

DRAFT

Assessment of Current Provision

**for the building services engineering
sector in the South East**

May 2007

Dr. M Hammond



Foreword from the Chief Executive

For those unfamiliar with the Sector Skills Agreement process, this Assessment of Current Provision report is the second stage on the road to creating a Sector Skills Agreement for building services engineering. The first stage – the Sector Needs Analysis – has already been well received by the sector and government partners alike.

In producing this report we have been able to place quantitative values on issues that most knew of, but until this point have only had anecdotal evidence to support their views. We now have a much clearer picture of building services engineering training provision and the challenges it faces. SummitSkills has for a long time been working on some of the issues with the Learning & Skills Council.

Joint working is now needed between the sector, government agencies and providers to create a sustainable training and funding infrastructure. Employers in building services engineering need economically valuable skills to allow their businesses and the UK economy to prosper. A partnership approach will help to achieve this.

We are also pleased to hear of the official partnership recently formed between the Association of Colleges and the Skills for Business Network. This further strengthens our commitment to collaborative working with the college network to achieve the Leitch vision.

Through this report we now have the information we need to make beneficial changes to the sector's training provision, the challenge now is to deliver.



**Keith Marshall, Chief Executive
SummitSkills**

June 2007

1 Executive Summary

An assessment of current training supply in the South East region for the building services engineering sector

1.1 Introduction

SummitSkills is the Sector Skills Council for the building services engineering sector. The sector represents Standard Industry Code 45 and covers in brief the following core industries:

- air conditioning and refrigeration
- electrotechnical
- heating and ventilation
- plumbing
- building services engineering consultancy.

SummitSkills' role is to promote skills and standards within the building services engineering sector to develop a fully skilled and qualified workforce which is able to improve productivity and compete in a globalised economy.

This Assessment of Current Provision is the second report in the process of creating a Sector Skills Agreement. It further develops work that was published in the Sector Needs Analysis (SNA) reports for the devolved nations and English regions.

The SNA identified the skills needs that the building services engineering sector currently has related to improving productivity and business performance, as well as looking at the skills needs of new entrants to the sector. From this research, the following issues were identified:

- Training is needed to meet skills deficiencies in environmental and renewables technologies across all the industries within the sector. This is an area of work where current levels of activity are rising quickly and it is envisaged will rise further as the UK approaches the 2010 Kyoto performance assessment.
- The sector is performing badly in international benchmarking characteristics in relation to productivity. A major factor in this is poor business acumen and significant under-utilisation of management techniques and formalised benchmarking.
- The basic skills of new entrants to the sector and the IT skills of experienced staff need to be improved. Improving the latter will prevent diminishing productivity returns on capital investment currently being made by the sector in new information technology products.
- Engagement in research, particularly with Higher Education Institutions, is needed to increase the innovative 'value-added' nature of what the sector offers in products and services to clients.

1.2 Methodology

The methodology for the Assessment of Current Provision is based on an analysis of quantitative and qualitative data collected through various data collection tools. The quantitative data is provided by the Learning and Skills Council (LSC) at England nation level at course code level. Regional data was not available at the time of report writing. This data is then broken up into relevant sections for analysis.

The qualitative section of the methodology consists of 420 semi-structured interviews with companies in the building services engineering sector. There were thirty interviews per English region and Northern Ireland, and sixty interviews in Scotland and Wales. Within the English regions and the South East, the companies are cut by two small, medium and large companies in each of the five industries within the sector. Demographic trends in each region/nation were taken into account for triangulation purposes, with a view to obtaining a valid and robust sample frame, thus making a total of thirty overall.

This South East report is one of nine in England, which are written according to the Regional Development Agencies divisions of English regions. Northern Ireland and Wales have one report each. The Welsh report is analysed by North and South Wales to take account of demographic differences.

Scotland is divided into the two 'Enterprise' Regions of Highlands and Islands and Scottish Enterprise, with each region receiving a separate report.

The nine English regional reports will then inform the production of an 'All England' report, which will identify national trends for national stakeholders.

This South East report covers the sub-regions (by original Local Learning and Skills Council sub-regions) of Berkshire, Hampshire & Isle of Wight, Kent and the Medway, Milton Keynes, Oxford and Buckinghamshire, Surrey and Sussex respectively.

1.3 Structure of Report and Executive Summary

Mapping of training provision: This section looks at the current training provision on the SummitSkills database and compares it with the LSC data returns for 2003-2004 and 2004-2005 to identify where curriculum has and has not been funded in those years. This is to identify where provision has become redundant and no longer funded.

The second part of this exercise identifies provision that SummitSkills believes does not lead to skills that are 'economically valuable skills' as identified by Leitch (2006). SummitSkills recommends that funding is removed from these courses.

For ease, SummitSkills describes these as 'non-economically valuable skills' – NEVS – throughout the report.

Higher Education training provision: This section highlights issues related to the delivery of higher education courses in the building services engineering sector.

South East employers' views on use of training providers: This section looks at the current spread of training provision used by the interviewed companies within the South East.

Employers willingness to pay for training: This section analyses the Government agenda and the recommendations of the Leitch (2006) report and compares this with the willingness of employers to pay more for their training needs.

Public expenditure on training provision: This section looks at the current public expenditure on training provision in relation to Further Education (FE)-funded provision and work-based learning provision for employed status apprentices through both FE colleges and private training providers.

Employer spend on training provision: Within this section are a number of cost models that attempt to analyse employers' financial contribution to the training of their operatives.

Diversity: This section analyses the diversity profile of learners in the sector in both the FE funded and work-based learning funded routes. It also seeks to analyse the diversity make up of 'NEVS' provision and whether any social utility is obtained through these courses.

Mode of delivery and age of participants in sector courses: This section analyses the modes of delivery of provision in the sector (e.g. full-time/part-time, day/night) and the ages of participants. This section concentrates on the NEVS provision to identify the ages of learners undertaking these courses and how they are learning.

Quality of provision: This section looks at quality through a number of determinants. It describes Government policy in relation to addressing poor quality identified through OfSTED and ALI inspections, which are considered for the South East region. It looks at the use of quality marks by FE colleges and private training providers in receipt of public funding as a method of measuring quality assurance. Linked to this are achievement rates of learners on building services engineering sector qualifications in England.

South East employer perspective on quality and content of training provision: Here SummitSkills details the responses of the interviewed companies on the quality and content of the sector's training provision.

Next steps for Stage 3: This section considers the recommendations that will be used to take the Sector Skills Agreement for the South East forward.

1.4 Mapping of training provision

Rationalising the number of courses and qualifications

- There are training courses and qualifications currently in the system that have not been funded (and therefore we assume have not been run) for a considerable amount of time.
- Because there has been no demand for this curriculum we suggest that it is no longer relevant to the sector.
- By reducing the number of qualifications and courses that are excess to employers' requirements, we can concentrate on those that truly meet the sector's needs.

Recommendation 1

SummitSkills recommends that the sector curriculum it has identified is removed from the Learning Aims Database, where the provision has not received funding in the last three academic years.

Funding for technical certificates which do not meet employer needs

- The recent Leitch review of skills stressed the need for a shift to an employer-led system to ensure that the qualifications being funded lead to 'economically valuable skills' – i.e. economically valuable to employers and the UK
- There is a significant amount of funding directed at technical certificates, which offer a theory-based qualification but no work-related experience.
- People undertaking a technical certificate on a full-time basis are typically not employed in the sector and have little prospect of gaining work-based experience to allow them to gain a National Vocational Qualification (NVQ).
- Technical certificates are seen by employers as not economically valuable and do not meet their business needs.
- An individual simply with a technical certificate is not appropriately qualified and is not desired by the sector. Resources currently spent on stand-alone technical certificate training should be re-directed to develop provision in areas such as environmental technologies, business development, leadership and management and apprenticeships for adults.
- The table below details the recommendation in relation to technical certificate funding for the whole of England:

Mode of Delivery of Technical Certificate Courses	Funding to Continue for this Mode of Delivery?
As part of a full frame modern apprenticeship	Yes - Public Funding to Continue
Part time with an NVQ in the appropriate industry discipline*	Yes - Public Funding to Continue
Full time as a stand alone qualification, or with non-industry qualifications**	No - Public Funding to be discontinued
Part time as a stand alone qualification, or with non-industry qualifications**	No - Public Funding to be discontinued.

*= SummitSkills assumes that it would not be possible to have a full time mode of this, because of the requirement of NVQ for work-based assessment.

**= This would include provision identified above, plus any other curriculum developed post academic year 2004-2005 not currently identified in this Assessment of Current provision report. As a rule of thumb any course that is not an NVQ is unlikely to be industry standard in the view of SummitSkills.

- The effect of this proposal will be that a significant amount of funding could be redistributed to other building services engineering curriculum to meet the needs of the sector and its development.
- There is potential for significant changes to be made in training sector as a result of the proposals within this report. SummitSkills will work with partners and stakeholders to plan the timing and development of this curriculum appropriately.

Recommendation 2

Technical certificates should only be funded as part of a full framework apprenticeship or as part of a National Vocational Qualification. All funding for technical certificates as a stand alone qualification should be discontinued.

1.5 Higher Education training provision

- There is a low number of higher education establishments offering building services engineering courses.
- This low number is spread unevenly around the UK and there are some English regions with no provision at all. The South East, through the London region, has access to some provision.
- This is becoming an acute problem for individuals who need to gain a professional qualification alongside their work.

Recommendation 3

SummitSkills will work with stakeholders in Further Education and Higher Education to seek to develop a network of providers offering degree and sub-degree courses within regions. The development of foundation degrees may facilitate this process further.

1.6 South East employer views on use of training providers

- Employers in the South East undertake training with a variety of public and private providers. Of the total training carried out, 37% is done through FE colleges, 30% private training providers, 20% manufacturers and 13% Universities.
- This however, is largely needs-driven rather than part of a qualification framework.
- Areas such as manufacturer training do not add to the formal qualification base of the sector.
- Training is also being undertaken by individuals of their own volition and often at their own expense— 53% of firms were aware of this happening within their organisation
- 83% of firms carried out in-house training of some form
- If formal mechanisms can be developed to recognise this kind of additional valuable training, skills development of this type can officially contribute to the sector's skills base.

Recommendation 4

SummitSkills will work with partners to develop credit-accumulation transfer¹ and quality assurance for manufacturers and non qualification based courses from private training providers

1.7 Employers willing to pay for training

- The Leitch report places emphasis on employers being responsible for contributing funds to any training over Level 2 standard.
- In SummitSkills’ Sector Needs Analysis, the majority of employers see Level 3 as the standard for the sector.
- Only 27% of businesses would be willing to pay more for their training.
- The sector will need some convincing to fund more than they currently do.
- Concerns about the quality of training providers may fuel this reluctance

Recommendation 5

It is vital to get the sector’s curriculum and training structure right so that employers can see the benefit and value in training. SummitSkills will work closely with partners and the training provider network to develop this area

1.8. Expenditure on training provision

- For public spend, we suggest that a considerable amount of current training provision spend is leading to non-economically valuable skills – and therefore not relevant to the sector. Where this is the case, SummitSkills has calculated where money can be redistributed to other more relevant training and qualifications.
- Based on an analysis of current funding for non-economically valuable skills, there is potentially around £22 million across England that could be redistributed to much-needed training provision elsewhere in the sector such as environmental technologies (solar panels, photovoltaic panels for example), business management, leadership, benchmarking, supply chain management and apprenticeships for adults.
- Across England for each industry, the possible savings that could be redirected elsewhere in the sector are as follows:

Air Conditioning and Refrigeration

Provision	Possible Savings
279 Technical Certificates Level 2	£372,981
27 Technical Certificates Level 3	£49,837
Other NEVS	£38,035
Total	£460,853

¹ For instance allowing a manufacturer course to provide credit towards a wider qualification

Electrotechnical

The figures for electrotechnical are indicative only due to a lack of data. Further work needs to be done to identify the picture for this industry.

Provision	Possible Savings
NEVS Electrotechnical Certificate +0026735+0272142	£521,018.40
NEVS Provision	£63,900
Total Possible NEVS	£584,918.40

Heating and ventilation

Provision	Possible Savings
247 Technical Certificates Level 2	£492,429
52 Technical Certificates Level 3	£69,960
Total	£562,389

Plumbing

Provision	Possible Savings
10,665 Technical Certificates Level 2	£18,064,929
287 Technical Certificates Level 3	£581,687
Total Technical Certificates	£18,646,616

Recommendation 6

SummitSkills will work with regional and national partners and stakeholders to seek a more effective use of funding to increase the sector's productivity performance and skills levels.

1.9 Employer spend on training provision

- SummitSkills has created a 'work-in-progress' model that looks at the cost of funding an apprentice, excluding course fees, time allocated to mentoring and in-house training spend.
- Considerable amounts of money (in this case via an employee's time) is spent on in-house mentoring throughout the course of an apprenticeship training programme. The figures below give SummitSkills' estimate on the cost of mentoring by the sector for the whole of England:

Air Conditioning and Refrigeration	£2,997,492
Electrotechnical	No Meaningful Data
Heating and Ventilation	£ 4,583,122
Plumbing	£33,514,767

- There are many hidden costs associated with training staff and employers are already paying out a significant amount.

