%	0.5%	0.5%	-	12.9%

Base: 1,089 responses from 313 respondents

Almost half of employer respondents have used external training providers during the past two years compared to about a quarter who have done all or most of their training in-house.

Table 24 Preferred approach to delivering training in last 2 years

Main approach to training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
All delivered by in-house staff	10.7%	6.7%	10.0%	14.3%	10.5%	-
Most delivered by in-house staff	15.0%	21.3%	15.0%	13.6%	5.3%	21.4%
About 50 /50 in-house and external	29.6%	26.7%	42.5%	25.0%	36.8%	35.7%
Most delivered by external providers	18.2%	28.0%	22.5%	15.0%	10.5%	7.1%
All delivered by external providers	26.4%	17.3%	10.0%	32.1%	36.8%	35.7%

Base: 307 respondents

Most employers who deliver some or all of their training internally do not have that training accredited by a professional body (c71%). Table 25 illustrates the specific organisations involved in accrediting training where this is the case, as well as the reasons employers chose to have their training accredited in this way. The main driving forces are to better enable employers to win new business, as well as to provide the workforce with recognised qualifications.

Table 25 Whether employer training has been accredited by a professional body

Training accredited?	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Yes	24.2%	29.0%	18.9%	18.9%	20.8%	77.8%
No	71.4%	66.1%	75.7%	77.9%	70.8%	22.2%
Don't know/too early to say	4.4%	4.8%	5.4%	3.2%	8.3%	-

Base: 227 respondents

Table 26 Employer involvement with specific professional bodies for accrediting training

Accrediting body	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
C&G - City and Guilds	18.2%	14.8%	25.0%	22.2%	12.5%	20.0%
NEBOSH - National Examination Board in Occupational Safety and Health	13.6%	14.8%	-	11.1%	37.5%	-
IOSH - Institute of Occupational Safety and Health	9.1%	11.1%	-	5.6%	25.0%	-
CCA - Construction Awards Alliance	7.6%	14.8%	-	-	-	20.0%
IEMA - Institute of Environmental Management and Assessment	1.5%	3.7%	-	-	-	-
ROSPA - Royal Society for the Prevention of Accidents	1.5%	-	-	5.6%	-	-
ABBE - Awarding Body of the Built Environment	1.5%	3.7%	-	-	-	-
Don't know/too early to say	16.7%	11.1%	50.0%	22.2%	-	-
Other	30.3%	25.9%	25.0%	33.3%	25.0%	60.0%

Base: 66 responses from 51 respondents

Table 27 Reasons why accreditation of training sought

Reasons	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Good for winning business	27.4%	26.1%	25.0%	37.0%	16.7%	21.4%
To enable staff to gain qualifications	22.6%	30.4%	25.0%	22.2%	16.7%	14.3%
Saves money	13.1%	8.7%	-	14.8%	25.0%	14.3%
Saves time	9.5%	4.3%	-	7.4%	16.7%	21.4%
To improve the training offered	7.1%	8.7%	-	3.7%	8.3%	14.3%
Provides more control	6.0%	8.7%	-	-	16.7%	7.1%
To aid recruitment	2.4%	-	-	7.4%	-	-
Don't know	8.3%	8.7%	50.0%	3.7%	-	-
Other	3.6%	4.3%	-	3.7%	-	7.1%

Base: 84 responses from 53 respondents

Specific external training used in the last two years

The most common types of training sought by employers externally include health and safety, first aid, asbestos awareness, CSCS/CPCS knowledge and manual handling. A mix of other specific aspects of construction were also referenced, such as operating plant lifts and cherry pickers, electrical conversion and air tightness testing. A small minority of respondents cited new technologies and, low carbon awareness and understanding more about energy efficiency.

Over 80% of employers are either very or fairly satisfied with the external training provision available to their organisation, most notably within the civil engineering sub-sector (Table 28).

Table 28 Satisfaction with external training provision

Level of satisfaction	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Very satisfied	46.6%	50.0%	50.0%	45.1%	59.5%	-
Fairly satisfied	35.7%	38.2%	47.2%	35.2%	18.9%	42.9%
Neither satisfied nor dissatisfied	10.1%	8.8%	2.8%	7.4%	13.5%	50.0%
Fairly dissatisfied	5.1%	1.5%	-	8.2%	5.4%	7.1%
Very dissatisfied	2.5%	1.5%	-	4.1%	2.7%	-

Base: 277 respondents

How could existing training provision be improved?

Employers would like training to be more affordable, particularly where the cost of travel is concerned and in response to rising fuel prices. Training provision needs to offer an increased number of specific courses that go to greater depth on certain aspects of construction, and include more practical as opposed to academic content. A small minority of employers are also concerned about insufficient construction provision available elsewhere in Wales besides the south.

While employers are, therefore, satisfied overall with currently available external training provision, almost four in ten have been unable to access some training within the last two years due to one or more barriers.

Table 29 Whether difficulties experienced in accessing external training provision

Difficulties accessing external training?	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Yes	38.4%	37.4%	31.9%	39.6%	32.0%	68.8%
No	61.6%	62.6%	68.1%	60.4%	68.0%	31.3%

Base: 417 respondents

While a range of barriers each account for a relatively low proportion of responses – ‘cost’ of training and ‘time’ to train stand out as the most significant challenges.

Top 3 barriers to external training provision:

- **Too expensive**
- **Too time-consuming**
- **Courses available are not relevant (6%)**

Table 30 Barriers to external training provision

Barriers to training	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
Too expensive	51.4%	50.0%	45.5%	53.1%	50.0%	55.0%
Too time-consuming	17.4%	23.4%	4.5%	19.5%	17.9%	-
Courses available are not relevant	6.1%	3.1%	9.1%	5.3%	10.7%	10.0%
No local training providers	5.7%	6.3%	4.5%	3.5%	7.1%	15.0%
Course dates/times not convenient	3.6%	3.1%	4.5%	5.3%	-	-
Local training providers unsuitable	3.2%	-	9.1%	2.7%	3.6%	10.0%
Previous negative experiences	1.6%	3.1%	-	1.8%	-	-
Difficult to get information	1.2%	-	-	0.9%	7.1%	-
Staff fully proficient	1.2%	1.6%	4.5%	0.9%	-	-
Courses are not an appropriate size	0.8%	-	-	-	-	10.0%
Courses are not at the right level	0.8%	-	4.5%	0.9%	-	-
Courses are not run in Welsh	-	-	-	-	-	-
Staff reluctant to be trained	-	-	-	-	-	-
Don't know	1.2%	3.1%	4.5%	-	-	-
Other	5.7%	6.3%	9.1%	6.2%	3.6%	-

Base: 250 responses from 171 respondents

Section Summary

The majority of construction employers in Wales have enabled learning and training for the workforce within the last two years, with on-the-job training, FE colleges and private training providers representing the most significant access routes. Only 2.7% of employers currently use the existing NCC network, i.e. located outside of Wales. Despite overall levels of satisfaction with existing provision being high – a third of employers report a range of barriers to training. The most common include cost and time to train, accounting for 51% and 17% of all reported barriers, respectively. This is followed by the issue of courses not being relevant, (accounting for 6% of responses). Issues regarding the suitability of existing training providers accounted for only 3.2% of responses.

5.5 Employer views on future training needs

Looking toward the future, employers are most interested in acquiring training for their workforce through block/short courses, as well as training delivered by external suppliers on their own premises (Table 31).

Given the concerns expressed about the cost and time implications of training it would seem reasonable to assume that, in the future, employers are seeking more economical but also more convenient delivery methods.

Table 31 Employer interest in different methods of training in the future

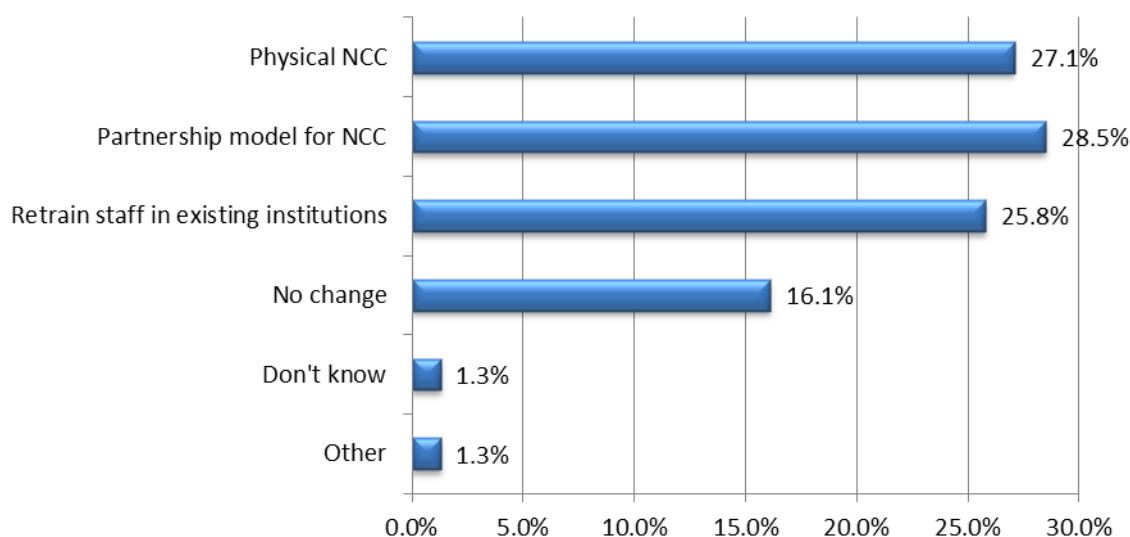
Types of training might use	Very interested	Quite interested	Unsure	Not interested
Training delivered by an external supplier at your premises	33.7%	36.5%	6.1%	23.7%
Intense 'block' courses over one or more days	31.3%	44.3%	4.7%	19.7%
Online or computer based training	10.4%	29.5%	9.4%	50.6%
Other distance learning using books or manuals	8.9%	35.9%	8.6%	46.6%
Training conducted on smart phones or other mobile devices	3.3%	4.0%	5.5%	87.2%

Base: 392-403 respondents

Figure 5 presents employers' views on which of the four future options for transformational change they consider appropriate, with the results suggesting relatively equal interest in the first three options.

It should be noted the research among employers did not seek to define or pre-determine the characteristics of a National Construction College for employers as the existing operating model might not have been the most appropriate solution for Wales. Instead, whilst the term NCC was used – the idea was to test the appetite among employers for some form of national and bespoke centre for construction training provision.