Recommendation 7

SummitSkills will develop these models further to assess the total costs of training on employers. This information will be used to work with the Government to achieve a wider recognition of and sensible balance between employer and government contributions to training.

1.10 Diversity

- Access to the sector is still dominated by white males.
- There is no evidence to suggest that females are entering the sector either through work-based learning courses or technical certificates/other courses that SummitSkills class as non-economically valuable.
- The higher number of people from ethnic minority groups in technical certificates/FE indicates compared to those in work-based learning suggests they are not easily accessing the sector.
- Despite various initiatives and mechanisms being introduced to encourage under-represented groups to join the sector, there seems to have been little impact.

Recommendation 8

SummitSkills will continue to work with partners and stakeholders to increase the engagement of women and ethnic minorities by facilitating innovative progression pathways into the sector.

1.11 Mode of delivery and age of participants in sector courses

- There are significant numbers of non-employed learners both adults and 16-19s who are on technical certificates which are not leading to NVQs. Employers in the sector deem these not to be economically valuable.

Recommendation 9

SummitSkills will work with partners to reduce the large number of NEV courses and instead develop sustainable entry and progression routes into the sector for a reduced number of non-employed status learners.

1.12 Quality of Provision

Quality and Inspection Issues

- Existing government policy states that there is a fully developed and long-standing requirement to deal with poorly performing providers.
- SummitSkills' view is that the quality of providers, as well as employer needs, should determine the location of the sector's provision
- This report has identified key issues related to changes in curriculum which could lead to restructuring of training provision and rationalising of courses.

Recommendation 10

SummitSkills will work with national and regional LSC to explore how potential restructuring of the sector's provision, in line with employer needs, will be developed and implemented.

Quality marks/awards issues

- Private training providers do not seek or obtain quality marks to the same extent that Further Education colleges do. Six FE colleges in the South East have CoVE status in either construction or building services. These are: Bracknell and Wokingham College, Chichester College, Eastleigh College, Northbrook College, The Isle of Wight College, West Kent College.
- Neither private training providers nor FE colleges have ISO9000, EfQM or the Charter Mark

Recommendation 11

SummitSkills will work with providers to increase achievement of quality marks. Essentially it is believed that if more providers achieve these standards then it should raise the overall quality baseline of the sector’s provision.

OfSTED/ALI grades issues

- A number of providers in the South East have been re-inspected over recent years due to unsatisfactory inspection grades.
- It is encouraging that all re-inspected provision has been improved to satisfactory or good.
- Inspection grades such as these could be used as part of the criteria to restructure training provision if necessary.

Achievement of learners Issues

- The performance of the sector, in terms of achievements both in FE funded curriculum and work-based learning, is generally below national average and in some cases very poor. This ranges from 25% achievement at worst to 91% at very best.
- This suggests a serious issue with achievement and completion of learners in the sector. There is a need to work with partners to analyse why achievement rates are so poor and develop strategies to improve these figures.
- Technical certificate and other NEVS course achievement is also poor, which suggests that they are not providing effective entry or progression routes into the sector. Because it has been demonstrated that NEVS provision is not helping to improve achievement rates, there is further justification for removing such provision, which is not leading to a full NVQ, from public funding.
- The table below details achievement rates for the whole of England:

	Total Percentage (%) Achievement in FE Funded	Total Percentage (%) Achievement in FE Funded Technical Certificates	Work-based learning achievement
Air Conditioning and Refrigeration	62%	25%	40%
Electrotechnical	55%	65% (60% Technical Certificates)	N/A
Heating and Ventilation	74%	34%	36%
Plumbing	53%	47%	38%
Technician courses	63%	N/A	30%
Downstream Gas	91%	N/A	N/A

1.13 Employer perspective on quality and content of training provision

- Generally there is more dissatisfaction with the quality of service and teaching provided by further education colleges than for private training providers. Major issues revolve around communication, the quality of teaching, resources and general curriculum planning.
- 80% of the sector interviewed in the South East feels that the content of provision is not suitable.
- Regarding the actual curriculum content, a concern is that NVQ curriculum in particular is seen as being in some cases out of date or not suitable enough for sector needs.
- Technician curriculum seems satisfactory, although there is concern that some of the material taught is too specialised and out of date. In addition, the general nature of HNC/D courses is also detracting from the specialist requirements of employers.
- Degrees are believed by some employers in the region to have elements within them that are not wholly relevant to life in the 'real world'.

Recommendation 12

SummitSkills and partners will work with providers to improve the quality of both the administration and teaching of those courses, to address issues of poor service from providers.

Recommendation 13

SummitSkills will work with the bodies responsible for qualifications to update existing qualifications in line with the sector's requirements, to address the issue of unsuitable curriculum content. This would also include the development of new content to meet changing and developing needs in areas such as environmental technologies

1.14 Next steps towards Stage 3

This Assessment of Current Provision is Stage 2 of the Sector Skills Agreement. Consultation on this report within the South East and within all the other nations and regions of the UK will take place between June and July 2007.

SummitSkills is already evaluating consultation feedback from Stage 1. The results of Stage 1 and this Stage 2 consultation will then be combined to identify key themes and proposed solutions to the issues identified. A draft 'action plan' will be drawn up and discussed with the sector's employers and stakeholders, before actions are drawn up into the national and regional Sector Skills Agreements.

1.15 Summary table of recommendations

Recommendations	Short/ Medium or Long Term Priority
<p>Recommendation 1 Building services engineering provision that has not received funding in the last three academic years should be removed from the Learning Aims Database. SummitSkills will work with national LSC office in Coventry to achieve this aim.</p>	<p>Short term. Removing identified curriculum from the Learning Aims Database should be implemented as soon as practically possible.</p>
<p>Recommendation 2 Technical certificates should only be funded as part of a full framework apprenticeship or as part of a National Vocational Qualification. All funding for technical certificates as a stand alone qualification should be discontinued.</p>	<p>Short term. SummitSkills will work with LSC to produce an action plan which would then allow an assessment to be made on the effect on training providers.</p>
<p>Recommendation 3: SummitSkills will work with stakeholders in FE and HE to seek to develop a network of providers offering degree and sub-degree courses within regions. The development of foundation degrees may facilitate this process further.</p>	<p>Medium term. Providers need to be convinced of the financial viability in running HE programmes within the building services engineering sector. Partners and stakeholders may need to work together to facilitate the development of sustainable funding sources to maintain curriculum offer.</p>
<p>Recommendation 4 SummitSkills will work with partners to develop credit-accumulation transfer and quality assurance for manufacturers and non qualification based courses from private training providers</p>	<p>Medium term. Working with partners and stakeholder to develop credit accumulation transfer for manufacturer training, and develop new occupational standards for new and environmental technologies. This will be developed further in SummitSkills' Sector Qualifications Strategy.</p>
<p>Recommendation 5: It is vital to get the sector's curriculum and training structure right so that employers can see the benefit and value in training. SummitSkills will work closely with partners and the training provider network to develop this area</p>	<p>Short term. SummitSkills work with the LSC, partners and stakeholders to analyse quality of sector provision in regions, allowing a development plan to be produced.</p>
<p>Recommendation 6: SummitSkills will work with regional and national partners and stakeholders to seek a more effective use of funding to increase productivity performance and skills levels in the sector.</p>	<p>Short term. SummitSkills will work with partners and stakeholders, and particularly the LSC to produce a plan that allows planning and reallocation to be mapped out as soon as practically possible.</p>
<p>Recommendation 7: SummitSkills will develop these models further to assess the total costs of training on employers. This information will be used work with the Government to achieve a wider recognition of and sensible balance between employer and government contributions to training.</p>	<p>Medium term. SummitSkills will work with partners and stakeholders and in particular the sector's trade associations to develop and refine the various funding models currently being developed to analyse employer contribution to training.</p>

<p>Recommendation 8: SummitSkills will continue to work with partners and stakeholders to increase the engagement of women and ethnic minorities with the industry by facilitating innovative progression pathways into the sector.</p>	<p>Medium to long term. SummitSkills will engage in more research on issues surrounding ethnic minorities, as well as continuing to work with partners, stakeholders other SSCs and employers in encouraging engagement in the sector from non-traditional groups.</p>
<p>Recommendation 9: SummitSkills will work with partners to reduce the large number of NEV courses and instead develop sustainable entry and progression routes into the sector for a reduced number of non-employed status learners.</p>	<p>Medium to long term. SummitSkills has no formal position on this yet, and will continue to work with partners, stakeholders and the sector's trade associations to arrive at sustainable solutions to this problem, while at the same time addressing the issues of over supply identified by the technical certificates.</p>
<p>Recommendation 10: SummitSkills will work with national and regional LSC to explore how potential restructuring of the sector's provision, in line with employer needs, will be developed and implemented.</p>	<p>Medium to long term. SummitSkills will work with the LSC, national and regional providers to achieve the best result for the sector based on quality, local employer requirements and geographical spread.</p>
<p>Recommendation 11: SummitSkills will work with providers to increase achievement of quality marks. Essentially it is believed that if more providers achieve these standards then it should raise the overall quality baseline of the sector's provision.</p>	<p>Short to medium term. SummitSkills will work with partners and stakeholders to encourage the provider network to engage in the acquisition of more appropriate quality marks.</p>
<p>Recommendation 12: SummitSkills and partners will work with providers to improve the quality of both the administration and teaching of those courses to address issues of poor service from providers.</p>	<p>Short term. SummitSkills will continue to work with partners and stakeholders to improve quality of providers where employers have indicated a quality concern as identified in the research.</p>
<p>Recommendation 13: SummitSkills will work with the bodies responsible for qualifications to update the existing qualifications in line with the sector's requirements to address the issue of unsuitable curriculum content. This would also include the development of new content to meet needs in areas such as environmental technologies.</p>	<p>Medium to long term. SummitSkills will work with partners and stakeholders to create a flexible framework that allows the sector's qualifications to respond rapidly according to technological advances and new skill sets.</p>

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3 Glossary

3.1 Glossary of Acronyms

ACP	Assessment of Current Provision
ALI	Adult Learning Inspectorate
APL	Accreditation of Prior Learning
CAD	Computer Aided Design
CDM	Construction Design Management
CIBSE	Chartered Institution of Building Services Engineers
CITB	Construction Industry Training Board
CoVE	Centre of Vocational Excellence
CSCS	Construction Skills Certification Scheme
DfES	Department for Education and Skills
DIY	Do It Yourself
EfQM	European Foundation for Quality Management
EU	European Union
FE	Further Education
FEFC	Further Education Funding Council
HEI	Higher Education Institute
HNC	Higher National Certificate
HND	Higher National Diploma
HVACR	Heating Ventilation Air Conditioning and Refrigeration
HVCA	Heating and Ventilating Contractors' Association
IEE	Institution of Electrical Engineers
IFF	Industrial Funding Fee
JIB	Joint Industry Board
LAD	Learning Aims Database
LMI	Labour Market Information
LSC	Learning and Skills Council
NEVS	Non-Economically Valuable Skills
NVQ	National Vocational Qualification
OCN	Open College Network
OFSTED	Office for Standards in Education
QCA	Qualifications & Curriculum Authority
SEEDA	South East England Development Agency
SNA	Sector Needs Analysis
SSCs	Sector Skills Councils
StAR	Strategic Area Review
UCAS	Universities Central Admission Service
WBL	Work-based Learning

3.2 Glossary of Terms

FE-funded provision

Provision which is for non work-based learning given to further education colleges by the public purse to fund courses and A-Levels

Learning Aims Database

The Learning Aims Database contains information about all Learning & Skills Council recognised learning aims offered by training providers as courses. It includes learning aim information required to complete ILR data returns as well as funding and statistical data.

Learning Aims

In relation to this report, learning aims are the individual courses that individuals are working towards. Throughout this research this term is used in conjunction with the LAD see above.

Learning outcomes

This refers to what student will be able to know or do at the end of a learning unit.

NEVS

Any courses classed as NEVS by SummitSkills is seen to be providing non-economically valuable skills i.e. of no economical value to the sector. This term is derived from the terminology used by Lord Sandy Leitch in the Leitch (2006) report.

Social utility

If a course is seen to be providing 'social utility' then it would be serving a particular social purpose. Examples of this could be engaging with hard-to-reach groups, the unemployed, bringing young people into work or generating wider diversity.

Technical certificate provision

Technical Certificates are qualifications used as part of the Modern Apprenticeship programmes for Building Services Engineering Learners as well as being offered to learners on FE funded programmes. Technical Certificates provide underpinning job knowledge to learners.

Work-based learning provision

Training which is undertaken in the workplace or a simulated work environment which may include structured training and/or assessment, observation of work practices, case study or other models. In this report this is used solely in relation to apprenticeship data. Work based learning courses are funded on a different funding system than the FE funded stream by the Learning and Skills Council.

4 Methodology

4.1 Introduction

This report is based on a very academic methodology, using advanced research techniques from the qualitative paradigm of social sciences research. SummitSkills appreciates that partners and stakeholders may not wish to trawl through the intricacies of methodological design and therefore this methodology is laid out in a simplistic way, seeking to avoid where possible the more technical language of the full academic methodology. A copy of the original academic methodology for both the Sector Needs Analysis report and the Assessment of Current Provision report is contained within the appendix and is available for those who wish to analyse the theoretical underpinning of the primary data collection in more detail.

4.2 Paradigm analysis and data collection tool

The paradigm is the philosophical basis under which the research was carried out and in this case in relation to primary data collection, which took the form of 420 semi-structured/structured interviews, on an interview schedule (a copy of which can be found in the appendix to this report). The research was therefore conducted in the interpretative paradigm, which postulates that there are infinite valid definitions of truth, which vary from individual groups and people. To gain some consistency and validity across the sector, and to identify common themes, it is desirable to identify as many varying traits as are possible. Within the building services engineering sector, company size and number of employees tends to determine the amount and type of work carried out and thus the views of these firms may differ. Therefore it was decided to divide the categories of company within the various industries into large (71+ employees) medium (11-70 employees) and small (1-10 employees). To identify size differences in the various industries within the sector all the interviewees were asked the same questions.

The matrix in the table below indicates the interview distribution throughout the UK:

Table 1 Interview sample matrix

Nation/ Region	Plumbing	Electrotechnical	Heating and Ventilation	Air Conditioning	Consultants	Large Companies per Region/Nation divided equally between Industries ²	Medium Companies per Region/ Nation divided equally between Industries ³	Small Companies per Region/ Nation divided equally between Industries ⁴
Total UK	84	84	84	84	84	140	140	140
Total England	60	60	60	60	60	90	90	90
North East	6	6	6	6	6	10	10	10
North West	6	6	6	6	6	10	10	10
West Midlands	6	6	6	6	6	10	10	10
East Midlands	6	6	6	6	6	10	10	10
South East	6	6	6	6	6	10	10	10
South West	6	6	6	6	6	10	10	10
East of England	6	6	6	6	6	10	10	10
Yorkshire and Humber	6	6	6	6	6	10	10	10
London ⁵	6	6	6	6	6	10	10	10

² A large company for the purpose of this research was deemed to employ seventy-one plus employees.

³ A medium company for the purpose of this research was deemed to employ having up to seventy employees.

All Scotland	12	12	12	12	12	20	20	20
Highlands and Islands	6	6	6	6	6	10	10	10
Scottish Enterprise	6	6	6	6	6	10	10	10
All Wales	12	12	12	12	12	20	20	20
North Wales	6	6	6	6	6	10	10	10
South Wales	6	6	6	6	6	10	10	10
Northern Ireland	6	6	6	6	6	10	10	10

A large company for the purpose of this research was deemed to employ seventy- one plus employees.

A medium company for the purpose of this research was deemed to employ having up to seventy employees.

A small company for the purpose of this research was deemed to employ up to ten employees. Only thirty of the sixty interviews undertaken in London were used for statistical analysis to retain homogeneity within the National Report.

There is also a significant amount of quantitative data available from various Government agencies on the courses currently funded and from these recommendations and conclusions can be drawn alongside the qualitative data. This may then make for a more eclectic⁶ piece of research than would be obtained through a pure interpretative paradigm piece of research.

4.3 Validity and trustworthiness

Within any piece of research there should be an attempt to justify the validity and trustworthiness of research and this research is no exception. In relation to the primary data collection it has been decided to use Denzin's (1978) theory of triangulation. Triangulation is a method used by researchers to validate research and the messages that emanate from the research. This occurs through comparing primary data collected through one source, with data collected through another identical source, so in the case of this research comparing the views of small plumbing companies, with large plumbing companies, then comparing plumbers, with responses from the electrotechnical companies, heating and ventilation companies and air conditioning and refrigeration companies. The data obtained from the primary data collection is then triangulated where possible against primary and secondary literature, to see if any other research done in the area conforms to the data collected⁷ through the interviews.

4.4 Policy perspective

Literature is also used within this research to contextualise the data so that it corresponds to current policy objectives within the various policy contexts of the devolved nations and English regions. The research has taken cognisance of the various national and regional policies currently in force within the UK in relation to skills and regionally/national differences will impact on a significant number of stakeholders, partners and employers.

⁴ A small company for the purpose of this research was deemed to employ up to ten employees.

⁵ Only thirty of the sixty interviews undertaken in London were used for statistical analysis to retain homogeneity within the national report.

⁶ Where the data collected comes both from the interpretative and positivistic paradigm, for more information see the main methodology in the appendix to this report.

⁷ An interesting example of this can be seen in the research by SummitSkills on entrepreneurship in the Sector Needs Analysis where previous literature shows a clear north/south divide in the UK, with the South being more entrepreneurial than the north. Although SummitSkills did not set out to find this phenomenon, it clearly came through in data collected, and suggests the validity both of the previous research and that undertaken by SummitSkills.

5 Introduction to the South East region

5.1 Overview

The South East is a large and prosperous region that stretches from Milton Keynes in the North to Southampton in the West, Dover in the East and the Isle of Wight in the South. The region has the fastest Gross Value Added growth at 35.3% per head between 1997 and 2003, the second highest absolute value of GVA per head at 18,400, the highest economic activity rate averaging 82.9%, the lowest unemployment rate averaging 4.2%, and the second highest household income per head rate at almost £14,300.00 per head. With London and the East of England, the South East was one of only three regions that made a net contribution to Government funding.

Although the South East performs well in relation to the UK, its performance when compared with globally prosperous regions is not as good, as it ranks 31st out of 40 top performing regions worldwide. In relation to productivity, the region is second only to London in relation to absolute productivity levels, but is still only 34th out of 40 high performing global regions and more than 50% below the best performing regions in Europe. The region also has significant disparities within it, with GVA per head being 60% national average in the Thames Valley, but 39% below average in the Isle of Wight, and in terms of growth rates, while the region as a whole outstrips the rest of the UK, Kent and East Sussex lag behind. Low rates of unemployment make the labour market very tight within the region, but there are still 900,000 residents of working age within the region representing 20% of the total workforce who are economically inactive, of whom 250,000 state that they wish to work (SEEDA, 2005, p5).

For economic and strategic purposes, the South East splits into three distinct areas, the inner South East, the outer South East and the coastal South East. The inner South East is a relatively wealthy core of activity around London, which benefits directly with the capital, and is characterised by high productivity, economic activity, and full employment, with a high concentration of world class companies, clusters and high-tech sectors. There is evidence of high skills profiles among the working age population, and low inactive population, with employment being concentrated in knowledge-based sectors, and a low dependence on public sector employment. The population tends to be younger and there are good transport links, but with substantial congestion on existing networks. There are however alongside this some significant pockets of deprivation (SEEDA, 2005, p6).

The outer South East is a largely rural area, with well established market and country towns, where economic activity tends to cluster and spread. This area tends to have high overall economic activity and employment rates and high skilled commuter workforce (both within and without of the region). There is evidence of high business density and start-up rates. In addition, there are very few pockets of deprivation, but there are examples of rural deprivation, and particularly high levels of deprivation in relation to the domains of housing and access to services. The population is younger than the coastal South East, but a population whose average age is increasing, with a variable infrastructure quality (SEEDA, 2005, p6-7).

The coastal South East is a less prosperous area on the periphery of the region, with large urban areas offering strong economic potential, but currently displaying lower productivity than the rest of the South East, and in some cases the UK, with lower economic activity and higher structural unemployment rates, and with a relatively low skilled profile among its workers. This area of the South East also exhibits lower business density and business start up rates, and more traditional industrial activities, including lower value added manufacturing and tourism, and low employment in knowledge-based sectors, with high dependence on public sector employment. A greater proportion of the people in this area are already over retirement age, and there is evidence that the age profile will continue to increase. This area also exhibits relatively poor infrastructure and connectivity (SEEDA, 2005, p7).

The South East Regional Development Agency (SEEDA) sees globalisation as having a potentially profound impact on the economic performance of the sub-region, and they identify the following issues that will impact on the South East: by 2015 China is expected to account for 19% of global output, which will put them level with the USA, and ahead of Europe. Secondly, the emerging economies of China, India, Brazil and Russia are expected to increase their share of global output from 25% now to 32% in 2015. While at the same time the G7 nations are expected to decline from 43% to 36%, with Brazil currently ranked 15th in the world in terms of output expected to overtake the UK and Germany and obtained sixth place in the world within a generation. The South East currently exports only 11% of its total exports to Asia, which presents a challenge to the South East in raising the export threshold through an interchange of trade, investment, people and knowledge and trading links, collaboration and entrepreneurial capacity (SEEDA, 2005, p8).

In relation to maintaining and improving productivity and skills, SEEDA is committed to creating a workforce that has the skills and flexibility to sustain a world class economy, through ensuring that businesses can access the skill they need to raise productivity, ensure that entrepreneurs can access the management and leadership skill they need to start and grow successfully (SEEDA, 2005, p24).

SEEDA is also committed to enabling individuals to access the skills they need to enter and progress in the labour market, through the creation of progression ladders, using cultural activities to enable individuals who have been inactive for long periods of time to get back into the labour market; improving access to learning for low-skilled, low-paid and low status workers to enable them to progress, and finally reducing inactivity among minority ethnic groups, single mothers and those people with disabilities (SEEDA, 2005, p25).

5.2 Berkshire

Berkshire is an economically successful sub-region of the South East, and is a major base for many UK employers. ICT is a major contributor to the local and regional economy, although construction (including the building services engineering sector) is also a major contributor. The county is however affected adversely by road congestion and high housing costs, which are impinging on performance. There are approximately 39,000 businesses within Berkshire, with the majority being small employers, although the largest 1% of the businesses account for over 33% of employees. Within the county, 17% of vacancies are skill related, and construction (including the building services engineering sector) features predominantly in relation to skill shortages. In addition, a fifth of employers claim that their employees lack full proficiency in their jobs, which equates to 9% of the total workforce of the county.

The total population of Berkshire is 800,000 and of this 11% are from ethnic minority backgrounds. Unemployment is low, but there are variations across the county, with more working age residents in Reading and Slough claiming unemployment and incapacity benefit than the rest of the region (LSCB, 2005, p11).

There is also a significant differential present in the performance of young people across the county as only 45% of pupils achieved five GCSEs A*-C in Reading which, is significantly below the national average, whereas the figure is 62% in Wokingham schools, which is way above the national average, with girls outperforming boys by up to ten percentage points. Within the sub-region, it is anticipated that there are 37% of adults who lack Level 2 competence in literacy and numeracy, which is 7% below the national average and it is anticipated that up to 69,000 working age adults may have learning difficulties. The numbers of economically inactive adults lacking Level 2 competence in literacy and numeracy ranges from 30% in Wokingham to 47% in Slough. The LSC believes that the buoyant economy and work position is not acting as an incentive to many people to pursue the requisite learning to address these problems. Among young people, it has been difficult to recruit on to apprenticeships (LSCB, 2005, p12). Currently, the completion rate for work-based learning is 44% for full frameworks (LSCB, 2005, p32).

5.3 Hampshire and the Isle of Wight

The sub-region of Hampshire and the Isle of Wight covers Southampton, Portsmouth and the Isle of Wight. It is a key sub-region of the South East economy providing about one fifth of the region's output. It is a diverse area, with significant concentrations of employment and deprivation in the urban areas of Southampton and Portsmouth, and large rural areas in parts of Hampshire and the Isle of Wight, and a relatively prosperous mid and north Hampshire. The isolation of the Isle of Wight has a detrimental impact on the socio-economic development. The population of the sub-region is nearly 1.8 million, with some 900,000 people in employment. Ethnic minority groups make up 3.1% of the total population although the percentage is higher in Southampton (7.6%). Unemployment within the sub-region is also very low at 1.3%, and as with other areas of the country, the number of service and managerial jobs that will be created is expected to grow at the expense of manufacturing positions (LSCHLOW, 2005, p11).

The areas of deprivation are concentrated in the urban areas of Southampton and Portsmouth and also on the Isle of Wight (LSCHLOW, 2005, p12). The number of adults within the sub-region without Level 2 qualifications is currently 40% of the adult working population, with a significant proportion of the same group not having the essential skills, any qualifications or experience of successful learning (LSCHLOW, 2005, p13). In relation to skills shortages, construction (including the building services engineering sector) employs 5% of the total sub-regional workforce, and is forecast to grow by 19.2% by 2011, with the sector having the highest proportion of skill shortage vacancies in the South East (LSCHLOW, 2005, p14). The work-based learning full framework apprenticeship achievement rate for 2004/05 is 40%, which is relatively low nationally (LSCHLOW, 2005, p47).

5.4 Kent and Medway

The area of Kent and Medway is a growing area of approximately 1,580,000, with 59,000 businesses, which make up 17% of the total regional businesses. The make-up of business in the sub-region is predominantly micro, with 84% of companies employing less than ten people. Employment is more concentrated in the lower skill occupations than is normally the case (LSCKM, 2005, p10). There is within the sub-region an issue with young people entering apprenticeships, and this is low, with full framework achievements being 37% (LSCKM, 2005, pp11, 34). The participation of adults within the sub-region is still below the South East average, and the workforce performance is the weakest in the South East. A fifth of all vacancies were as a result of skills gaps, and low qualification and low engagement it is believed will continue to hold back the development of the sub-region economy. It is estimated that 210,000 (19% of the working age population) have insufficient literacy levels, and 209,000 (19%) are effectively functionally innumerate. There are 322,000 people within the sub-region who have no qualifications (LSCKM, 2005, p12).