Figure 5 Options for transformational change considered appropriate

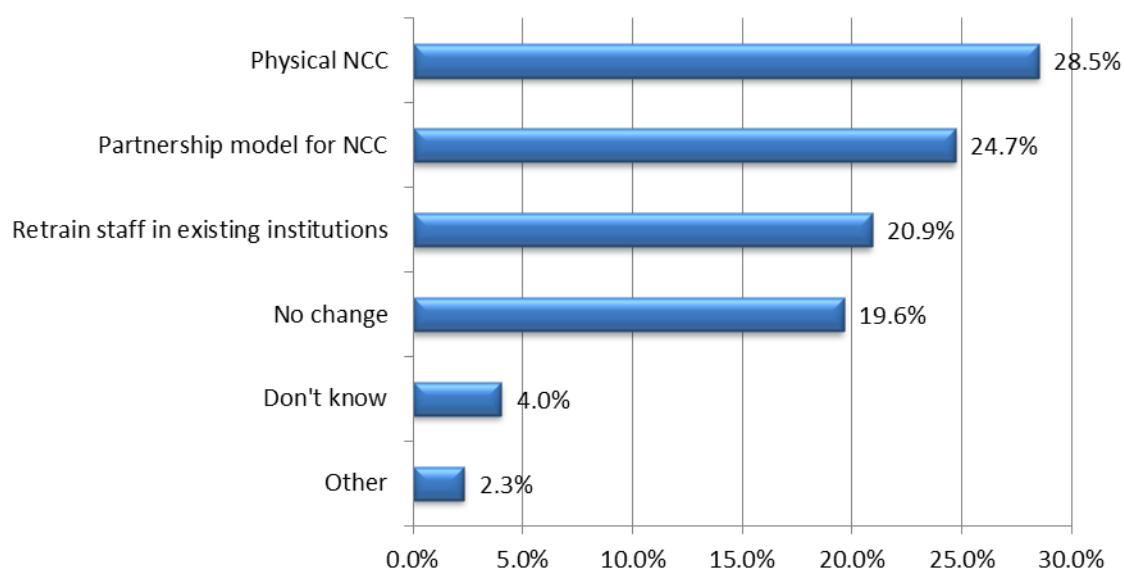


Base: 920 responses from 419 respondents

Employers' views were further refined by a question which asked which of the four options would be their single preferred option. Just over a quarter would prefer some form of physical National Construction College in Wales (Option 1), with a further quarter preferring a partnership model to create a National Construction College in Wales (Option 2).

Around one fifth would want to see staff retrained in existing institutions (Option 3) and another fifth seeing no need for change (Option 4).

Figure 6 Options for transformational change – preferred option



Base: 397 respondents

Presented below are the most commonly cited reasons given by employers for their preferred option for change. These views are important for enabling an understanding of what employers value as part of the idea of a National Construction College in Wales (either as a physical college or some form of partnership model), as well as presenting the evidence in favour of the other options for future skills provision.

Option 1 – Physical NCC

- Central location – easier to organise in terms of travel planning and associated admin
- Recognised ‘centre of excellence’
- A more focussed training environment better able to employer needs
- Improved skills of teaching staff
- Convenience
- Greater variety of courses
- Improved consistency of training through a bespoke construction facility
- More up-to-date technologies taught and associated skills developed
- Potential to attract young Welsh talent into the industry

Option 2 – Partnership model for an NCC

- More locally accessible for employers across Wales
- Better use of existing facilities and infrastructure – with the potential to improve it
- More cost-effective than a new-build centre
- Make the most of existing teaching skills
- A national standard on a local level will have the potential to attract young people into the industry across Wales

Option 3 – Retrain staff in existing institutions

- Local colleges are more accessible and more cost-effective
- An NCC in South Wales would prohibit access from employers based in the North and Mid Wales as difficult to get there on the train
- Investment needs to focus on improving and enhancing existing teaching staff
- There are so many colleges in Wales already where investment should be focussed
- There is the opportunity to widen the choice of training available within existing training institutions

Option 4 – No change

- No need to waste money – things are OK as they are
- Keep training local
- Government keeps changing training which is not helpful for small businesses
- On-the-job training can be better tailored to employers' needs
- Externally sources training provision isn't really applicable to the organisation

Employers in favour of some form of National Construction College in Wales generally identify with the need for provision that is more tailored to the needs of industry, with expert teaching staff and facilities that can help raise the profile and attractiveness of the sector. That is not to say that a single physical site is the most appropriate way forward. Indeed employers in favour of enhancing existing provision are more critical of the idea of a National Construction College model swallowing investment that could be better targeted at improving local provision with well-established teaching expertise and infrastructure.

Employers' views in respect of option 2 (a partnership model for an NCC) highlights the potential this option has for satisfying the demands of employers favouring both options 1 and 3. In essence, such a model could maintain and enhance local provision whilst also providing some form of national recognition or 'networks of excellence' through local collaborations between employers, training providers and other key partners such as Trade Associations.

To test the possible strength of appeal of a single-site NCC model being located in South Wales (i.e. close to the M4 corridor and where most high value commercial construction projects take place) – employers were asked how likely they would be to use such a facility. The results highlight that the vast majority of employers in North Wales, and a similarly large proportion of employers in mid-Wales, would be either fairly or highly unlikely to use such a facility.

Table 32 Likelihood of using an NCC in South Wales (by employer region)

Likelihood	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Highly likely	24.8%	8.1%	16.0%	32.5%	14.3%
Possibly	29.0%	5.4%	28.0%	32.8%	42.9%
Unsure	13.3%	8.1%	16.0%	14.7%	12.5%
Fairly unlikely	9.0%	12.2%	20.0%	6.8%	10.7%
Highly unlikely	23.8%	66.2%	20.0%	13.2%	19.6%

Base: 420 respondents

Of those employers who stated they would be fairly or very unlikely to use an NCC model in South Wales, 136 respondents provided details of associated barriers. The most significant barrier is geographical proximity – a significant issue for employers based in North and Mid Wales as stated above. In addition, some 22% of employers either have good relationships with their local colleges or want to see the staff there retrained (Table 33).

Table 33 Barriers to employers using an NCC in South Wales

Barriers to using NCC	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
South Wales is too far to travel from my organisation	40.9%	35.6%	41.7%	44.4%	34.8%	42.9%
Not interested in accessing training	17.7%	11.1%	16.7%	16.2%	30.4%	42.9%
Financial constraints	12.4%	17.8%	8.3%	13.1%	4.3%	-
Good existing relationship held with local training provider	12.4%	24.4%	16.7%	8.1%	8.7%	-
Staff in existing training providers in Wales should be retrained to meet future industry skills needs	9.7%	8.9%	-	11.1%	8.7%	14.3%
Other	5.9%	-	16.7%	7.1%	8.7%	-
Don't know	1.1%	2.2%	-	-	4.3%	-

Base: 186 responses from 136 respondents

Finally, around 70-75% of employers feel ConstructionSkills should provide more help in respect of three targeted areas (Table 33). This could include more regular and wide-reaching employer engagement activities, including provision of information on training opportunities to improve employers' ability to respond to change. A good example is the Low Carbon Campaign through which employers can receive text alerts.

A range of 'other' examples of employers' support requirements from ConstructionSkills are presented in Appendix 5.

Table 34 Further help required from ConstructionSkills

Further help	Overall	Buildings	Civil Eng.	Specialised	Architectural & Eng.	Other professional
More help for employers in identifying and accessing appropriate training	76.5%	72.6%	75.6%	80.7%	68.6%	77.8%
More help for employers in adapting to industry change	71.1%	71.7%	68.9%	74.0%	58.8%	77.8%
More help for existing training providers to better enable them to respond to the needs of the industry	70.4%	79.2%	80.0%	68.2%	52.9%	66.7%
Other	19.4%	8.5%	2.2%	29.2%	25.5%	5.6%

Base: 412 respondents

Section Summary

Looking towards the future, just over half of employers would like to see some form of National Construction College in Wales, be it a physical site or a partnership delivery model (options 1 and 2 respectively). The characteristics of an NCC were not pre-defined for employers and the emerging strengths were based on the idea of accessing better tailored and more expert provision. In contrast to such a proposition – a fifth of employers would prefer that existing available skills provision is enhanced, with the majority of employers in North Wales and Mid Wales against the idea of travelling to South Wales should an NCC be located in this area. A further fifth of employers favour a no-change scenario – largely on the belief that existing provision arrangements are satisfactory as they are.

A note on the survey of employees.

Whilst employers are often the decision-makers where training is concerned – the views of employees provided additional qualitative evidence for validating the extent to which different types of training are valued by front-line users.

The findings from the survey of employees are presented in Appendix 1.

6. Supply-side evidence

6.1 Overview of construction provision in Wales

This section is informed by substantial work undertaken to produce a matrix of construction provision in Wales – delivered to ConstructionSkills as a separate annex to this report. The matrix is based only on data held by the Higher Education Statistics Authority (HESA) as well as publically funded courses logged on the Lifelong Learning Wales Record (LLWR). These data sources are useful in looking back at how training provision has traditionally been allocated to the construction sector via FE and HE institutions as well as training providers contracted by the Welsh Government to deliver Apprenticeship training. Further work would be required to review the overall trends in provision across a longer period, especially how the volume of provision has reflected growth trends within the construction industry.

6.1.1 Higher Education Provision

According to data from the Higher Education Statistics Authority (HESA) - seven out of the eleven HE institutions within Wales offer programmes of study relating to the six principal areas of construction and the built environment³⁷. These are: Cardiff University; University of Wales Institute Cardiff (UWIC), University of Glamorgan; Glyndŵr University; University of Wales, Newport; Swansea Metropolitan University; and Swansea University.

During the academic year 2008-9, there were 135 such courses offered at Welsh HE institutions. Almost half of these were in Civil Engineering, followed by Building and then Planning respectively.

The vast majority of construction enrolments in 2008-9 were located in South East Wales (1,573), followed by South West Wales (242) and then North Wales (169). There are no reported HE construction enrolments in HE providers in Mid Wales over the last three years.

HE year 1 enrolments in construction-related courses have grown steadily in recent years, indicating a growth in demand for this type of provision. Completion numbers have also grown in recent years although not at the same rate as starts.

³⁷ This research used Principal Subject Area Codes as defined by HESA and agreed by ConstructionSkills - including: H2 Civil Engineering; K1 Architecture; K2 Building; K3 Landscape design; K4 Planning (urban, rural and regional); K9 Others in architecture, building and planning.

Table 35 Higher Education construction year 1 enrolments and completions

Year	Year 1 enrolments	Completions
2006-7	1,618	1,148
2007-8	1,838	1,260
2008-9	1,984	1,299

Of those students completing construction-related courses, within a time-frame of six months only a fifth enter the industry – the remainder enter other industries³⁸.

6.1.2 Further Education and work-based learning provision

Based on data supplied by the Lifelong Learning Wales Record (LLWR), there are currently 377 qualifications relating to Construction operating out of 21 Further Education (FE) Colleges in Wales³⁹. In addition, 464 unique qualifications operate out of 50 providers of Work Based Learning (WBL) in Wales⁴⁰. Of the qualifications available, almost half are offered in South East Wales - 38 WBL qualifications are delivered by providers who do not appear to have a fixed geographical base in Wales.

The Inspectorate for Education and Training in Wales (Estyn) allocates performance ratings to training providers under seven key categories. For each category, providers are rated 1 to 5 (with 1 being highest and 5 being lowest). The vast majority of construction providers are rated either '1' or '2' in most categories.

The strongest performance area overall is category 2 - effectiveness of teaching, training and assessment, with only 3 FE colleges and 8 WBL providers rated 3 or below following the most recent inspection. The weakest performance area is category 6 – evaluating and improving quality standards, with 10 FE colleges and 26 WBL providers rated 3 or below following the most recent inspection.

6.2 Gaps within construction provision in Wales

Research among employers highlighted the majority (just over 80%) are satisfied with existing external training provision. Indeed among those employers indicating barriers to accessing external provision – only 6% of reasons given were due to the lack of local training provision and a further 7% due to the lack of relevance of existing training provision.

This is not to say that construction employers in Wales are able to access and develop all the skills

³⁸ Based on SIC codes of industry entrance as reported by HESA

³⁹ Where a qualification with the same Learning Aim reference number is offered by another provider - this is counted again.