5.5 Milton Keynes, Oxfordshire, Buckinghamshire

The sub-region is made up of the county of Oxfordshire, the county of Buckinghamshire and the unitary authority of Milton Keynes. Milton Keynes is a large and growing conurbation, which is expected to exceed 255,000 by 2011, whereas Oxfordshire is a rural county with a population of about 615,000, which is also set to grow to about 640,000 by 2011. The county contains the main city of Oxford and Abingdon, Banbury, Bicester, Didcot and Witney, and although the transport links to the rest of the country are good, rural access can be problematic. Buckinghamshire is a prosperous and largely rural county, with the main population centres being in Aylesbury and High Wycombe, with many of the population being dispersed around smaller towns within the country. This area of the sub-region is anticipated to fall by 7,000 people by 2011; there are good links to London from the southern part of the sub-region. The sub-region as a whole contains 64,662 businesses, of which 86% are micro-businesses employing less than 10 people or less and account for 21.9% of the workforce. Although a relatively prosperous sub-region of the South East, there are some localised areas of severe deprivation, with Northfield Brook in Oxford hosting the most deprived census super output area (SOA). The level of unemployment in the sub-region is very low, however there are groups claiming incapacity benefit, or who have retired early, who may be able to rejoin the labour market (LSCMKOB, 2005, p11).

The achievement rates of young people obtaining five GCSEs A*-C is extremely variable across the sub-region, with Buckinghamshire being 12.2% above the national average, while Milton Keynes is 5.5% below national averages, and Oxfordshire is 2.4% below the national average. Despite this variable performance, the current targets for apprenticeship are only 87% of planned enrolments (LSCMKOB, 2005, p11).

Within the sub-region it is estimated that 204,500 adults have no formal qualifications, which equates to 22% of the total adult population, and is 2% below the regional average. In addition, 357,000 adults have below Level 2 qualifications, which represent 38% of the total adult population, which is 3% below the regional average. 31% of working age adults have qualifications at NVQ 1 or below (36% in Milton Keynes). In addition, there are estimated to be 160,000 people with poor literacy skills, and 150,000 people with poor numeracy skills, although there are good numbers of people with Level 3 (43%) or above qualifications within the sub

region, and it is intended that Milton Keynes will in due course have its own University (LSCMKOB, 2005, p13). In relation to construction (which includes the building services engineering sector) skill shortages are a particular problem within the sub-region, as the workforce is aging and the demand for workers increasing due to schemes such as the Milton Keynes South Midlands Development (LSCMKOB, 2005, p14).

5.6 Surrey

The population of Surrey is approximately 1million, of which 37,000 are aged between 16 and 18. This is projected to grow only slightly up to 2010, with an increase in the number of people over fifty years old, and a reduction in the size of household. There is limited deprivation, but there are estimated to be 143,000 adults and 26,000 young people who have some level of learning difficulty and/or disability. There is considerable migration of people out of the sub-region to London and the Thames Valley. The sub-region has an employment record that is 0.9% below the national and regional average. Micro businesses drive the local economy, with 87% of businesses employing less than ten people, and about 50% of staff are employed in managerial and professional roles, which is above national and regional averages, although 40% of managers are not qualified to Level 3 (LSCS, 2005, p9).

As with other areas of the South East, the labour market is tight with low employment and high housing costs affecting recruitment and retention. 20% of employers report skills gaps and 22% skills shortages within their organisations. The percentage of young people who obtain five GCSE Grade A*-C is above the national averages, with girls outperforming boys, however it is estimated by the LSC that between 35-40% of young people do not get sufficiently good grades to progress easily to 'A' level. In relation to achievement at Level 2, then 35% of adults are not qualified to Level 2, and 56% to Level 3, which are both better than both the national and regional averages. Achievements in work-based learning are however disappointing, with only 25% of trainees receiving a full framework in 2004- 2005, significantly below national averages (LSCS, 2005, p10).

5.7 Sussex

Sussex consists of East and West Sussex County Councils and the unitary authority of Brighton and Hove. The sub-regional population is 1.5 million, which accounts for 19% of the regional total. Of this total, 26% are aged 60+, which is slightly higher than the national or regional averages of 21%. Within the sub-region, there are 66,000 businesses, employing over 636,000 people, although 85% of businesses in the sub-region employ less than ten people. Construction (including the building services engineering sector) is a priority sector for the LSC in the sub-region. It is envisaged that 33% of firms in the sub-region face skill shortages in the economy, and there are issues surrounding IT and problem solving skills are in short supply. A further 10% of employers reported generic skills gaps such as literacy, communication and customer services skills, and this is exacerbated by the number of Level 2 and Level 4 occupations present in the sub-region with little in between. The unemployment rate within the sub-region is 0.5% below the national average. The gross weekly pay of £403.00 is identical to the national average, but below the South East average of £447. The transport links between Brighton and London are very good, which permits some commuting (LSCSX, 2005, p10).

The number of young people leaving school is expected to grow by around 1% to 2014, with 88% of school leavers continuing in education of some form post 16, although this varied from 94% in Chichester to 81% in Hastings and Rother. Work-based learning increased by almost 25% over the past four years, although the full framework achievements in work-based learning for 2004-2005 at 30% are extremely low. Very worryingly for the construction (including the building services engineering sector) industry is that FE success rates for construction are currently at 32% (LSCSX, 2005, p10). In relation to adults, then 42% of people in Sussex are not qualified to Level 2, with Brighton and Hove having the highest proportion of adults qualified to Level 4 (34%). Hastings and Rother have the highest proportion of people that have no qualifications in Sussex, which is significantly above the South East average. The LSC suspects that 32% of enrolments by adults in Sussex are at Level 1 and Entry level, and the proportions range from 23% in Crawley, Mid-Sussex, Eastbourne and the Weald to 43% in Worthing and Adur. As stated above, work-based learning achievements are very low at 30%, and this varies between areas of the sub-region, with Crawley and mid Sussex obtaining 56% and Hastings and Rother obtaining 11%. In Sussex it is estimated that there are 190,000 adults with literacy needs, and 170,000 with numeracy needs. While generally the sub-region performs better than the national average, Rother, Eastbourne and Arun have high levels of poor literacy skills, and Crawley and Hastings have high levels of poor numeracy skills (LSCSX, 2005, p11).

6 Mapping of training provision

Please refer to Appendix A for data relating to this section.

6.1 Introduction

This section of the report looks at curriculum currently offered and whether it is being used by the building services engineering sector.

The report first analyses courses from the SummitSkills qualifications map for England that are currently on offer to the building services engineering sector. The report identifies where, from data provided by the Learning & Skills Council, courses have not been funded in the academic years 2003-2004 and 2004-2005. At the time of analysis and report writing, data for 2005-2006 was not available. A full listing of courses where no funding was allocated by the LSC in 2003-2004 and 2004-2005 is contained in Appendix A.

Government policy has been to significantly reduce the qualification offer within the FE sector generally, and this concept is confirmed in the Leitch (2006) report. In response to this, a significant rationalisation of non-funded provision (Leitch, 2006, para 1.44, p37) is proposed within this report by SummitSkills for the building services engineering sector.

The Leitch review has also tasked SSCs, as part of their Sector Skills Agreement, to look at curriculum and identify courses that are currently receiving public funding but should not continue do so, as they do not meet the needs of the sector. For the purposes of this report, these courses are referred to as **non-economically valuable skills (NEVS)** courses in line with the definition in Leitch (2006).

Courses which are deemed by SummitSkills to be NEVS have been identified here. SummitSkills recommends that the Learning and Skills Council at both national and regional level removes funding from these programmes, and to fund only those courses that SummitSkills deems to be economically valuable courses.

6.2 Non-funded curriculum

From Table 67 in Appendix A, it can be seen that a significant amount of curriculum within the building services engineering sector in England did not receive funding in the academic years 2003-2004 and 2004-2005. Assuming this curriculum was also not funded in 2005-2006, it would seem the courses are becoming obsolete through non-usage, and therefore should be removed from the Learning Aims Database (LAD) and cease to be funded.

Where the curriculum was funded in 2003-2004, but not funded in 2004-2005 or subsequently in 2005-2006, then consideration should also be given to the withdrawal of funding. Table 68 refers to these courses.

Finally, where curriculum was funded in 2004-2005, but not 2003-2004 (Table 69) and this provision is still ongoing, then it should (assuming it was funded in 2005-2006) receive public funding. Curriculum removed from the LAD can still be funded at full cost should a provider subsequently find a new client base.

6.3 Recommendations

SummitSkills will work with the LSC to clarify where curriculum should (if applicable) be removed from the Learning Aims Database. The removal of these courses will facilitate the development of new courses which will meet the articulated needs of the sector more effectively.

6.4 Leitch review of building services engineering sector qualifications

In the demand-driven model desired by Government, the emphasis on curriculum content shifts from training providers to the employers and industry. Industry must articulate its skills needs and training providers then 'gear up' to meet this need, aided by Government bodies. To give effective voice to this concept, Leitch concludes that the current system needs to change. Leitch (2006) effectively argues that past attempts to articulate the needs of employers and plan for them have failed. Thus employers had felt frustrated by their lack of influence over qualifications the poor basic skills of new entrants, and the ability of providers to continue to determine curriculum supply.

As Sector Skills Councils are tasked with the responsibility of representing employers to Government, Leitch recommends that only courses approved by SSCs should qualify for public funding, these being courses that lead to "economically valuable skills", and SSCs should generally reduce the current large numbers of qualifications significantly by 2008 (Leitch, 2006, para 56, p19).

6.5 Defining non-economically valuable skills (NEVS) provision

Within Appendix A, tables 70 - 86 define the courses which received LSC funding in either 2003-2004 and/or 2004-2005.

Using the Leitch (2006) criteria, the curriculum is either defined as being an 'economically valuable skill' and therefore SummitSkills recommends that the curriculum retains public funding, or it is defined as being a 'non-economically valuable skill' (NEVS) and therefore public funding should be withdrawn.

Consequently the question in the third column of the table receive a 'Yes' or 'No' response as to whether, using Leitch (2006) criteria, the funding remains or not. In subsequent tables throughout the appendices of this report, 'non-economically valuable skills' curriculum is designated as 'NEVS'.

6.6 Technical certificates

Within the main trade areas of the building services engineering sector there are a number of technical certificates that provide the underpinning knowledge part of a full framework apprenticeship. Table 87 situated in Appendix A shows those technical certificates that were identified in the data available. However, SummitSkills believes that there may be other courses not identified in that data run that could be classed as technical certificates.

A qualification that appears to be missing is City and Guilds 2330: Certificate in Electrotechnical Technology Level 2 & 3, which is the current technical certificate for apprenticeship frameworks⁸. Another qualification used as a technical certificate in the past is City and Guilds 2351 for electrotechnical. Therefore the electrotechnical data is incomplete.

In recent years, because of consumer demand for courses within the building services engineering sector (particularly in plumbing), providers have been offering the technical certificate as a stand-alone qualification for both full-time and part-time learners not in employment within the sector, with participants being aged 16-19 year old, as well as adults. This has led to a significant curriculum offer and numbers of people undertaking training which SummitSkills believes to be considerably greater than the sector is able to absorb through employment.

Significant numbers of part-qualified people have left training providers with no work experience and little practical skills to offer to a prospective employer. The majority of these individuals do not find employment within the sector because they do not have the skills and experience that employers want and/or there is no work for them. The waste of resources and false hope this generates for learners cannot be good either for the economy or as an element of social justice. In Wales and lately within England there has been a significant amount of negative media publicity leading to Ministerial comment, with the Minister for Lifelong Learning in the Welsh Assembly Government stating that in future there will be no more part-trained plumbers and electricians.

There is also a concern shared by SummitSkills, its partner trade associations and companies within the sector that some more 'enterprising' individuals graduating from these courses may seek to start their own businesses (which of course is perfectly legal). This not only depresses work, but as these individuals are not fully qualified or experienced then SummitSkills et al believe that there is a real danger that this will lead to 'cowboy' practitioners proliferating the sector (particularly within the domestic business sector) and causing significant issues for the bona fide companies. The data from the Sector Needs Analysis suggests that the sector already believes that it does not have a very good image with the public; therefore producing a whole network of part-qualified and part experienced operatives cannot but exacerbate the situation.

SummitSkills argues that it is both an economic and social justice requirement to reduce the intake on courses that do not have employed status as a part of them.

⁸ This qualification will probably appear in the returns for the academic year 2005-2006 and subsequently.

SummitSkills therefore recommends that funding methodology contained within the table below is adopted for all technical certificate courses, based on the mode of delivery and funding against mode of delivery:

Table 2 Mode of delivery of technical certificate course

Mode of Delivery of Technical Certificate Courses	Funding to Continue for this Mode of Delivery?
As part of a full framework apprenticeship	Yes - Public Funding to Continue
Part time with an NVQ in the appropriate industry discipline*	Yes - Public Funding to Continue
Full time as a stand alone qualification, or with non-industry qualifications**	No - Public Funding to be discontinued
Part time as a stand alone qualification, or with non-industry qualifications**	No - Public Funding to be discontinued.

*= SummitSkills assumes that it would not be possible to have a full time mode of this, because of the requirement of NVQ for work-based assessment.

**= This would include provision identified above, plus any other curriculum developed post academic year 2004-2005 not currently identified in this Assessment of Current provision report. As a rule of thumb the LSC are advised that any course that is not an NVQ is unlikely to be industry standard in the view of SummitSkills.

6.7 Section 98 (other provision)

Section 98 of the Education Act (other provision) contains qualifications up to Entry Level 3 that usually have less stringent assessment criteria than those on sections 96/97. Funding is limited and special permission is required to operate a programme under section 98. Entry level is classed as below Level 1. It may therefore be considered to be a qualification for those with learning difficulties and basic skills issues. The only qualification identified that comes within this area is 00237659 Certificate in Plumbing, Heating and Ventilation (Entry Level) OCN, which is not deemed to be economically valuable. As a general rule of thumb, funding bodies should presume that all and any entry level course in plumbing, electrotechnical, heating and ventilation or air conditioning and refrigeration would be unacceptable to the building services engineering sector.

6.8 'Other' LAD provision

In Appendix A Table 88 there are a number of courses for which data is currently unobtainable but are on the LAD⁹. SummitSkills believes these to be not economically valuable. There is the possibility that this other provision, combined with all courses already identified, may still not represent all courses offered to the sector. As a rule of thumb SummitSkills advises that qualifications below Level 2 not containing a competence-based work element are unlikely to be suitable for entry into employment in the sector.

⁹ As of March 2007

6.9 Conclusions

Implementing the recommendations on technical certificates and the removal of non-economically valuable curriculum will have a significant effect on the provider network. An assessment of the potential impact could be made through analysing a breakdown of regional or local courses. In the absence of this data at the time of writing the report, SummitSkills assesses the likely impact to be as follows:

The impact of the proposed policy is unlikely to be uniform for providers across the sector, but it will probably impact on some providers more than others, depending on their curriculum offer, and on some regions and sub-regions more than others. So for example, more NEVS courses may exist in urban areas, where providers are in competition with each other.

SummitSkills believes however that full implementation of these recommendations, while meeting the needs of the sector and transforming training and skills for the future, will lead to some restructuring of providers. SummitSkills believes that in accordance with longstanding Government policy (see relevant section in this ACP) this restructuring process should be carried out using inspection reports, taking due regard for demographic issues at the regional and local level.

6.10 Recommendations

SummitSkills and the national and regional LSC will work with other partners and stakeholders to identify providers most likely to be affected by the realignment of curriculum.

If provision should not be changed in areas for a particular reason, SummitSkills will work with the LSC to transfer the new provision (identified by employers in the Sector Needs Analysis) towards those providers using current methods of best practice.

7 Mapping of higher education training provision in relation to the building services engineering sector

The routes to entry to the building services engineering sector are somewhat less structured than might be the case in other professions, both within the wider construction industry and generally. Although there are discrete building services engineering sector degree courses which come within the remit of this Sector Skills Agreement, many consultant companies who seek to recruit trainee consultants look to general engineering degrees in mechanical and electrical engineering (which do not come directly under SummitSkills' remit).

A senior executive of a multi-national building services consulting company identified the reason for this extended recruitment as being the higher academic and particularly mathematical abilities of graduates from general engineering degrees, as opposed to those from the generic building services engineering degrees.

Whether this is a general view within the sector or relevant only to one international building services engineering consultant is not known.

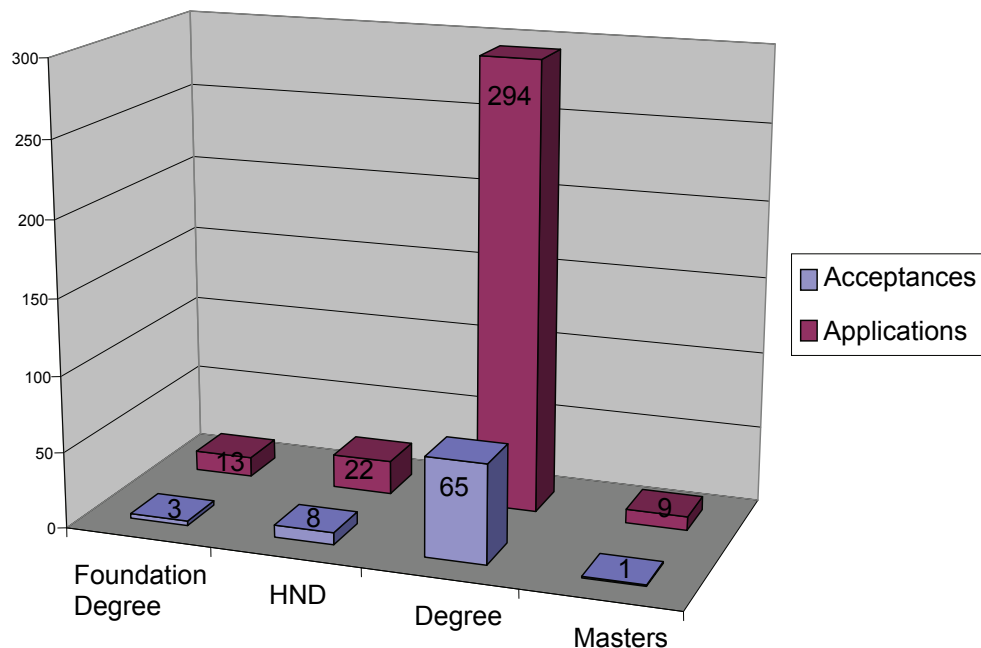
The data within this Assessment of Current Provision relates primarily to the following courses:

- foundation degrees
- Higher National Diplomas (HNDs)
- Building Services Engineering Bachelors Degrees
- Building Services Engineering Sector Master's Degrees (although this probably relates to course(s) which combine undergraduate and postgraduate study in an extended programme, and are unlikely to represent a majority of provision at Master's level due to the usual application route for post-graduate programmes being direct to the institution).

The first issue of concern raised by the data is the low level of provision generally within the UK university sector, and specifically the lack of any provision in a number of English regions. This is becoming an acute problem for individuals seeking to work while obtaining their professional status. An anecdotal example of this has been that the research manager at SummitSkills has been supporting a student in Leeds on his dissertation from a University in Preston, some considerable distance away, although both Leeds University and Leeds Metropolitan University offer courses in engineering and the built environment.

Figure 1 shows the applications and acceptances for 2005 for building services engineering sector courses:

Figure 1 Applications and acceptances 2005 UCAS



As might be expected, given its route to professional status through the Chartered Institution of Building Services Engineers (CIBSE) the UCAS (Universities Central Admissions Service) data shows that numbers applying and being accepted for degree programmes in building services engineering are significantly higher than numbers for other building services programmes delivered in UK higher education.

The lack of interest in Foundation Degrees is already highlighted in this report and suggests that these qualifications have yet to make any impact on the sector. In some regions and nations of the UK, employers within the sector have not even heard of these qualifications.

The low applications for HNDs are also interesting, but may indicate the low number of courses offered. The indications from the primary data are that there is more interest in the Higher National Certificate in many regions of the UK.

Individuals can apply for up to six higher education programmes/institutions through UCAS. Therefore it should not be assumed that every application represents a single student or the student's first choice course. It is not surprising that acceptance numbers are lower than application numbers when one individual can account for up to six applications. If one divides the number of applications by the permitted number of applications then one gets forty-nine, which may suggest (and this is often recommended by schools and colleges) that some applicants who in the end choose building services engineering had a number of other course options in their application.

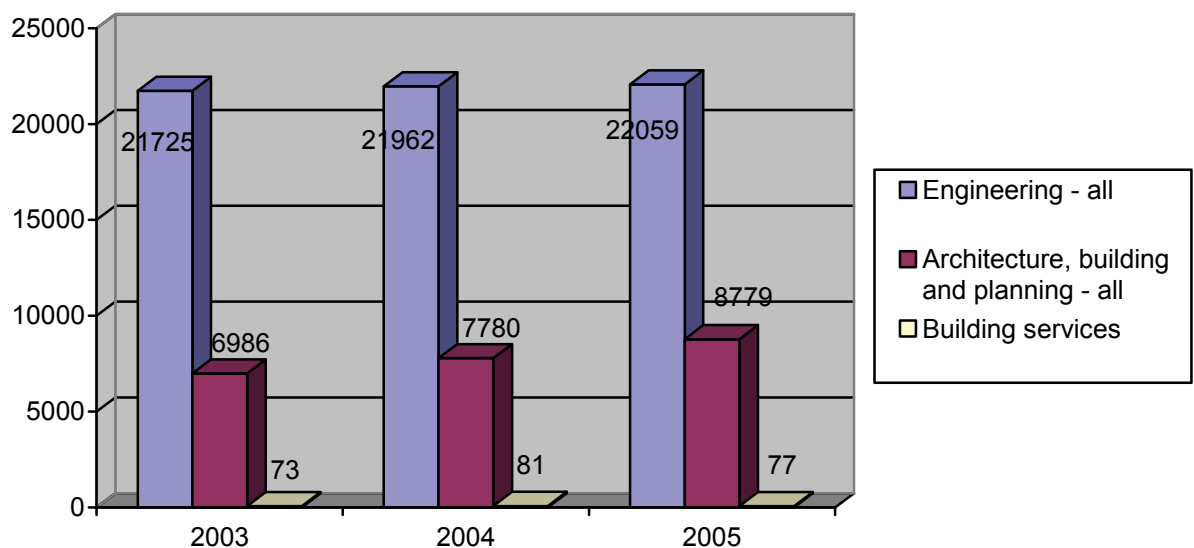
Each acceptance represents an individual unique student with no double counting of individuals.

There is also a possibility that UCAS data may not show the whole picture in relation to Master's Degrees. Applicants for postgraduate study usually apply directly to the Higher Education Institution (HEI) with which they wish to study. The exception occurs when students apply to complete a four year programme of study which combines undergraduate and postgraduate study resulting in a Master's level qualification.

There is evidence to suggest that some providers are using Master's Degrees as an entry into building services engineering for graduates of non-accredited courses. As with many professions within the building industry and generally, the ability to practice as a professional is controlled by chartered status, which is the benchmark through which professionalism is measured.

As can be seen in Figure 2 below, building services engineering course acceptances are dwarfed by general engineering and built environment courses.

Figure 2 Acceptances in comparison to other engineering and built environment courses- UCAS

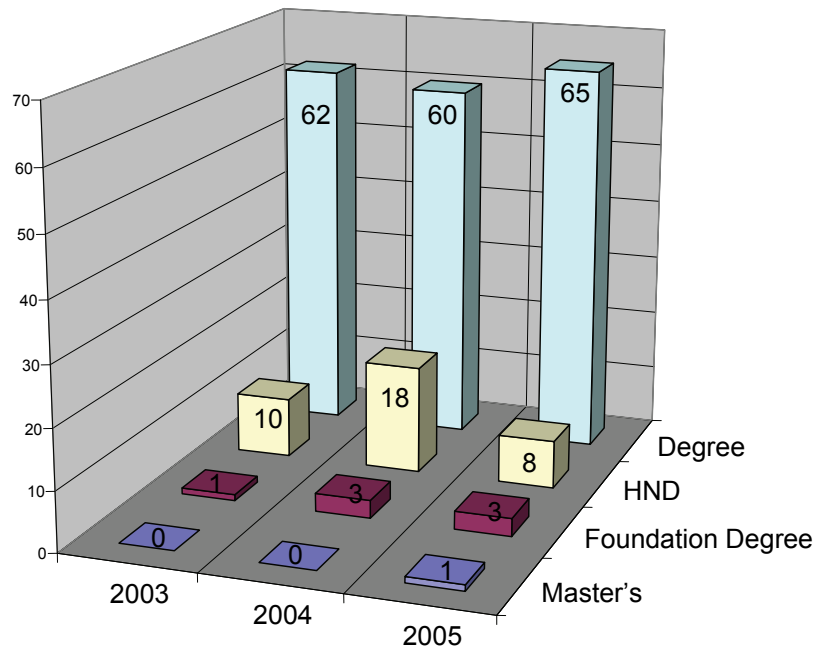


Building services engineering higher education acceptances represent less than one percent of all engineering provision and no more than two percent of all built environment enrolments.

It may be argued that the lack of marketing and exposure of the sector as a graduate career has affected the number of applicants for courses, leading to the reduction in the number of courses offered (many courses both in Universities and Further Education colleges have closed recently) impacting further on the number of enrolments. Universities and other providers are unlikely to be able support part time provision without a good cohort of full time learners.

Building services engineering courses have UCAS course codes which either sit within engineering (H) or architecture, building and planning (K). Data obtained from UCAS relating to building services engineering course applications and acceptances do not distinguish between building services courses categories H or K. Figure 3 shows the combined data from both areas:

Figure 3 Acceptances 2003-2005- UCAS



UCAS data for the years 2003, 2004 and 2005 shows that acceptances to building services engineering courses in UK HEIs do fluctuate but have not changed a great deal. The course type showing the greatest fluctuation is HND for which acceptances increased in 2004 compared to 2003 before dropping again in 2005 – by more than fifty percent but only two students fewer than 2003.