⁴⁰ Includes FE colleges that offer work based learning.

they need. Approximately half of employers responding to the survey stated one or more occupations that are hard to recruit due to a shortage of skills. The findings (presented in Figure 4) show that a broad range of occupations were reported, each by a small minority of respondents. The most commonly reported hard to recruit occupations (by a small margin) are carpenters, electricians, as well as plumbing, heating and air conditioning specialists.

Analysis of existing Further Education and work-based learning training provision in Wales⁴¹ matching those occupational areas reported as hardest to recruit due to a shortage of skills - reveals the following numbers of accredited courses on offer across FE colleges and private training providers in Wales:

Table 36 Number of accredited courses matching occupations reported as hard to recruit

Occupations/subject areas	Cross-region	North Wales	Mid Wales	South East Wales	South West Wales
Wood/Carpentry	4	19	4	37	9
Electrical/electrotechnical	1	2	0	10	6
Electro-technical	10	29	8	38	27
Plumbing	3	27	8	56	28
Heating/air-conditioning/ventilation	4	10	0	18	2

Source: Matrix of construction provision in Wales (delivered as a separate annex to this report)

The issue of gaps within provision need to be further explored with consideration not only around the skills employers feel they want, but what they need, and moreover, what they are likely to need in the future as result of changes underway across the construction sector and emerging skills required in response to the low carbon agenda and the development of new technologies for energy efficiency and improved processes for more efficient construction. Some of these issues are likely to be associated with how existing National Occupational Standards (NOS) reflect the current job roles being performed within the industry and how employers' views are used to inform revisions to these NOS. There is also the issue of how existing qualifications are fit for purpose from an employer perspective. The Welsh Government has recently announced a Review of Qualifications to be undertaken by the Deputy Minister for Skills which will cover some of these issues in more detail.

A fundamental challenge to the analysis of gaps in provision is that while employers generally appear satisfied with provision currently available – they do not necessarily appreciate the changes they may need to make to their skills base in the future. As such it is not so much the case there is a shortage in supply, but more a lack in current demand by employers for new and emerging skills. This may be one reason why only 2.7% of respondents have used an NCC to date –i.e. because of a lack of current demand for the types of specialist skills on offer through the network.

⁴¹ Based on analysis of the Lifelong Learning Wales Record (LLWR) and the matrix of construction provision in Wales - delivered as a separate annex to this report.

The apparent concern over employers' current capacity to recognise the skills they will need for the future - reduces the reliability of their views where analysis of the suitability of existing provision is concerned. As such it is important to incorporate the views of industry experts to inform the debate. The focus groups conducted as part of this research provided the opportunity to identify skills gaps facing the sector and allowed the opportunity for further analysis against existing provision.

Specialist techniques and technologies available across the rest of Europe are considered to be lacking in the Welsh construction marketplace; stakeholders within the focus groups shared concerns around Wales being in danger of falling behind Europe in terms of skills and technology within construction.

'Traditional' construction training is considered to be adequately covered by the existing provider network, although there were some concerns over hard to fill vacancies relating to some core trades (as noted previously) which require further investigation. Focus group participants highlighted **eight specialist skills reported to be most critically required**, commonly:

- Earth Moving Equipment;
- Heavy plant materials (because of the size of the equipment and the space required);
- Heritage (including specialist skills needed to retrofit historic/listed buildings);
- Interior wall insulation (the ARBED programme for regeneration in Wales has led to increased demand for these skills);
- Prefabrication, timber framing and pods;
- Scaffolding;
- Steeplejacking;
- Street Works.

Table 37 Number of accredited courses matching skills gaps reported by focus groups

Occupations/subject areas	Cross-region	North Wales	Mid Wales	South East Wales	South West Wales
Earth Moving	0	0	0	0	0
Plant	0	10	1	14	4
Heritage/Historic	0	0	0	0	0
Insulation	0	0	0	3	0
Prefabrication	0	0	0	0	0
Scaffolding	0	0	0	1	0
Steeple-jacking	0	0	0	0	0
Street works	0	0	0	0	0

Source: Matrix of construction provision in Wales (delivered as a separate annex to this report)

Priority areas for skills development also extend to management and supervisory skills. Research carried out by IFF for ConstructionSkills in 2011 highlighted a number of gaps across the sector, most significantly: understanding the importance and implications of 'green' issues; managing sustainable

practises; keeping up to date with legislation; IT skills; identifying and winning new business opportunities; as well as risk management⁴². Furthermore, Pye Tait's Future Skills research for ConstructionSkills in 2010 identified project management and the need for improved partnership working as being increasingly important to maximise efficiency and performance in response to advances in construction processes and technologies⁴³.

⁴² IFF research for ConstructionSkills (2011) *Management and Supervisory Skills Research*.

⁴³ Pye Tait Consulting for ConstructionSkills (2010) *Understanding Future Change in Construction*.

7. A Case for Transformational Change

7.1 Key considerations for changes to skills provision

Employers' principal concerns relating to existing construction training provision are the costs and time associated with training. Neither of these are particularly easy to overcome no matter what decisions are taken to transform construction training provision. In tough economic times where public funding for training is unlikely to increase and where employers' priorities are focussed very much on winning new business to survive – the most important consideration is likely to be provision that is as flexible and responsive as possible with respect to providing skills employers really need.

Just over half of employers surveyed as part of this research are in favour of some form of national centre for construction training for Wales, be it through a single site facility or a collaborative network approach to delivery. Conversely a fifth of employers support enhancement of existing provision and a further fifth favour maintaining the status quo.

In order to complement the wide, but inevitably restricted, employer-view we, therefore, held a number of focus groups with industry representative bodies and providers in order to discuss the situation in greater depth. We also wanted to acquire a combined demand-supply-side angle on the findings from the employer survey and discuss future change within construction and indeed the relative feasibility of the four proposed options for change.

7.2 Specialist and future skills

As identified by the 2010 *Future Skills* research for ConstructionSkills – employers' demand for training is driven principally by the commercial opportunities to be seized. The low carbon agenda and current pace of technological change combine to present significant new opportunities but, as was made evident by the employer survey, a proportion of employers do not believe that this agenda will affect them.

Perhaps due to their being able to take an informed overview of the sector, focus group participants identified the need to raise the bar for Welsh construction skills provision in order to capitalise on these changes and ensure the sector can remain competitive in the face of global competition. They regard this process as involving answers to a number of critical questions, few of which individual employers are in a position to answer:

- a) where the industry is going to be in five years' time;

- b) what the development of the industry implies for skills development and new specialist skills areas;
- c) what facilities and appropriate provision are already available; and
- d) how best to deliver any necessary up-skilling or new skills training for the future.

As a combined group, participants were of the opinion that:

1. The ambitions of the UK and Welsh Governments and the changes taking place to the construction market – in terms of an inevitable drive towards sustainable housing and energy-efficient commercial and industrial building - would demand new knowledge and new skills within the sector;
2. These skills represent the transformational element of the need for an enhanced skills base;
3. Transformational change to construction training provision would need to differentiate itself from existing provision so as not to risk duplicating or undermining training already available. This is particularly important given that just over 80% of employers are either very or fairly satisfied with existing training provision;
4. If made available, such additional education and training would add value to the sector by focussing on specialist training, particularly aligned to occupations and skills where gaps in provision have been identified (see section 6.2). Notable examples might be up-skilling technical roles such as architects, surveyors and civil engineers in relation to emerging issues such as the enhancement of energy-performance levels in the existing housing and commercial stock; techniques for historic building restoration; new materials and building techniques; as well as renewable energy installation considerations. Some of these skills requirements will require input from Higher Education as well as that of the existing college network;
5. Providers on the whole felt that they did not possess the necessary facilities to deliver, in Wales and for the Welsh construction sector, certain major current skill needs relating, for example, to earth moving, demolition, large scale construction projects and street works;
6. By focussing transformational change on specialist skills and those skills not yet effectively provided by Welsh colleges and technical facilities, the attendees felt that this could also greatly improve the supply of skilled labour to the planned, high value construction projects across Wales (see section 4.1.3). This, in turn, would then feed back into the local labour market for the longer term;
7. In view of the range of planned projects outside South East Wales, it will also be important to ensure employers can gain reasonable easy access to provision. The reluctance among

most employers in North and Mid Wales to use a facility of any kind located in the south, makes it extremely important to carefully consider where such specialist provision should be located;

8. Finally, attendees believed that transformational change should seek a model that could help promote a more positive image of working in the construction sector, such as by improved collaboration with schools and careers guidance organisations to encourage and stimulate the imagination of young people to consider a future career in a construction-related occupation.

A subsidiary point made at the focus groups was that on-going research and development would be required and that this would need to go hand in hand with specialist provision. The often unique considerations within the Welsh construction sector require a local-based ability to carry out such research – albeit infrequently and on specific subjects – which the network of existing colleges is not necessarily equipped to undertake. This will require strong partnerships with existing centres of excellence who perform research and development (R&D) activities within the Built Environment industries, such as the Low Carbon Research Institute. These institutions will be important not simply due to their ability to access relevant R&D funding.

7.3 Providing for specialist and future skills

7.3.1 Capacity to deliver

Focus group participants were largely in agreement that existing provision is equipped to meet demand for core construction trades, but that it falls short in its capacity to respond to specific gaps concerning:

- specialist techniques and technologies (principally due to insufficient expertise);
- high quality equipment and facilities required for the modern industry.

There are concerns that many existing providers (colleges, universities and private training companies) may not be able to afford, on their own, the high-end equipment and technology for developments in currently-required skills (e.g. handling and management of new materials) and the new specialist skills needed by employers.

It was universally accepted by the attendees that the pressure for transformational change may not be completely evident in today's depressed markets but they were clear that the needs would emerge as soon as the economy began to pick up again, and that early initiatives would then be repaid.

As employers are increasingly called upon to pay for training – a new model could have greater potential than current colleges to facilitate collaborative working partnerships with employers and,

as such, may have enhanced power to attract funding through private investments.

According to focus group participants, a notable current challenge within the existing provider network lies in gaining provider commitment to piloting new training programmes when take-up and running costs can be uncertain.

A model for transformational change would therefore need to involve taking ownership of pilot schemes, calculating risks and disseminating successful programmes– thus enabling other providers to feel more confident in potential success rates of new programmes that could be rolled out further.

7.3.2 Staffing considerations

The groups stressed that existing gaps and future skills needs will require trainers to be recruited from industry to take advantage of their knowledge and experience. Key challenges associated with attracting industry specialists will lie not only in ensuring they have the requisite teaching skills, but also ensuring their expertise does not become out-dated.

Some form of ‘train the trainer’ scheme would be essential to keep teachers and lecturers up to date on changes to industry practice and regulation thereby helping to ensure providers remain up to date. For example, Construction Skills, as part of the Welsh Government supported ‘Delivering Low Carbon Skills’ project, are already running a series of train the trainer pilots with colleges with a view to increasing their ability to deliver training associated with the insulation and overall energy efficiency of buildings.

It was felt that some form of new collaborative arrangement for transformational change might not only provide a central resource for such updating and CPD but might also enable the providers, themselves, to maintain the levels of expertise and knowledge in the current staff.

7.3.3 Location considerations

The notion of ‘reasonable expected travel’ to access training provision is difficult to pin down and is likely to vary according to a number of factors, namely:

- Whether the same training is available elsewhere and with more convenient access;
- Occupation (specialist skills needs may justify further travel to access the right training);
- The frequency of training (occasional use of a new arrangement may lead to increased willingness to undertake occasional travel in order to receive high quality specialist training not available elsewhere) ;
- Policies and training budgets of individual employers, which is especially relevant in a

suppressed market.