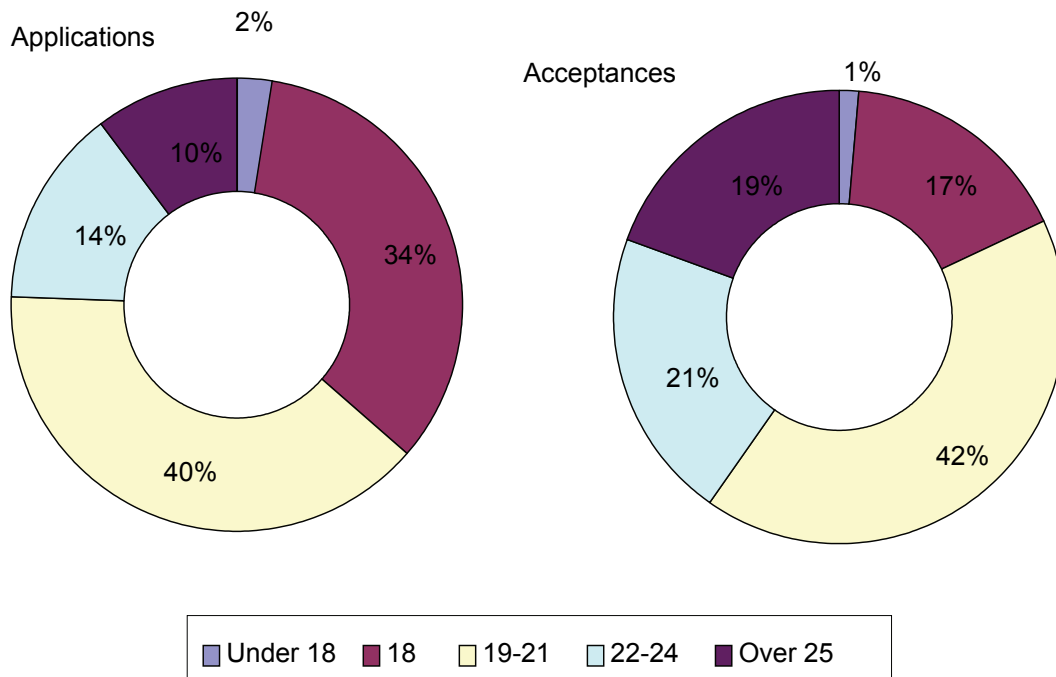
One possible explanation for this fluctuation is that a new provider (possibly an FE college) was able to recruit well from a particular cohort of AVCE (Advanced Vocational Certificate of Education) students perhaps in that particular year.

Another is that due to good marketing, a provider(s) were able to direct learners with insufficient UCAS points on to HND in Building Services, perhaps marketed as a two and two (two years HND, two years BSc/BEng).

These explanations are mere speculation of course, but present credible explanations for this slight HND ‘blip’. In any event the numbers are very low for HND and could have realistically formed no more than two viable classes unless the learners were in-filled with part time HNC students.

Fluctuation in the total number of acceptances to building services engineering HEI programmes at all levels shows a variation of only eight students, or approximately ten percent.

Figure 4 Applications and acceptances by age- UCAS



Data from Figure 4 above suggest that applicant between the ages of 18 and 22 accounts for more than half of all applications and acceptances for higher level building services engineering courses. This suggests that these students are coming primarily from the traditional ‘A’ level and Advanced Vocational Certificate of Education Built Environment/Engineering.

The reduction to age nineteen for ‘Access’ provision within Further Education might see more applications coming from these type of learners at all ages post 19-20, although it is not possible to assess this from data available from UCAS.

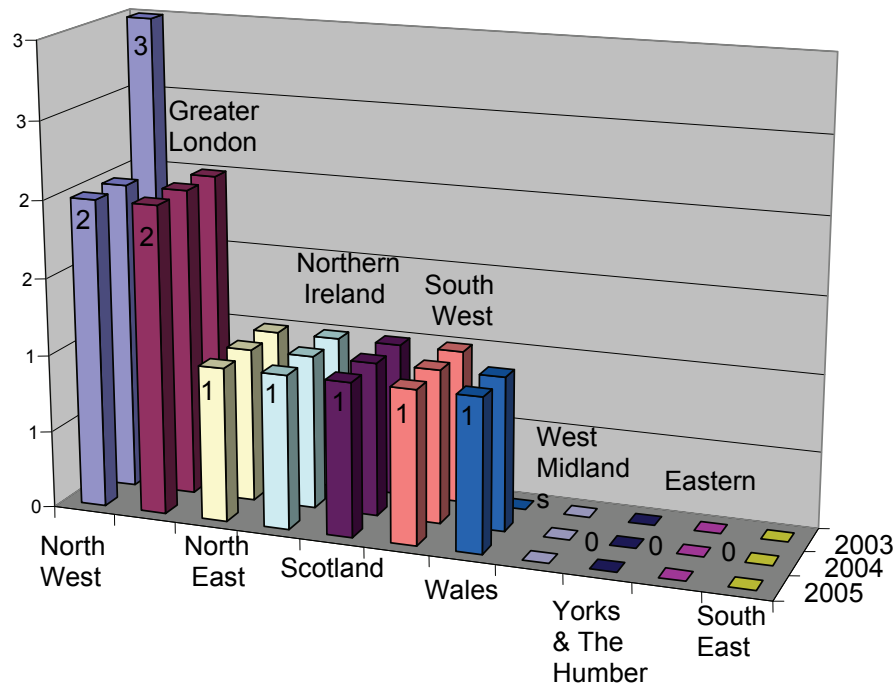
There would appear also to (as in many built environment courses) be a strong minority of older people seeking to enter the building services engineering profession. It would be interesting to see the previous experience of these individuals, to see if they are former craft or technician operatives within the sector seeking to move into the professions.

This would be particularly interesting as a number of companies in the SummitSkills Sector Needs Analysis identified former craft operatives progressing to the professions as making particularly good consultants by bringing their practical experience into the design side of the sector.

This might be a possible career route for those craft operatives with the requisite skills to make in later life, or if they suffer from some sickness preventing hard manual labour, and might address the post fifty ‘drop off’ of workers identified in the Sector Needs Analysis.

Figure 5 shows the institutions by region that accept applicants for building services engineering courses:

Figure 5 Institutions accepting applicants by region- UCAS



The total number of Higher Education Institutions recruiting students to building services engineering programmes through UCAS did not change during the period from 2003 to 2005 (the period for which the most up to date information is available through UCAS).

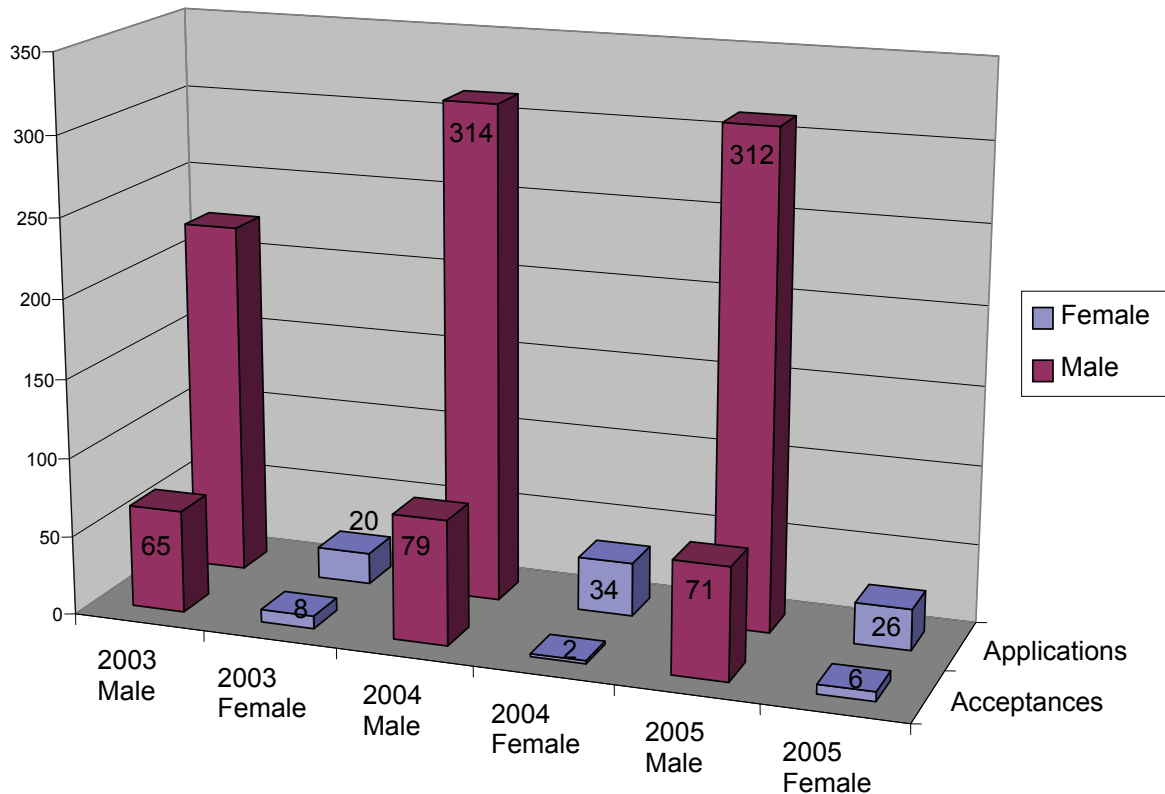
UCAS data suggests that in five regions (half of all English regions) no HEIs recruited students onto building services engineering courses in 2003, 2004 or 2005. The East of England is particularly poorly represented, with only courses in London and the North East (Newcastle) being realistic areas of supply, or the North West (as already stated) if learners are prepared to cross the Pennines.

Nine HEIs (across the UK) accepted students to building services engineering courses in 2004 and 2005. Provision in Greater London declined between 2003 and 2004, with one fewer institution recruiting students during 2004 and 2005 compared to 2003. During the same period one institution in Wales (Glamorgan University) began accepting building services engineering students in 2004, with no Welsh HEIs accepting students in 2003.

Within Scotland the only provider of building services engineering sector qualifications in Glasgow Caledonian University. Currently there is no provision for the Highlands and Islands.

Data from the SummitSkills Sector Needs Analysis suggests that in relation to gender diversity, the professional arm of the sector performs better than the craft arm. As can be seen from Figure 6 however, men still predominate in relation to applications and acceptances to building services engineering courses:

Figure 6 Applications and acceptances by gender



Applications by males rose by 90 in 2004, a rise of forty percent compared to 2003, with little fluctuation from 2004 to 2005. Numbers of female applicants are too low to reveal any strong trends in terms of changing numbers of either applications or acceptances amongst women.

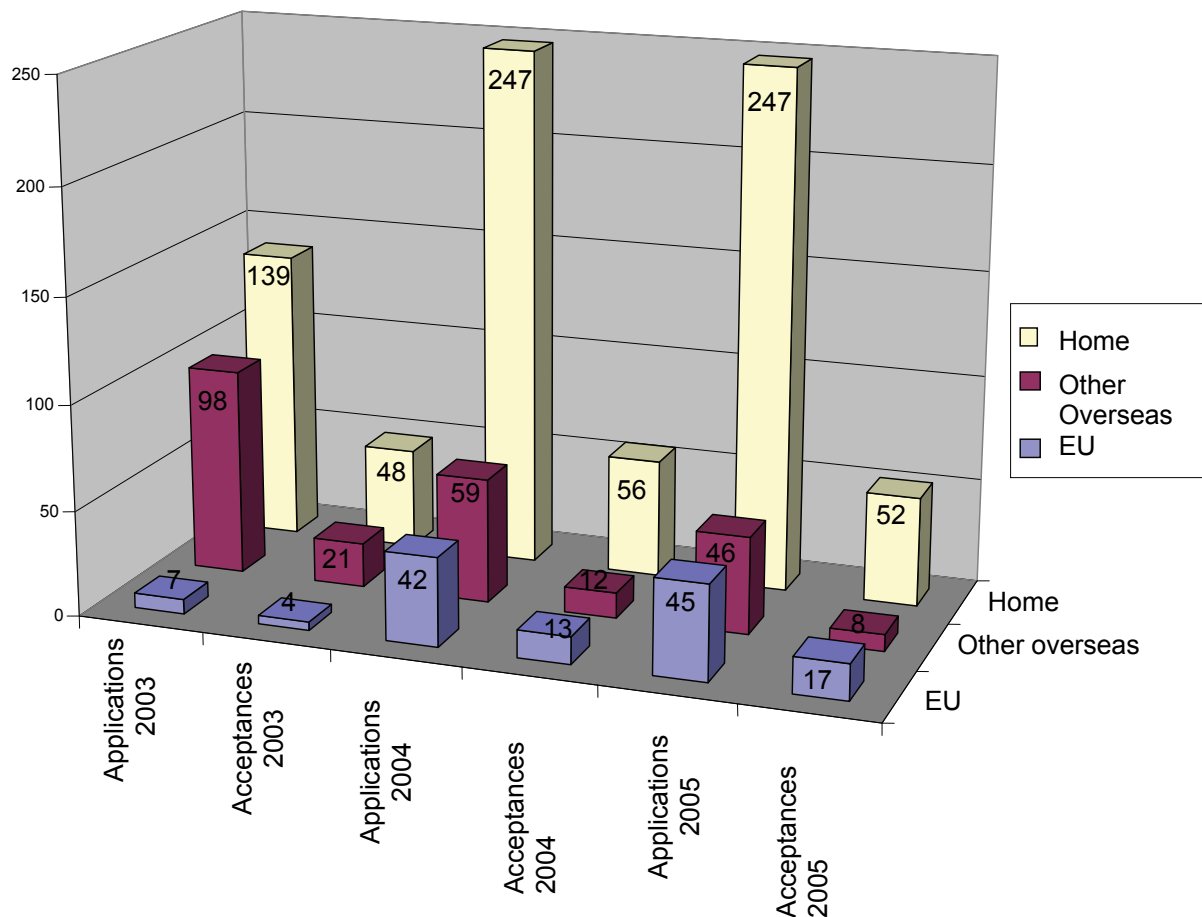
Table 3 Percent of applications resulting in acceptances

Gender	2003	2004	2005	Average across 3 years
Male	29%	25%	23%	26%
Female	40%	6%	23%	23%

The percentage of applications resulting in acceptances does not vary a great deal in relation to male candidates. The percentage of female applications resulting in acceptances varies a great deal across the three years. This may be partially caused by small numbers of female applications/acceptances which means small changes in the female numbers have greater impact on the percentages. The average percentage of female applications resulting in acceptances is 3 percent lower than the male percentage in the same category.