Evidence from ConstructionSkills' 2007 workforce mobility study highlights that, on average, construction industry workers in Wales commute greater distances to work than in any other region of the UK.

According to that report, 81% of workers travel more than 10 miles and 45% of workers travel in excess of 25 miles to their main place of work⁴⁴. This previous research needs to be carefully considered alongside the issues exposed by our employer survey, in that employers in North and Mid Wales are less likely to use a specialist training facility based further south. Indeed from North Wales it is potentially easier and more sustainable for learners to travel to an existing NCC site in Birmingham, London or Derbyshire than to South Wales.

There are however, clear economic advantages should a new transformational-change model be developed in South Wales owing to:

- a larger population – approximately 70% of Wales' estimated population of 3 million people are located in South East and South West Wales⁴⁵;
- greater numbers of current and planned construction projects;
- greater concentration of employers and potential catchment of users and staff;
- proximity to the M4 corridor to attract interest from the South West⁴⁶.

⁴⁴ ConstructionSkills (2007) Workforce Mobility and Skills in the Construction Sector in the UK and Republic of Ireland.

⁴⁵ http://www.statswales.wales.gov.uk/TableViewer/tableView.aspx?ReportId=16889&IF_Language=eng [2010 population statistics]

⁴⁶ Exploration of potential demand from outside of Wales was not within the remit of this research.

7.4 Analysis of the four options

Original options for future skills provision in Wales

Option 1	<i>The case for a new build NCC; based on the model of the rest of the UK's NCCs to satisfy the demand for courses not currently available in Wales</i>
Option 2	<i>Partnering an existing proposal for a 'construction centre' in Wales, with a view to ConstructionSkills becoming a partner in that proposal and working under the brand of NCC</i>
Option 3	<i>Retraining of staff in existing institutions to deliver training required to meet the future skills demands of the sector</i>
Option 4	<i>No change - ConstructionSkills continues to deliver qualifications as a Managing Agency</i>

Option 1 – A new build NCC

NOTE: the use of the term “NCC” in what follows is a convenient shorthand for the concept of a single, branded facility for the construction sector in Wales which would be able to provide a range of specialised and transformational skills. The acronym and name of such an arrangement is of secondary concern to its features and facilities.

A new build NCC (possibly based on the model of the existing ConstructionSkills NCC network) has the potential to offer a dedicated centre for construction that combines underpinning knowledge and workshop-based skills development in a “real world” setting.

It could, subject to the availability of capital and revenue funding, also provide a bespoke setting for training using heavy, specialist machinery.

The potential benefits from such a facility in Wales – available to all Wales-based construction firms and their employees – are difficult to estimate in long-term financial returns to the Welsh economy but could certainly be significant in a number of ways over and above the provision of modern equipment and machinery, the space for real-world training on large scale building sites and street/road developments, and the direct links with the knowledge, expertise and facilities of the wider NCC network.

Such a facility would also offer economies of scale in terms of staff resources, purchase and use of equipment, and scheduling of training.

At the focus groups there was some discussion of the possible branding of such a facility. Providers and industry representatives (in a similar way to employers) were split between the advantages of adopting the existing NCC network brand and structures, and that of using a similar model but using a separate Welsh-specific brand but linking it to the wider NCC network. This would therefore require further investigation and discussion with relevant stakeholders.

In either case the new facility could still be linked to the facilities and expertise of the existing NCC site at Bircham Newton, including the 'Constructionarium' – which brings together contractors, professional associations and universities to run short field courses and provides hands-on experience of being on a site.

As such this model could involve working with other colleges, universities and stakeholders, as a centre of excellence.

There are however a number of potential disadvantages to a new build option.

- It presents a relatively expensive option, requiring both land and new facilities.
- It would require some time to design, build, equip and commission (probably 3-5 years).

Only a small minority of employers responding to the survey have used the existing NCC network. This is, perhaps not surprising for Welsh construction firms and may suggest a lack of understanding of the concept. However, equally, their lack of use of the existing NCC network may indicate a locally-derived issue with such facilities and provision. Further research of a limited nature may be necessary to test the concept more fully with Wales-based employers.

Option 2 – Partnering an existing proposal for a construction centre in Wales

This option could capitalise on the advantages of working under the existing NCC brand (as mooted as a possibility under Option 1), whilst encouraging economical use of existing training provision and infrastructure, in order to deliver the construction sector's specialist and future skills needs. This would also be more in keeping with Welsh Government policies for transforming education and training services in Wales.

The case for establishing a facility in Wales, such as the National Construction College, has been on-going for a number of years, involving discussions among employers, trade bodies, training providers, as well as other business and skills support agencies working within the construction and built environment sectors.

Several colleges in Wales have already expressed interest in working with the existing National Construction College network and/or developing a 'centre of excellence' for construction in Wales. The colleges (including possible specialisms based on existing expertise and potential to deliver) include:

- **Bridgend College** – plant and heritage;
- **Coleg Llandrillo/Coleg Menai** – energy and nuclear;
- **Neath Port Talbot College** – future skills;
- **Pembroke College** – engineering;

Partnership working among Trade Associations would be important to encourage and support employer buy-in. Furthermore training would have to be linked to the economic strengths of the geographical areas of delivery to make it viable and to ensure it adds value.

The benefits of a “partnership” arrangement for transformational change are partly those of using existing expertise more effectively but are mainly of an economic nature – the argument being that such an arrangement would deliver most of the benefits of a new build approach at far less cost.

However, where the disadvantages of such an approach are concerned, the partnership model would find it difficult – if not impossible – to provide the large scale training facilities that have been found to be of so much value in England (and now in Scotland). Facilities and space are required for this and, unless the existing college provision was somehow expanded to meet the need, the only recourse for Welsh construction employers would be to send employees to the nearest facilities offering this type of training, such as an NCC facility or to Bircham Newton.

The relative expense of such travel, subsistence and opportunity costs make it likely that those employers may only do this under the most urgent imperatives with associated implications for the overall levels of knowledge and skills in the Welsh construction workforce.

Option 3 – Retraining staff in existing institutions

Preferred by approximately one fifth of employers but not by the providers or industry representative at the focus groups, this option would continue to ensure training provision is accessible to a wider geographical base across Wales, particularly in view of employers’ in North and Mid Wales being less likely to use an “NCC-type” model should it be located further south.

This option would also theoretically capitalise on existing and well established teaching skills and expertise.

However, there are actually two requirements for the industry as revealed by this research: firstly the up-skilling of existing teaching staff to maintain currency in existing skills; and secondly, the need, both now and at some future date, for teachers and teaching facilities related to new skill areas. Although these requirements will, to various degrees, span the other options being explored as to some extent each will impact on the training needs for individual teaching staff.

Up-skilling existing staff- even in the developments in current techniques and technologies - is an on-going concern of the providers due to its relative expense.

Attendees at the focus groups were of the opinion that newer specialist skills – the sorts that will become vital for the industry in the coming years once the recession has abated – will be extremely difficult to acquire and maintain. Providers on the supply side of the skills environment are sceptical as to where they will find green and carbon agenda skills (for such things as construction materials, building systems, insulation materials, energy recycling systems, waste heat recovery additions to existing buildings, green roofs, the integration of solar and wind power systems, and many more).

Some providers have already attempted to acquire this knowledge through offering more specialist training in, for example, Solar PV. However, it is recognised that the use of new technologies is growing and will continue to adapt, thereby further compounding the issue of equipping existing teaching staff with the skills and knowledge required to take forward training in new renewable technologies.

Given the urgency of the carbon agenda across the UK, focus group attendees felt that the need for new knowledge and skills across almost all levels of the sector in the next ten years would be very high and they doubted the ability of individual colleges to meet the need unaided.

It was felt that attempts to retrain staff would not be effective unless carried out in a manner and with resources that participants could not envisage being available.

Option 4 – No change scenario

This option was also preferred by approximately one fifth of employers, but, again, not by the focus group attendees.

An advantage of this approach would be minimum spend and a focus on maintaining the status quo.

A strong argument behind this option is that core/traditional construction training provision in Wales is, on the whole, considered to be satisfactory by employers. This view was shared by focus group participants.

Having said that, it was the overwhelming view of focus group participants – from their experience of dealing with employers in the sector on a day to day basis that construction employers' general awareness and understanding of the future implications of the carbon agenda were incomplete and imperfect.

They pointed to what they regard as a real need for employers to recognise the opportunities emerging out of the low carbon agenda, renewable energy development and technological advances. Employers will need, for example, to demonstrate the ability to manage, install, monitor maintain and repair new technologies and materials, with the underpinning knowledge relating to legislative change and energy performance standards.

While a proportion of employers (about a fifth) regard “no change” as a viable option, the opinions

of 80% of employers and the focus group attendees were to the contrary.

Overarching Issue

One overarching issue perhaps needs to be flagged up with relation to all of the options and that is the employers' readiness to send staff for training and the barriers which they claim prevent them from so doing.

Cost and time are both listed as primary barriers to training by employers and these are unlikely to be easily overcome through any of the possible approaches to transforming construction provision as discussed above.

It must be recognised, however, that this response is not uncommon in all sectors of the economy and that the economic rationales against training staff are almost always overcome by longer term commercial considerations as to change in the market and the need for new skills. Most employers – with the possible exception of the very largest – operate within extremely constrained time horizons and all providers – whether they are local colleges, national collaborative arrangements, or even UK-wide facilities – have to take them into account when designing and marketing education and training initiatives.

8. Conclusions

Construction in Wales – a fragile economic recovery

The construction industry in Wales is, at best, making a slow recovery following a hard recession. The recovery of the wider economy is, at the time of writing, so weak that a return to recession is well within the realms of possibility.

However, employment forecasts to 2015 are tentatively positive, showing total construction employment in Wales rising by a conservative 5% over the five years to 2015. The total employment figures this would generate would still be 20% down on 2007 levels⁴⁷.

Growth is forecast at an annual rate of 1.2% per annum, with increasing activity predicted within the repair and maintenance as well as private housing sub-sectors. Employers reporting cut-backs to training is one of the most significant side-effects of the recession, however a similar proportion of construction employers have taken steps to expand into new markets, where additional knowledge and skills could be particularly important.

The important conclusion from this study is that it is impossible to predict precisely what the industry will look like when it eventually begins to grow strongly once more. Neither is it entirely possible to identify the sub-sectors which will be able to grow fastest even within a very slowly expanding industry over the next five years.

We can, however, identify a number of economic and regulatory drivers which stand the greatest chance of affecting the industry's direction and, therefore, its need for specific skill-sets.

Relevant report sections: 4.1; 5.2; Table 9.

The need to respond effectively to drivers of change

Over 70% of employers in this research asked for more help in adapting to future change.

The most influential drivers for change affecting employers are legislation and the need to maximise commercial opportunities in the interests of survival.

The challenging targets set by the Welsh Government in relation to low carbon and renewable energy present new market opportunities that have the *potential* to stimulate demand for new types of training.

⁴⁷ Experian - Construction Skills Network 2011-2015: Wales LMI.

Knowledgeable industry stakeholders, including the providers, are of the opinion that, while current education and training provision is adequate, there will - at some point in the recovery - be a need for different, specialised skills.