As can be seen in the next graph, the number of applications and acceptances predominantly come from UK home students. There is still a comfortable number of applications from abroad in line with the reputation that British engineering education holds abroad, although competition has been growing in this market from the USA and Australia, particularly in relation to fees.

Figure 7 Applications and acceptances by residence of applicant



There was thus a steep increase in applications from UK citizens from 2003 to 2004, and no change in UK application numbers from 2004 to 2005. Small fluctuations can be seen in the number of UK acceptances between 2003, 2004 and 2005.

Both applications and acceptances for EU students are growing whilst applications and acceptances of other overseas students are declining. European Union citizens are only liable to pay the same fees for study as home students; therefore this may be encouraging the recruitment increases from the EU. Total acceptances of overseas students (EU and other) have remained consistent at 25 for each of the three years.

Data shows that those applications most likely to result in acceptance are those from EU residents, followed by home residents, with other overseas applications least likely to result in acceptance of a place.

Table 4 Percent of applications resulting in acceptances

Domicile	2003	2004	2005
EU	57%	31%	38%
Home	35%	23%	21%
Other overseas	21%	20%	17%

This is in keeping with the usual experience of providers, as many international students offered places do not turn up for enrolment. It should also be remembered that many international students apply directly to the University without going through UCAS at all. Usually only foreign nationals in the country (having previously studied 'A' levels or Access courses) apply through UCAS, the rest are recruited directly by Universities often at 'Higher Education Fairs' or through private agents within the countries concerned.

It is in the Universities' interests to recruit foreign non-EU students to courses, as these do not count with the funding council and the University receives significantly higher funding for these students as already indicated.

7.1 Conclusions

Higher education provision is unevenly spread around England and the UK generally, making progression difficult for inhabitants in many regions, and involving learners in travelling considerable distances both for technician and graduate courses. In addition to the stress on learners and cost of travelling these distances, the negative impact is that individuals and employers may disregard professional qualifications completely if sourcing provision is difficult.

7.2 Recommendation

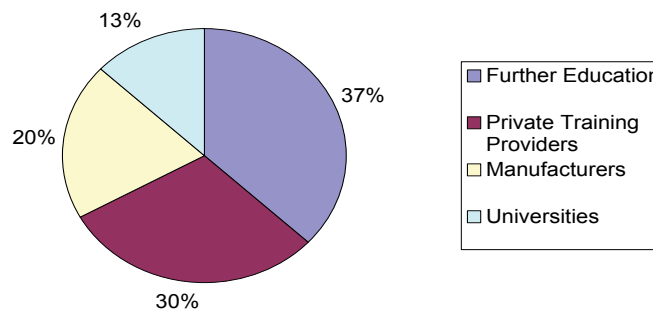
It is recommended that SummitSkills work with partners, stakeholders, employers and providers to develop a sustainable network of higher education provision to reduce the current disparity of training availability.

8 Scope of provider use in the South East

Since the Further and Higher Education Act (1992) in England and Wales, a significant numbers of private training providers have proliferated. A main source of training, as highlighted within the Sector Needs Analysis, has been the increased use of manufacturers training to meet the needs of advancing technology.

From Figure 8 below, it can be seen that the employers use a spread of provision around various providers. This diagram shows that the percentage of total use is very even indeed.

Figure 8 South East building services engineering sector employer use of training providers



The quotes below are indicative of the views of the interviewees within the diagram above:

Depends on the actual training provider... we found with our gas apprentices about three years ago that the colleges couldn't provide what we wanted or the classroom facilities were... there were a lot of older students in there... and we were sending 16 year old boys that didn't have any skills, but they were with older men that were... that had plumbing skills... and they were falling behind... so we needed to put our apprentices back into a client. (SELP02)

We use it for CORGI training. We go to independent trainers for that. The apprentices go through colleges; they go through the normal apprenticeship route. Occasionally we go and ask manufacturers to come and give us a training morning or in the case of under floor heating, we've sent guys down south, we also did the same for a boiler manufacturer where we sent them down to their training facility down in England... so yes we do... I would like anything like that, it wouldn't bother me where it was... if it's going to be beneficial to the guys and to us here then I would employ private or whatever. (SESET01)

Private providers only at present. (SELET02)

Yes we do... we use a private health and safety company to provide health and safety training. (SEMOCR01)

No we only use recognised universities... (SESBSEC01)

If it's the softer skills we will get somebody to come and it will usually be a private company. If it's technical then we usually go to a university or somewhere like... (SELBSEC01)

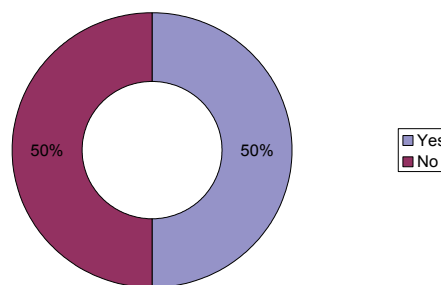
The data from Figure 8 suggests that the building services engineering sector uses a very sophisticated training approach, using a multiple range of providers to meet various training requirements. Although not specifically, generally the sector appears to be using providers in the following main but not exclusive ways:

- Further Education colleges remain the main focus for apprenticeship training.
- Private training providers, in addition to doing some apprenticeship training, seem to be gaining a niche market in delivering short courses in health and safety, abrasive wheels, based on the comments from the interviewed companies
- Manufacturers are being used extensively for update products training. This is particularly pertinent in areas such as solar paneling and ground source heat pumps, which are at the cutting edge of technology.
- Universities are used by consultants and by medium and larger firms to develop managers and professionals.

Manufacturer training is an interesting source of training as it is clearly focused around the installation of one product. However an interesting consequence of this is that it also develops significant general applicable skills, where the root technology is the same for multiple different products. This appears to create a situation where the sector is developing the skills for the future, with no real quality assurance taking place of this training and no real method of assessing this training against the QCA qualifications map and certifying it for a qualification or a part qualification.

As can be seen below from Figure 9, there is a significant percentage (50%) of craft companies interviewed who use manufacturer training (the figure does not include professional consultants within the footprint who do not use manufacturers for installation training). The figures suggest that the sector is increasing in its use of this type of training in the South East.

Figure 9 Percentage of companies interviewed in the South East building services engineering sector who use manufacturers for training purposes



The quotes below are indicative of the views of the interviewees within the diagram above:

No we're not big enough to bring manufacturers in but we do send our engineers on manufacturer's courses. (SEMHV02)

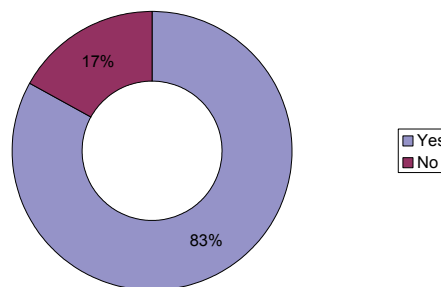
Yeah I mean we have been on lots of manufacturers' courses, not here, but you go to them basically. Yeah different vicinities, you know classrooms... and you know if it's a controls company they've got the controls set up and things like that... (SESBSEC01)

There is a real need for SummitSkills to work with partners and stakeholders to work with manufacturers to address quality assurance of provision and bringing it into the qualifications frameworks for quality assurance and credit accumulation against existing qualifications.

The Assessment of Current Provision criteria also required an assessment of the amount of in-house training going on within the South East. The interviews indicate that there is a considerable amount of in-house training being undertaken and this came as surprise. The type of training offered is interesting and varies from consultants being brought in to take a course for a group of staff, to mentoring of apprentices on site by older craft operatives. Given the well established apprenticeships associated with the sector, it is pleasing to see the old fashioned ideologies surrounding apprenticeships still in operation.

As with manufacturer training however, much of the training is lost for both quality assurance purposes and as a mechanism of assessing for credit against QCA approved qualifications.

Figure 10 Percentage of interviewed companies engaged in in-house training



The quotes below are indicative of the views of the interviewees within the diagram above:

Yes, yeah... we do a lot of in house training ourselves... yes... basically introduction to the gas industry type thing, anything, plumbing, safety issues health and safety, CSCS... (SESP01)

Yes we do toolbox talks ... a lot of our toolbox talks are health and safety... just refreshing people. You're just trying to get them to implement it which is what we do, you know, right the way across the board. You're just seeing it, you can gauge it you know... like we do health and safety audits on site. (SEMP02)

Really only safety issues, health and safety issues and stuff... grinding wheels regulations, steps regulations, ladder regulations and scaffolds... (SESET03)

It's more to do with health and safety... we've got our own IOSH accredited trainers. So we do a lot of the IOSH courses, the manual handling, that type of thing in house... (SELHV02)

We haven't done for a long time. We used to do our own in house supervisor's course, but we haven't seen... haven't done one of those for about 7 years now. In house training is sort of taking place at the moment as part of this integration. We've got to learn new systems, so that's all going on. (SESACR02)

We have done when the health and safety stuff kicked in a few years ago, course regulations came out and CDM came out. I have in 1994 on CDM regulations and the impact they were going to have. And we've also done various other things in house. Things like construction health and safety schemes. (SESBSEC01)

We're all encouraged to go to toolbox talks internally. Safety side of things ... that's what toolbox talks are all about. This particular site has its own or it's an IFF scheme, it's an injury free scheme, you probably saw the placards and all the directors of the companies buy into it and they've all gone on a course. And everyone on these has to go and be trained and I'm trained to present the course if you like, which is a three day training... and everyone who comes on the site has to go on the IFF course for training. So that's a bit of training.... (SESBSEC02)

We definitely do on site. It is something I'm... I've actually said to our apprentices and some of our engineers that we're going to start doing like an evening course in the workshop taking air conditioning units apart and rebuilding them and... (SEMBSEC01)

We do it on field and internally, but again we haven't really many youngsters. We've only got one youngster in the office as such. (SEMBSEC02)

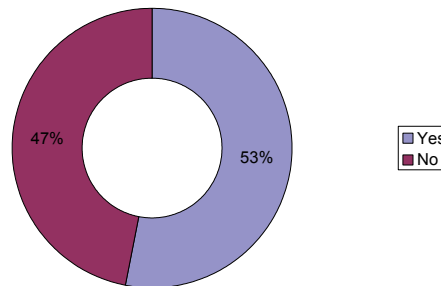
We do... we bring people in...on our estimating package, contract management package health and safety, risk assessment we're going to do in a couple of weeks' time... (SELBSEC01)

Yeah we do formal training, we have lunchtime seminars, we take advantage of evening sessions that some of the professional institutions offer, we bring in manufacturers who often give us training and then a lot of it's informal that we're doing study work here, maybe reading up on a new product, we've got a senior engineer sitting there with a younger person and teaching them into an area. (SELBSEC01)

As with manufacturer training, work needs to be done by SummitSkills, its partners and stakeholders to address the issues of relating this training to the qualifications frameworks and providing a mechanism for this training where possible to obtain some credit accumulation transfer.