Because these skills relate directly to Government priorities (be that those emerging from the UK Government or Welsh Government) – specifically the need for carbon reduction – these stakeholders believe that education and training in skills to achieve such priorities should begin to be taught and developed as soon as possible.

Relevant report sections: 4.2; 5.3 (in particular Tables 17); Table 34.

Limitations of existing skills provision

A little over 80% of employers are either ‘very’ or ‘fairly’ satisfied with existing training provision and the providers, too, regard their provision to the construction industry in Wales as meeting the needs of the industry.

While providers and employers are happy with current provision, this is based on employers’ past and current demands for training and does not necessarily take into account how training needs will change in response to emerging and future drivers of change.

The general consensus from the focus groups (whose attendees possess an overview of the industry denied to most employers) is that provision in Wales adequately serves traditional and core aspects of construction. There were some concerns on hard to fill vacancies for some traders which are likely to be derived from the overall structure of qualifications within these areas. However, constraints on physical resources and expertise mean that employer demand for training in new and specialist areas is, currently, largely unmet. Furthermore they are sceptical that new skills and advanced techniques will be easily delivered under current provision despite some providers already attempting to move into this area.

Analysis of Lifelong Learning Wales Record (LLWR) data substantiates evidence from the focus groups that gaps exist in provision relating to the following *current* skills/occupational areas in Wales:

- Earth Moving Equipment;
- Heavy plant materials (because of the size of the equipment and the space required);
- Heritage (including specialist skills needed to retrofit historic/listed buildings);
- Interior wall insulation (the ARBED programme for regeneration in Wales has led to increased demand for these skills);
- Prefabrication, timber framing and pods;
- Scaffolding;
- Steeplejacking;
- Street Works.

Focus group attendees pointed out that training and development in these skill areas requires facilities, equipment and space not available to any of the individual colleges or other providers and that the only available facilities for such training are some distance from Welsh employers, in England.

They also stressed the fact that the list does not address any potential future needs of the industry in high technology areas such as carbon reduction materials and techniques. While the teaching of such knowledge and skills is entirely possible within the physical resources of existing provision, it would require additional specialised staff supported by access to on-going research and development.

Relevant report sections: 5.4 (in particular Table 28 and Table 30); 6.2 (in particular Table 37); Matrix of construction provision in Wales (delivered as a separate annex to this report)

A case for enhanced construction skills provision in Wales

Approximately four fifths of employers are in favour of change to construction skills provision in Wales, with only one fifth preferring the no change scenario.

Around one third of employers would like to see the development of a dedicated, physical teaching facility (Option 1); a quarter of employers would prefer a partnership delivery model (Option 2); and a further fifth would prefer that existing training provision be enhanced (Option 3).

Employers are clearly of the opinion that some change is necessary in the delivery of construction education and skills.

This is substantiated by focus group participants who were strongly of the opinion that, for Wales to remain competitive in terms of its construction skills base, training provision would need to be better equipped not only in terms of both physical space and plant but in terms of the knowledge and skills of the teaching resources.

The latter are necessary - in the view of the industry stakeholders and providers - to meet the future needs (albeit in five to ten years) for advanced knowledge and skills in such areas as:

- Advanced construction materials;
- New building systems;
- The use of insulation materials;
- The installation of energy recycling systems;
- Building and installation of waste heat recovery;
- Advanced glazing systems (integration into existing building);
- Techniques for upgrading the energy efficiency of existing buildings;
- Building and maintenance of deep bore and ground heating systems;
- The building of green roofs;

- The integration of solar and wind power systems into and alongside new and existing buildings, and many more.

Relevant report sections: 5.5 (particularly Figure 6); 7.2.

The relative merits of the four options for change

Option 1 – A new build NCC

A new build facility could offer a dedicated centre of excellence with significant advantages - albeit at a cost.

It could also permit large scale equipment and realistic practice on a scale unlikely to be acquired within current provision, thereby enabling Welsh construction firms to develop a broader based of skills in order to compete effectively inside and outside of Wales.

A single site facility also has the capability to bring economies of scale in large-equipment purchases, the use of land and training rigs, and the recruitment of high quality teaching resources skilled in new technologies and techniques.

While costly to build, and therefore requiring the sourcing of capital and revenue funding, such a facility could potentially benefit the Welsh construction sector by bringing advanced resources and equipment within economical reach.

Although it would have the disadvantage of being more difficult to access from every part of Wales, in terms of training on heavy equipment and large scale street works, it would potentially bring new shared teaching resources to Wales which could be used by providers operating within a specific locality on a peripatetic basis.

A new build facility would incur the major disadvantage of cost and might take some time to build and commission. This is especially significant given the likely availability of financing such a model within the current financial situation.

It would also need to coordinate its activities closely with existing providers – particularly colleges – but there may be ways in which the new facility and providers could be structured to be positively complementary, potentially through some supplementary partnership arrangements.

Option 2 – Partnering an existing proposal for a construction centre in Wales

This option could capitalise on the advantages of working under the existing NCC brand (or a pseudo delivery model specific to Wales) whilst encouraging economical use of existing training provision and infrastructure.

Several colleges in Wales have already expressed interest in working with the existing National Construction College network and/or developing a 'centre of excellence' for construction in Wales.

A "partnership" arrangement would use existing expertise and might deliver most of the benefits of a new build approach at significantly less cost and could be phased in over time thereby reducing commissioning timescales.

However, the ability to provide large scale training facilities would need to be considered. The geographical scope of a partnering model is likely to be wider than a single site model.

Option 3 – Retraining staff in existing institutions

This option would ensure training provision is accessible to a wider geographical base across Wales, and would, theoretically, capitalise on existing and well established teaching skills and expertise, similar to that of Option 2.

In cost terms it would be relatively inexpensive compared to a new build or even a partnership model.

However, up-skilling existing staff- even in the developments in current techniques and technologies - is an on-going concern of the providers due to its relative expense. Achieving economies of scale in providing access to continue professional development training for teaching staff, whilst maintaining a focus on providing a centre of excellence, may be difficult.

Providers believe that newer specialist skills will be extremely difficult to acquire and maintain across all of the college provision - with each college competing for highly trained and qualified staff.

Option 4 – No change scenario

The principle advantage of this approach would be minimum spend.

However, providers are of the opinion that, under the pressures of on-going work, many employers remain unaware of the urgency for up-skilling and that this need is therefore under-valued.

While a proportion of employers (about a fifth) regard "no change" as a viable option, the opinions of 80% of employers and the focus group attendees were to the contrary.

Summary

The evidence of this research supports the case for change in construction skills provision in Wales. It points clearly from the perspectives of employers, providers and representative bodies towards one of two potential options: either a new build facility which complements existing provision, or a "partnership" arrangement.

Although the new build option offers significant advantages in the longer term, its initial cost, the time it would take to build and commission, and the need for careful and detailed consideration of the ways in which it would complement - and not duplicate or compete with - existing provision makes it unfeasible - particularly in the current economic climate.

The option that seems to offer optimal benefits for the Welsh construction industry is Option 2 - the development and implementation of a partnership approach. However the precise structure of such an arrangement would require some further research and development, particularly in terms of the ways in which ConstructionSkills could utilise the most appropriate elements of its existing NCC model to enhance and support education and training provision in Wales.

9. Recommendations

The following recommendations are based on the expert advice taken from the series of focus groups undertaken and are supplemented by an analysis of existing provision. Recommendations also incorporate previous activities and reporting taken forward in this area with a view to synthesising these into a clear blueprint for how the existing training infrastructure supporting the construction sector can be transformed in response to industry need.

A number of project proposals have already been put forward by existing providers to develop some form of 'centre of excellence' for construction. Further consideration of the relative merits of one or more of these proposals and the way in which they could be linked to the existing NCC network (or other similar models) would potentially result in a solution which has the potential to enhance existing provision, be more sustainable in terms of effectively utilising existing infrastructure, whilst also creating a new and exciting opportunity for specialist skills provision in Wales.

General recommendations:

- It is recommended that Option 2 be taken forward as the basis for continued dialogue with the construction sector and relevant stakeholders. This will require more detailed research and development work to be carried out in the short term to identify more precisely the ways in which it would operate and the costs involved.
- It may be possible that one or more of the existing proposals mentioned above could enable this research activity to be achieved in a shorter timescale given the relative merits of these proposals and the development work they have already undertaken.
- It is further recommend that the delivery model for the partnership arrangement should be of the 'hub and spoke' variety as this offers greater potential for links to be made more widely across Wales, more efficient use of all facilities - whether physical or human – and less danger of duplication or competition in provision.

Specific Recommendations:

In consulting with the sector and key stakeholders it is apparent that there will be some underlying requirements which must be met in order for their expectations of a more forward thinking and responsive training infrastructure to be achieved. It is recommended that these are taken forward as the blueprint for any further analysis work and in reviewing proposals already having been developed. These have been grouped as follows and are in no particular order:

Cost:

- Availability of financing (both capital and revenue);
- Capable of achieving economies of scale in the resources and financing to be used;
- Takes account of the funding methodologies used to support those institutions to be involved and how their grant funding operates. For example, Welsh Government funding provided to Further Education colleges;
- Funding methodologies are sustainable in the long term and are from a broad base (i.e. not reliant solely on public funds to operate and attract investment from employers);
- Sufficient financial reserves will be in place to support structures to adapt quickly in response to the changing skills needed by industry.

Provision of Services:

- Takes account of the best practice already operating across the UK and from projects already receiving funding support. For example, training provision developed as part of the Welsh Government Sector Priorities Fund Pilot Programme;
- Supports specialist training not currently available in Wales, such as plant machinery, as identified through focus groups and the analysis of provision conducted as part of this report;
- Capable of supporting major capital investments in Wales and having the ability to operate on a project basis;
- Looks to wider sector models already operating in Wales, such as the NSA for Nuclear;
- Has the ability to adapt services – similar to the project based model – in response to new industry needs. (See also financial resources to support such adaptations).

Accessibility:

- Is geographical accessible to all (within reason);
- Is accessible to those requiring additional learning support and is therefore supportive of all relevant Equality legislation.

Duplication:

- Does not duplicate existing provision but is complementary to the services already on offer through existing providers.

Evidence Base:

- Has a clear indication of future skills needs to support the ongoing development of services.

Governance:

- Has a transparent governance structure which reflects the need to engage with industry and stakeholders through decision making processes;
- Supports partnerships working between differing institutions (FE, HE and private

providers) and reflects their ways of working;

- Addresses potential conflicts of interest between organisations and their current roles;
- Reflects on legal issues surrounding procurement and State Aid which may be impacted by any future developments.

Timescales:

- Has minimal commissioning timescales (where possible) to ensure current skills needs can be supported in the short term.

Appendices

Appendix 1. Demand-side evidence: Employees

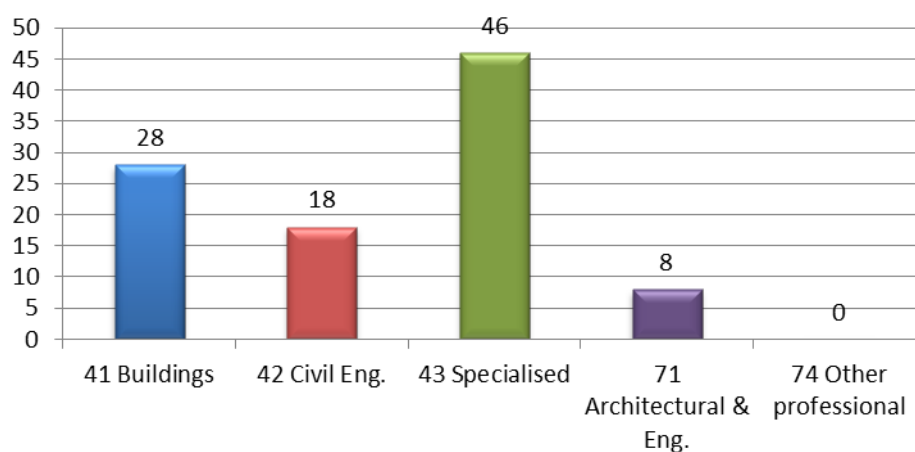
Whilst employers are often the decision-makers where training is concerned – the views of employees provided additional qualitative evidence for validating the extent to which different types of training are valued by front-line users.

The survey of employees targeted a small sample of 100 employees across the whole of Wales; as such the findings should be treated with care and are at best indicative of the wider construction population. Not all employees responded to every question and the base number of respondents/responses are included below each of the tables and charts.

The findings from each question are cross-tabulated by Wales 'region', so that geographical implications can be taken account of when considering the case for transforming construction provision in Wales.

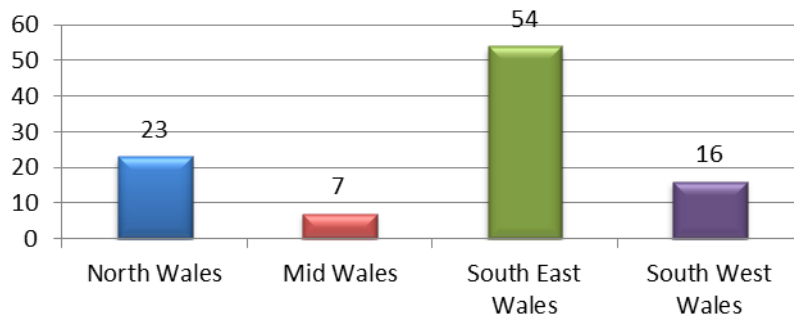
Characteristics of survey respondents

Figure 7 Respondents by 2-digit SIC code



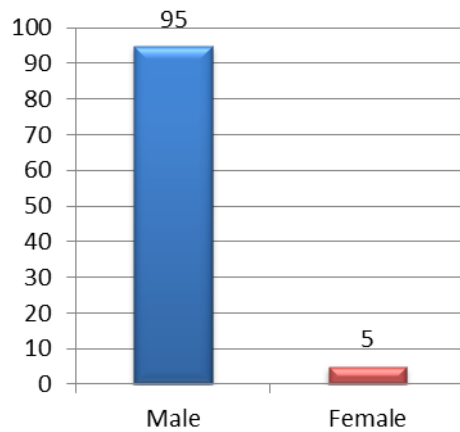
Base: 100 respondents

Figure 8 Respondents by region



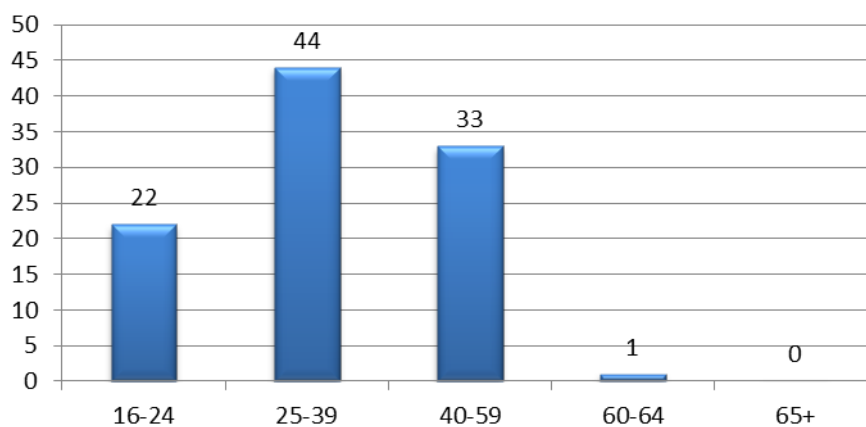
Base: 100 respondent

Figure 9 Gender



Base: 100 respondents

Figure 10 Age Band



Base: 100 respondents

Just over 80% of employee respondents stated they hold one or more construction-related qualifications and the vast majority were living in Wales at the time they undertook the highest level qualification held (Tables 38 and 39).

Table 38 Whether construction-related qualifications already held

Already hold construction qualifications?	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Yes	82.8%	77.3%	57.1%	87.0%	87.5%
No	17.2%	22.7%	42.9%	13.0%	12.5%
Don't know	-	-	-	-	-

Base: 99 respondents

Table 39 Where lived when undertaking construction-related qualifications

Where lived when undertook quals	Overall	North Wales	Mid Wales	South East Wales	South West Wales
London (within M25)	1.2%	5.6%	-	-	-
South East	1.2%	-	-	-	7.1%
East of England	-	-	-	-	-
North East	-	-	-	-	-
North West	4.9%	22.2%	-	-	-
Yorkshire and Humberside	-	-	-	-	-
East Midlands	-	-	-	-	-
West Midlands	1.2%	-	33.3%	-	-
South West	-	-	-	-	-
Wales	90.2%	72.2%	66.7%	97.9%	92.9%
Scotland	1.2%	-	-	2.1%	-
Northern Ireland	-	-	-	-	-
Republic of Ireland	-	-	-	-	-

Base: 82 respondents

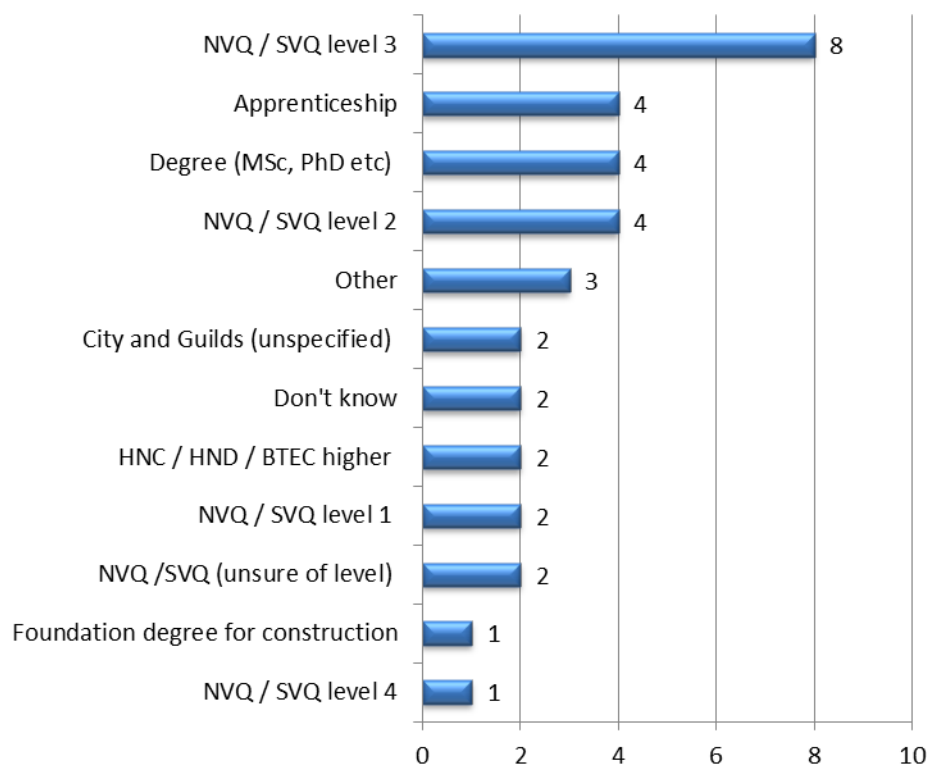
Just over a third of employees are currently working towards construction-related qualifications (Table 40), Figure 11 shows the highest level qualification currently being undertaken.

Table 40 Whether currently working towards construction-related qualifications

Currently working towards qualifications?	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Yes	37.0%	39.1%	42.9%	31.5%	50.0%
No	63.0%	60.9%	57.1%	68.5%	50.0%
Don't know	-	-	-	-	-

Base: 100 respondents

Figure 11 Highest qualification currently being worked towards



Base: 32 respondents

Views on training undertaken

Employees have experienced a mix of training in the last five years, with each respondent citing an average of just over two of the listed types. Participation in accredited formal qualifications accounts for a slightly higher proportion of responses in the South Wales regions as opposed to Mid and North Wales (Table 41).

Table 41 Types of training experienced in the last five years

Types of training	Overall	North Wales	Mid Wales	South East Wales	South West Wales
On-the-job supervision or job shadowing	26.4%	32.6%	31.3%	23.6%	25.8%
In-house seminar or workshop	19.9%	19.6%	18.8%	20.3%	19.4%
Short course or workshop offered by another organisation	31.5%	32.6%	31.3%	31.7%	29.0%
Accredited formal qualification/s	22.2%	15.2%	18.8%	24.4%	25.8%

Base: 216 responses from 95 respondents

The most popular access route for employees participating in training is through their employer, accounting for almost two thirds of responses. On average, only 5% of employees have accessed training through a National Construction College (Table 42).

Table 42 How training has been accessed

How training accessed	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Organised by employer	59.8%	62.5%	37.5%	59.7%	66.7%
Directly through a local college or training company	29.9%	37.5%	50.0%	26.9%	22.2%
National Construction College	5.1%	-	12.5%	4.5%	11.1%
Other	5.1%	-	-	9.0%	-

Base: 119 responses from 99 respondents

Almost two thirds of employees are either very or fairly satisfied with the principal training they have undertaken, with the most satisfied respondents being based in South West Wales. A significant third of employees are not happy with their training experiences, most notably respondents from mid Wales (Table 43).

Table 43 Level of satisfaction with principal training undertaken

Level of satisfaction	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Very satisfied	38.4%	52.2%	14.3%	35.2%	40.0%
Fairly satisfied	26.3%	17.4%	42.9%	25.9%	33.3%
Neither	3.0%	-	-	3.7%	6.7%
Fairly unsatisfied	14.1%	13.0%	42.9%	13.0%	6.7%
Very unsatisfied	18.2%	17.4%	-	22.2%	13.3%

Base: 99 respondents

Reasons given by employees for their level of satisfaction with training

Strengths

- “The training was comprehensive and covered all expected areas”
- “Only 4 of us on the course so we all got 1:1 support”
- “I found it worthwhile so my employer is happy to pay for whatever training is necessary”
- “The course was presented and explained well – we were not rushed through”
- “The commute was OK (30 miles away) but the training was good”
- “The training was valuable for the company and for my own role – I was able to update staff on policies and procedures”

Weaknesses

- “The course needed to be more hands on and teach practical skills”
- “The college was good but it was hard to find an Apprenticeship placement”
- “We need more experience on the job – being at college feels like it’s wasting an apprentice’s time”
- “It’s too expensive”
- “The course tutors weren’t up to date; I wasn’t learning anything so I dropped out”
- “I have gone over to German and American companies for further training”

The majority of employees believe qualifications are important to their job, particularly the case among respondents from South West Wales where levels of satisfaction are at their highest (Table 44).

Table 44 Perceived importance of qualifications

Importance	Overall	North Wales	Mid Wales	South East Wales	South West Wales
They are important	79.0%	69.6%	71.4%	79.6%	93.8%
They are an added bonus	16.0%	21.7%	14.3%	18.5%	-
They are not important	4.0%	8.7%	14.3%	1.9%	-
Don't know	1.0%	-	-	-	6.3%

Base: 100 respondents

Reasons given by employees for the value placed on qualifications:

Important/added bonus

- “I can drive the machinery with a licence; it looks better for the business when you have the qualification”
- “Dangerous things need an assessment”
- “I wouldn't have a job now if I didn't have them – employers want qualifications”
- “No qualifications means limited work and no pay”
- “There are a lot of 'Cowboys' who are not formally qualified. I wanted to be taken seriously, so decided to get qualified”

Not important

- “It's all about experience”
- “Courses are too easy; you can coast through and not actually learn how to do the job at all”

Around half of employees have tried to access one or more training courses within the last two years, although the figure is significantly lower among respondents from Mid Wales (Table 45).

Table 45 Whether tried to access training courses in last 2 years

Tried to access training?	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Yes	54.0%	56.5%	28.6%	55.6%	56.3%
No	46.0%	43.5%	71.4%	44.4%	43.8%

Base: 100 respondents

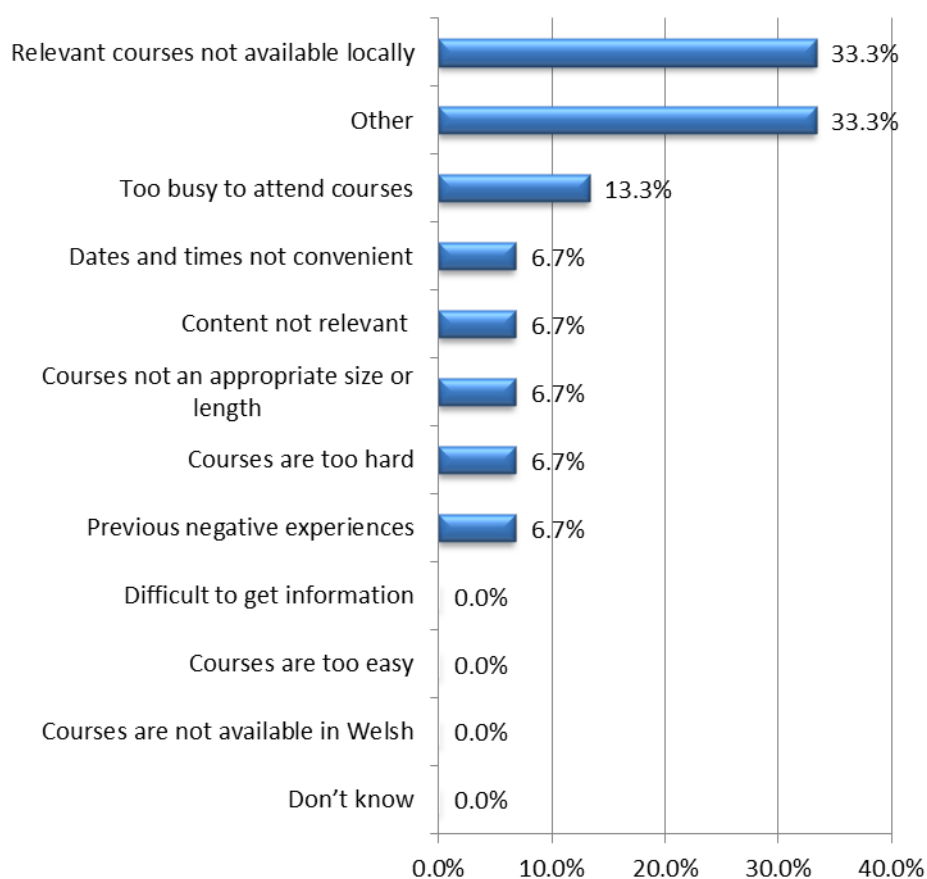
On average, just under a third of employees have encountered difficulties accessing training, most notably in South West Wales (Table 46). The greatest single issue is being able to access relevant courses locally (Figure 13), indicating geographical proximity to relevant available training as being the key issue.

Table 46 Whether any difficulties experienced accessing training

Level of satisfaction	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Yes	31.5%	38.5%	-	26.7%	44.4%
No	68.5%	61.5%	100.0%	73.3%	55.6%

Base: 99 respondents

Figure 12 Single main difficulty in accessing training courses in the last two years



Base: 15 respondents

Section Summary

External short courses and workshops accounts for the largest proportion of training activity undertaken by employee respondents to the survey, and for the most part, employers are the instigators of training. The majority of employees value qualifications as ‘important’ to their job role and most are generally satisfied with their training experiences, this is not the case for around of third of individuals. A small minority of employees (15 respondents) reported difficulties accessing training.

Views on future training needs

Several forecast industry changes relating to the low carbon agenda are set to have an impact on skills needs (Table 47). Employees were asked to rate the skills implications relating to specific industry changes on a scale of 1 to 5, with 1 being ‘no impact’ and 5 being ‘significant impact’. The average rating is 3 out of 5, indicating a limited acceptance by employees that skills will be affected by the changes.

Table 47 Skills implications of specific forecast industry changes – employee ratings

Industry changes	Average rating
Low and Zero Carbon legislation	3.0
Waste management	3.2
Recycling	3.1
Installation of renewable technologies	3.0
Use of low carbon products/techniques	3.0

Base: 100 respondents

In consideration of how future training should be delivered - around three quarters of employees favour short courses and externally delivered provision (Table 48).

Table 48 How future training should be delivered

Method of delivery	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Online or computer based training	10.0%	-	-	15.4%	-
Training conducted on smart phones or other mobile devices	-	-	-	-	-
Other distance learning using books or manuals	10.0%	-	-	15.4%	-
Intense ‘block’ courses over one or more days	45.0%	-	60.0%	38.5%	100.0%
Training delivered by an external supplier at your premises	30.0%	100.0%	20.0%	30.8%	-

Base: 20 responses from 11 respondents

Employees were asked for their views on which of the four future options for transformational change would be considered appropriate (Table 49). The case for a physical NCC accounts for the highest proportion of responses although all four options are considered appropriate by employees to similar extents. It should be noted the 'no change' scenario accounts for a higher proportion of responses among employees than among employers who were asked the same question.

Table 49 Options for transformational change considered appropriate

Level of satisfaction	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Physical NCC	30.8%	31.1%	18.8%	32.8%	29.0%
Partnership model NCC	23.8%	15.6%	31.3%	26.2%	22.6%
Retrain staff in existing institutions	24.3%	31.1%	25.0%	21.3%	25.8%
No change	20.1%	22.2%	18.8%	18.9%	22.6%
Don't know	-	-	-	-	-
Other	0.9%	-	6.3%	0.8%	-

Base: 214 responses from 100 respondents

The most preferred option among employees (Table 50) is for a physical National Construction College in Wales, particularly among respondents based in South East and South West Wales. The notable exception is among respondents from Mid Wales, none of whom would prefer the option of a physical NCC model and would instead prefer to see existing training provision enhanced.

Table 50 Options for transformational change – preferred option

Level of satisfaction	Overall	North Wales	Mid Wales	South East Wales	South West Wales
Physical NCC	36.7%	30.4%	-	43.4%	37.5%
Partnership model NCC	19.4%	17.4%	33.3%	17.0%	25.0%
Retrain staff in existing institutions	18.4%	17.4%	33.3%	17.0%	18.8%
No change	25.5%	34.8%	33.3%	22.6%	18.8%
Don't know	-	-	-	-	-
Other	-	-	-	-	-

Base: 99 respondents

Below are the most commonly cited reasons given by employees for their preferred option:

Option 1 – Physical NCC

- “NCC can be more adaptable; local colleges can pick and choose what they offer and don't always offer what's needed”
- “It would be great to have all the courses in one place; a one stop shop”
- “It would be good to have a new purpose built building and equipment to train with”
- “At a central base – performance can be better audited and standards can be maintained”
- “There are not enough college courses provided in Wales; I only have a choice of London or the Midlands for my choice of course”
- “If it's on a campus - young tradesmen could get to know each other better, forging better contacts”
- “CITB would do better with their own training location”
- “I would like to get into training myself – this would give me the opportunity”

Option 2 – Partnership model for an NCC

- “Why waste money on a new building, when the old one is already there and can be improved”
- “This would allow me to access the most important factors and I won't have to travel far”
- “This would seem the most practical and cost-effective approach”

Option 3 – Retrain staff in existing institutions

- “We would need a college either side of the country”
- “If it is located in South Wales, it will be no good to me, as it will be too far to travel”
- “Give the current staff more training, as they already have a lot of skills, but it would be good if they were kept up to date”
- “Better to use local expertise and it's easier to access in terms of geography”
- “No point in creating a new college when training is adequate – but if it's there then I would use it”

Option 4 – No change

- “I have had a good experience overall”
- “Keep it local”
- “It would cost less to keep things as they are”

Appendix 2. Background case for an NCC in Wales

The case for establishing a National Construction College In Wales has been on-going for a number of years, involving discussions among employers, trade bodies, training providers, as well as other business and skills support agencies working within the built environment sector.

Written considerations for an NCC have gone through a number of iterations over the last five years and while research is continuing, ideas have not yet moved to decision-stage on the most feasible model for delivery. This is a topic given greatest credence as part of the *Plugging the Gap* study undertaken by the Institute for Welsh Affairs in 2004 and published in 2005⁴⁸. The study indicated that the best way to attract new entrants to the construction sector and develop the skills of the workforce in Wales would be to invest resources to meet specialist skills requirements.

In June 2008 ConstructionSkills Training Committee published their *Strategy for the Development of Regional College Provision*⁴⁹ in which it was determined the existing NCC site at Bircham Newton would act as the national residential element of the National Skills Academy for Construction, delivering specialist training that could not be delivered at a local level. Additionally, a need was recognised to develop further regional hubs including in Wales, Yorkshire and East London. Only the centre in East London has so far been realised.

At the time the strategy was published Construction Skills Wales and the Skills Strategy Directorate had been working with the NCC for over two years to put together a business case for a facility in Wales. This had come about in direct response to the *Plugging the Gap* report.

Several colleges in Wales have already expressed interest in working with the existing National Construction College network and/or developing a 'centre of excellence' for construction in Wales. The colleges have also indicated potential specialisms and include:

- **Bridgend College** – plant and heritage;
- **Coleg Llandrillo/Coleg Menai**⁵⁰ – energy and nuclear;
- **Neath Port Talbot College** – future skills;
- **Pembroke College** – engineering;

The National Construction College network would wish to be an equal partner in any involvement. In 2008 Bridgend College received £3.2m from the then Department for Children, Education and Lifelong Learning and Skills (DCELLS) to part finance the building of a construction academy. This opened in 2010 and enabled the college to broaden its HND offering to include entry to degree level.

⁴⁸ Institute of Welsh Affairs (2005) *Plugging the Gap – A Case for Establishing a Site for CITB-ConstructionSkills National Construction College in Wales*.

⁴⁹ ConstructionSkills (2008) *The Strategy for the Development of Regional College Provision*.

⁵⁰ An agreement in principle was reached in 2011 for Coleg Llandrillo and Coleg Menai to merge.

Higher Education institutions have expressed an interest in making use of a National Construction College in Wales to provide hands-on knowledge to students in such areas as project management and physical construction experience. A National Construction College in Wales would be attractive in this capacity because Higher Education institutions have found it can be financially prohibitive to send students to an existing NCC site outside Wales.

Appendix 3: Sample Frame – Employer Survey

SIC2007	SIC2007 Description	SIC2007	SIC2007 Description	Total VAT Enterprises Wales (1)	Representative Quota Sample (2)	Preferred Quota Sample (3)	Achieved
41	Construction of Buildings	41.10	Development of building projects	1,150	32	30	32
		41.20	Construction of residential and non-residential buildings	2,215	62	60	75
42	Civil Engineering	42.11	Construction of roads and motorways	105	3	10	14
		42.12	Construction of railways and underground railways	10	0	2	0
		42.13	Construction of bridges and tunnels	0	0	0	n/a
		42.21	Construction of utility projects for fluids	10	0	2	n/a
		42.22	Construction of utility projects for electricity and telecommunications	10	0	2	n/a
		42.99	Construction of other civil engineering projects n.e.c.	1,090	31	30	32
		42.91	Construction of water projects	10	0	2	1
		43	Specialised Construction Activities	43.11	Demolition	20	1
43.12	Site preparation	75		2	5	1	
43.13	Test drilling and boring	10		0	2	1	
43.21	Electrical Installation	1,530		43	30	42	
43.22	Plumbing, heating and air conditioning	1,180		33	30	27	
43.29	Other construction installation	200		6	10	11	
43.31	Plastering	180		5	10	11	
43.32	Joinery installation	850		24	20	22	

		43.33	Floor and wall covering	245	7	10	10
		43.34	Painting and glazing	540	15	15	17
		43.39	Other building completion and finishing	630	18	15	17
		43.91	Roofing activities	265	7	10	7
		43.99	Other specialised construction n.e.c.	1,080	30	30	29
71	Architectural and engineering activities; technical testing and analysis	71.11	Architectural activities	330	9	10	9
		71.12	Engineering activities and related technical consultancy	1,730	48	40	42
74	Other professional, scientific and technical activities	74.90	Other professional, scientific and technical activities n.e.c.	770	22	20	18
Total				14,235	399	400	420

Appendix 4: Sample Frame – Employee Survey

Region	22 Wales Unitary Authority Areas (also referred to as the 'Principal Areas' of Wales)	Population Mid 2009*	Proportion %	Targets by Region	Targets Adjusted - Agreed		
N	Conwy (N)	111,353	3.7	22	20		
N	Denbighshire (Sir Ddinbych) (N)	96,732	3.2				
N	Flintshire (Sir y Fflint) (N)	149,923	5.0				
N	Gwynedd (N)	118,767	4.0				
N	Isle of Anglesey (Ynys Môn) (N)	68,768	2.3				
N	Wrexham (Wrecsam) (N)	133,207	4.4				
M	Ceredigion (Mid)	76,400	2.5	7	15		
M	Powys (Mid)	131,736	4.4				
SE	Blaenau Gwent (SE)	68,630	2.3	53	45		
SE	Bridgend (Pen-y-bont ar Ogwr) (SE)	134,197	4.5				
SE	Caerphilly (Caerffili) (SE)	172,737	5.8				
SE	Cardiff (Caerdydd) (SE)	336,238	11.2				
SE	Merthyr Tydfil (Merthyr Tudful) (SE)	55,657	1.9				
SE	Monmouthshire (Sir Fynwy) (SE)	87,967	2.9				
SE	Neath Port Talbot (Castell-nedd Port Talbot) (SE)	137,425	4.6				
SE	Newport (Casnewydd) (SE)	140,355	4.7				
SE	Rhondda Cynon Taf (SE)	234,403	7.8				
SE	Torfaen (Tor-faen) (SE)	90,720	3.0				
SE	Vale of Glamorgan (Bro Morgannwg) (SE)	124,605	4.2				
SW	Pembrokeshire (Sir Benfro) (SW)	117,425	3.9			18	20
SW	Swansea (Abertawe) (SW)	231,307	7.7				

SW	Carmarthenshire (Sir Gaerfyrddin) (SW)	180,767	6.0		
	Total	2,999,319	100	100	100

Appendix 5: Employer Survey Responses 'Other – Please specify'

What do you feel are the key challenges facing your company at the moment?

Tendering - changes in the procedure.
Training is a big issue for the company.
Less enquiries on quotes.
Government bodies don't talk to each other-there is more legislation brought out alongside the old.
Finance options.
Sept 2010 assembly legislation was a huge problem.
Need a CSCS card.
Lending amongst banks.
There are no jobs that yield any profit.
The price of training, fuel cost, price of copper.
Works mainly for major house builders, projects are few, cost of materials are up.
The ISO 9001 and 14001 is a nightmare.
Welsh Water re-organisation is leading to lack of work.
Gwyneth Council changed regulations.
The price of fuel; cost of raw materials.
VAT rise is a problem.
Need more grants.
The current costs involved.
Being competitive is hard.
Competing for work is hard, the big companies tend to win.
Fuel costs.

Local authorities do not have funding.
The public sector planning department needs to be streamlined.
Commercial aspects.
Several customers have gone bankrupt.
Loss of business to larger, London based companies.
CIS tax.
The weather.
The weather.
Lower tender rates.
The need to make more people aware of energy conservation.

How has the recession impacted upon your business?

Increased range of client types
Left the trade.
New websites.
Quality control has increased.
We moved premises.
Fuel costs (Diesel).
There is more competition, making it difficult to win work.
We are looking at redundancies.
Larger companies expect the price of jobs to drop because of the high competition for work.
We have dropped our prices and margins slightly.
We have adapted our prices.
There is less work available.
There is less work ahead.
There is not as much work ahead.
The work has slowed down.
There are less enquiries.
The recession has increased work, as more people are adding extensions, rather than moving.
Less work, fuel costs have risen.
There is lots more competition.
ISO investing in accreditation.
Attending Business Networking International.
Employees have retired, or we have not replaced people leaving.

In which occupations have you laid off staff?

Gas engineers.
Multi skilled employees.
Site agents.
Insulation engineers.
Quarrying.
Assessors.
Transportation.
Sales.
Pavers.
Auto-CAD technicians.
Junior estimator.
Welder.
Unskilled labour.
Infrastructure.
Drivers.
Generally.
Generally across the board.

Which particular skills have you sought to develop by increased training?

Efficiency - waste management time and motion.
Better on the job training.
Multi tasking.
Low carbon skills.
General.

As a result of the recession, what changes have you made to the way your organisation delivers training?

Professionalism increased.
More external training.
Laid off employees.
Changed providers.
Basically stopped.
Too expensive to take apprenticeships;
used to have them but they went away for 6 months so no use.
Joined training with other companies.
Change in types of training.
Don't take on apprentices anymore.
Looked at ourselves, became more clinical and focussed .
Generally reduced - not taking on any apprentices.
More training externally.
Reactive to what the client wants.
Not taking on apprentices any more.
Employ fully trained staff.
No apprentices.
More selective.
No point anymore - employ subcontractors.

**[Based on your training budget expected to rise in the next 12 months]
What types of training will be increased?**

New industry skills.
Refresher training.
Legislation.
Technical aspects - micro turbines.
New industry skills.
NVQ's.
Gas safe.
Mechanical excavation, breathing apparatus.

**[Based on your training budget expected to fall in the next 12 months]
What types of training will be reduced or cut?**

Personal Development.
On-site training, tool box talks, none renewal of licences.
Accounts.
All.
Not training anybody.
All.
Any progressive training.
Assessors.
Vocational training.
All.
Anything non-mandatory.
All.
Everything.
Anything non-mandatory.

[In relation to Low Carbon Skills training] What areas did this training cover?

Sustainable homes target.
Spillage.
RICS general course.
How to train people on environmental issues around heating and ventilation.
It's not about training but common sense.
Fuel.
Cost of travelling and electricity used.

Why did you decide to get some of your in-house training accredited and recognised?

Required by RICS to retain membership
It is mandatory for the work we do.
Needed for production of windows.
Client demands.

ConstructionSkills is looking at options for the delivery of training in Wales. Of the four options, which of these do you think would be appropriate?

Bring back old type of apprenticeship.
Would always look for training locally.
Emphasis on hands on training.
Local providers to facilitate needs in the North
Depends on what is being provided.
Uniform accreditation, acceptance throughout companies.
Apprentices can't be taught on site experience without actually doing it.
Trainers should come to the work place.
Money should be spent more wisely; I don't believe we are getting a high enough return at present.
More site based training, less paperwork. Trade is not appreciated or valued anymore.
I train workers myself.

Which would be your preferred option?

In-house apprenticeships.

Regional training.

On the job!

More hands on experience for apprentices.

More site based training, less paperwork. Trade is not appreciated or valued anymore.

I train workers myself.

Which of the following types of training do you think you would access through a National Construction College?

Business Management.

Professional qualifications, HND, Degrees etc.

Woodworking machinery.

Corgi updates.

Health & Safety.

We will probably have a use for management training.

Help and instruction.

Business.

How else do you think ConstructionSkills could help ensure training provision meets the needs of the construction industry in Wales?

Students coming out without correct skills.

Local colleges.

Keep up to date with changes.

Access to establishments.

Start lower down in school.

Should be more help from the Government, kids need hands on learning.

Costs are currently out-priced on market.

Too much legislation.

Flexible course dates would help not just September or January.

More help for pupils at school to choose right courses and what options are in trade.

Should be geared more towards apprenticeships.

Help with costs.

Information - was hard to find out what was available in their job spec.

Myth that you can earn 100k in the trade. Been a flood of non-competent workers taking business away

Not impressed with past experience of training providers.

Regulation of trades people is needed. Too many unregulated trades people.

Lots of change and more info on how to train and adapt = major gripe.

More grants.

Help for students i.e. laptop grants.

Cost help.

Generation of interest in young people.

Centralised location to contact

Encourage young people in industry & overcoming insurance complications.

Help with cost.

Funding

Flexibility of course.
On-site training more practical than academic.
Not enough help with costs to encourage people to recycle - those that do it don't get recognition.
Costs.
Better transport (minibus to college).
Old fashioned apprenticeship.
Just more support for employers generally.
It should be how it was 5-6 years ago re apprenticeships.
Increase awareness of ConstructionSkills
More involvement with local groups and encourage large org. supply chains to get involved
A magic wand - can't do much more without
None - good job being done already.
Funding issues
Greater awareness.
More funding for businesses to train staff.
Skilled tradesmen to teach the students hands-on.
NVQ's need to be improved, go back to 5 year apprenticeships.
More information for potential apprentices.
Have people with construction knowledge assess apprentices.
Reduce the cost of courses and promote all aspects of the construction industry.
More accessible, simplify it.
Bring back 5 year apprenticeships on a decent wage.
Teach students to do things that make good money.
Financial support.
None
Get away from NVQ's and go to proper site training.
Source skills at base level from employers, using grants.
Proper apprenticeships: like the 5 year system.

Better organisation in institutes in delivering relevant skills to the workforce.
We live in a "risk adverse culture", the government makes decisions they don't fully understand.
More help for small businesses to access training.
Drop training prices.
Youngsters need job based training not colleges.
People in Cardiff can't continue to suggest what is best for people in North Wales.
Support for small businesses.
Focus on training, not turnover.
Less industry change; stop forcing computers down our throats, leads to businesses going under.
Make it easier for the students to do these courses.
Onsite training.
More funding

Appendix 6. Wales Administrative Map