In the context of the next question, individual training is employee-driven rather than employer-driven, in that it is undertaken by the employee of their own volition and often at their own expense. Under this measure too, the South East appears to be very buoyant, although some of this perception may relate to employer supported training precipitated by an employee. Figure 11 below indicates the current percentage of companies who claim to be aware of individual training being undertaken by their employees:

Figure 11 Percentage of companies interviews who are aware of individual training being undertaken by their employees



The quotes below are indicative of the views of the interviewees within the diagram above:

And they're paying for it themselves, yes we do. The lad... the two foreign lads, both of them I know they're doing it and they're paying for it. (SESP01)

We will be as part of our investors in people... (SESP02)

We've got two on the other side that have gone off and done CAD drawings, the company's paid for that... two of them wanted to do CAD drawings because we haven't got a CAD artiste... I mean we had an estimator here who could do CAD and we had a project with testing schools, they wanted wiring diagrams, schematics, so at the time we were farming them out to a CAD girl we used, we subcontract a CAD girl and he said what are you doing that for, I can do that... and sort of sat there and in five minutes, well that's what you're after isn't it? I said yes, so they decided that perhaps these two should go and have a go at it. (SELP01)

We tend to unofficially help out... some of our craftsman, perhaps haven't done or updated on their 16th edition, so unofficially we help them out, shall we say, with a payment to encourage them to do it, but its not an official company policy. (SELET01)

There was a lad here who did an HNC in building services engineering at night school. (SEMHV01)

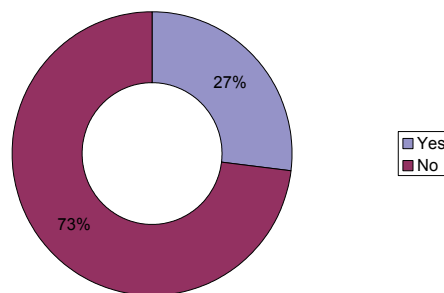
I think it's probably true that most of it I have instigated, to be honest ... we're actively putting all the salesmen and they are only men because we've never even had a woman apply, through the institute of sales and marketing management exams. And that's something I'm happy to push them through because they, sort of think why it is relevant for me. But it makes them a much more rounded and professional person. To me it doesn't really matter what you get as long as you get the right training to do the job. (SELHV02)

8.1 Who pays for training?

The Leitch (2006) review of skills puts emphasis for the payment of training above Level 2 standard more onto the shoulders of the employers. In the Sector Needs Analysis it was pointed out that the majority of employers within the sector saw Level 3 as being the standard for a fully trained craft operative.

As can be seen from Figure 12 below, within the South East there is considerable resistance by employers to paying more for their training, which is not surprising given the tight profit margins that the sector operates under¹⁰.

Figure 12 Percentage of companies willing to pay more for their training



The quotes below are indicative of the views of the interviewees within the diagram above:

Yes we're not happy, but yes we do pay for it... I think more and more we're looking at getting skills in house and delivering our own in house training... yes and also it's a case where we pay £300... for that we get one person if we deliver in house its an in-house cost as opposed to an external cost. (SESP01)

No I don't think we should have to... I think that somewhere along the line, as I said to you, they should either have adequate or the same as what I do for universities, let's be taxing the guy when they've finished, let's be having some of the money back off them, you know, when they've qualified. (SEMP02)

Oh that's a dumb question. Turkeys and Christmas spring to mind. No we would like to pay a whole lot less for the training which, I believe, is a national priority, that training is done, and if the nation accepts the principle that schooling should be free of charge then why shouldn't technical training be free of charge? All of we're doing is equipping people to make profit for the nation. I see it as an investment whereby the nation invests in people so they became better paid, pay more taxes and therefore put more money into the exchequer... all part of the you know, UK plc. (SESET02)

No we don't get anything from the State, so if I paid more, I would be contributing more to the training organisation's profit. If there was a way round of getting some state funding, and I'm also not being completely true, because if I did have somebody phoning up, from one of the training agencies, who had got some spare money, if you can tell us you've got somebody on NVQ we'll send you 500 pounds. Because I ask every year, can I have some help and they say no and then I get this call out of the blue, so I send them the invoice and I got 500 pounds back. (SEMET01)

¹⁰ See the Sector Needs Analysis

Totally unhappy about paying anything for training... It's just straight off the bottom line, but we know we have to... (SELET01)

I'd like to have it for free... that's at the top of the wish list... then I could train more people... but I'm happy that the end result I'm getting out of it is worth the money I'm putting in. (SEMACR02)

8.2 Conclusions

The building services engineering sector within the South East carries out a range of training with a variety of providers both public and private. A considerable amount of this training is needs driven and is not part of any qualification accreditation framework, and thus does not add to the sector's overall qualification base.

Regarding payment for training, employers will need some convincing to be prepared to pay further money for their training than they currently do.

The concerns about quality of provision and content of provision (see section on quality) may have something to do with this reluctance as well as the tight profit margins referred to earlier and in the Sector Needs Analysis.

8.3 Recommendations

SummitSkills needs to work with partners and stakeholders to bring in credit accumulation transfer¹¹ and quality assurance into manufacturers training and non-qualification private training provider courses delivered both externally and in-house.

In addition, SummitSkills proposes to work closely with the sector, partners and stakeholders to get the curriculum right so that employers can see the benefit and value in the training, which is not the case currently.

¹¹ For instance allowing a manufacturer course to provide credit towards a wider qualification

9 Expenditure on provision

Please refer to Appendix B for data relating to this section.

9.1 Introduction

The purpose of this section is to identify the costs of training provision that is being carried out within the building services engineering sector and seek to obtain an estimate of the value of employer contribution to that training. This section also estimates how much public money could be relocated towards the priority needs that were identified within the Sector Needs Analysis part of the Sector Skills Agreement.

Part one of this section looks at the costs of training provision to the public purse in the academic year 2004-2005. From this, the money spent nationally on what SummitSkills classes as non-economically valuable skills is identified.

The figures quoted therefore are and can only ever be **indicative** of the situation, as new courses are constantly added to the LSC LAD and providers make claims for recruitment, retention and achievement on courses.

Part two looks at employer spend on training; however this measure is impossible to calculate accurately and must be approximate. The increased use of manufacturer (although this is usually free) training and the use of consultants to deliver in-house training, as well as independent training, is difficult to quantify.

In addition, providers are free to set their own fee rates if desired and therefore it is difficult to get an exact figure for expenditure. For the purposes of this report, SummitSkills has generated approximate calculations based on the fees charged by one further education college. These figures again therefore can be seen as only being indicative of the total employer expenditure on training on approved courses.

The use of health and safety courses by the sector is impossible to quantify given the sheer numbers and general nature. Therefore for the purpose of this report, they are excluded.

9.2 Interpreting the information

Care must be exercised when interpreting this data, as data returns are two academic years behind, therefore non-economically valuable qualifications may have been replaced subsequently with economically valuable ones. Where possible this has been emphasised. These figures are approximate guides of the financial expenditure within further education on building services engineering sector provision. For example, NVQ qualifications that are now NEVS (because they have been superceded) that weren't in academic year 2004-2005 are identified, but it is assumed that the funding from them was transferred into 'economically valuable skills courses'.

9.3 Part one: public expenditure: further education funded provision

The data for this exercise is based on all-England and broken into industries within the building services engineering sector. Predominantly this data relates to direct funding received by Further Education colleges in England. The full data source for each industry is contained in Appendix B.

The total sector calculation of FE-funded spending is obtained by adding the total industry spends for each course which received funding in 2004-2005.

To calculate the totals spend for courses in 04/05, which under the Leitch (2006) NEVS criteria would be non-economically valuable, is obtained by adding together the NEVS identified provision spends for each industry.

As already stated, there is a potential issue with this approach, as there are a number of NVQs which in 2004-2005 would have been valid courses, but have now been superceded and therefore from a 2006-2007 position are NEVS. In this instance, almost certainly, funding would have been transferred to current NVQ courses.

SummitSkills assumes for this exercise that 100% of these NVQs, which would now be NEVS, have been transferred to appropriate current NVQs and therefore are treated as valid qualifications for this exercise.

9.3.1 Calculation of NEVS component of technical certificates

The primary assumption underpinning this calculation is that a technical certificate is an underpinning qualification for an NVQ, and is classified as a 'non-economically valuable skill (NEV) qualification' if delivered in a stand-alone mode externally to an NVQ. SummitSkills believes that the practice of offering technical certificates to non-industry employed learners both 16-19 and 20-59 has been prevalent for some time.

To determine the level of the potential problem, the percentage of FE-funded technical certificates not accompanied by an NVQ needs to be calculated.

This is achieved by adding the number of learners on the technical certificates together, and the number of learners on NVQ programmes. The percentage difference is then assumed to be the percentage of technical certificates not accompanied by an NVQ, and therefore classified as NEVS under the criteria proposed by SummitSkills.

The figure is obtained by taking the NEVS percentage spend from the total spend on technical certificates as stated by the data returns.

The final figure obtained therefore is indicative of the money that may be freed up to fund the extensive new curriculum needs identified in SummitSkills' Sector Needs Analysis.

9.3.2 Air conditioning and refrigeration

Full qualifications, codes and expenditure for academic year 2004-2005 can be obtained from Appendix B.

Table 5 Courses, numbers, and expenditure - ACR

Courses	Numbers	Expenditure
Level 2 Technical Certificates	670	£895,691
Level 2 NVQs	391	£565,777
Level 3 Technical Certificates	104	£191,966
Level 3 NVQs	77	£115,485
Other Relevant (including NEVS NVQ)	N/a	£105,612
Other NEVS	N/a	£38,035
Total		£1,912,566

Table 6 Possible savings assuming a year on year position similar to 2004-2005 - ACR

Provision	Possible Saving
279 Technical Certificate Level 2	£372,981
27 Technical Certificate Level 3	£49,837
Other NEVS	£38,035
Total	£460,853

9.3.3 Electrotechnical

The electrotechnical data available appears not be accurate. Further work between the LSC and SummitSkills will identify a clearer picture for the electrotechnical 2004-2005 data.

These figures should therefore be seen as being only indicative of the possible position, and are included for completeness.

Table 7 Courses and expenditure - electrotechnical

Courses	Expenditure
Technical Certificates	£1,302,546
Other Provision including NEVS	£505,125
Total	£1,807,671

Approximately 72% of the total value of FE-funded curriculum was expended on technical certificates in electrotechnical. SummitSkills believes that it is likely that as in the mechanical industries, significant amounts of this expenditure is delivered to non-employed learners, and therefore is not an economically valuable skill.

As in air conditioning and refrigeration and heating and ventilation, the total NEVS technical certificate component of FE funding is around 40%. If the same assumption is also made for the electrotechnical industry then the following may be postulated:

Table 8 Possible savings - electrotechnical

Courses	Expenditure
NEVS Electrotechnical Certificate + 0026735 + 0272142 Identified	£521,018.40
NEVS Provision	£63,900
Total Possible NEVS	£584,918.40

9.3.4 Heating and ventilation

Full qualifications, codes and expenditure for academic year 2004-2005 can be obtained from Appendix B.

Table 9 Courses, numbers and expenditure – H&V

Courses	Numbers	Expenditure
Level 2 Technical Certificates	593	£1,182,228
Level 2 NVQs	346	£539,320
Level 3 Technical Certificates	124	£166,829
Level 3 NVQs	72	£101,789
Energy Efficiency Courses	N/a	£377,894
Other	N/a	£65,396
Total		£2,433,456

Table 10 Possible savings assuming a year on year similar position

Provision	Saving
247 Technical Certificates Level 2	£492,429
52 Technical Certificates Level 3	£69,960
Total	£562,389

9.3.5 Plumbing

Full qualifications, codes and expenditure for academic year 2004-2005 can be obtained from Appendix B.

Table 11 Courses, numbers and expenditure - plumbing

Courses	Numbers	Expenditure
Level 2 Technical Certificates	12,973	£21,974,340
Level 2 NVQs	2,308	£3,239,694
Level 3 Technical Certificates	1,172	£2,375,390
Level 3 NVQs	885	£1,218,052
NEVS Provision		£1,770,681
Total		£30,578,157

Table 12 Possible savings a year on year similar position

Provision	Saving
10,665 Technical Certificates Level 2	£18,064,929
287 Technical Certificates Level 3	£581,687
Total Technical Certificates	£18,646,616
NEVS Provision	£1,770,681
Total	£20,417,297

9.3.6 Technician/professional

The total fund for technician qualifications is £1,409,057. There are no non-economically valuable qualifications recognised and no technical certificates.

9.3.7 Downstream gas

Full qualifications, codes and expenditure for academic year 2004-2005 can be obtained from Appendix B. There are no non-economically valuable qualifications or technical certificates for downstream gas. The total fund for gas qualifications is £149,415.

9.3.8 Total sum of fund for non-economically valuable qualifications - all industries within the sector

SummitSkills calculates the total sum of the fund for non-economically valuable skills for the whole of the building services engineering sector to be approximately £22 million.

9.3.9 Conclusions: public expenditure: further education funded provision

There is a potential for approximately £22 million of public funding, assuming a 'steady state' scenario, to be allocated to curriculum development to meet the needs of the sector.

9.3.10 Recommendations: further education funded provision

SummitSkills will work with regional and national partners and stakeholders to more effectively use funding to improve the sector's productivity performance and skills levels.

SummitSkills' Sector Needs Analysis has identified a number of areas related to productivity and emerging markets where the building services engineering sector is in need of new training development and curriculum. Specifically these have been identified as:

Environmental Technologies:

- Solar Panels
- Photovoltaic Panels
- Ground Source Heat Pumps
- Wind Generation

Scientific Management Techniques:

- Competitive Advantage
- Formalised Benchmarking
- Entrepreneurship
- Supply Chain Management

Funding for apprenticeships for adults is also needed for the sector. The Sector Needs Analysis showed that employers were expressing a desire to employ older workers in addition to 16-19 year old apprentices. Through funding apprenticeships for adults it will also provide an employed route into the sector for those seeking to join.

9.4 Non-employed status route into the building services engineering sector

The problem that this report seeks to address is the large number of non-employed part qualified people wanting to enter the sector and failing to find employment, or worse, operating on the peripheries of the sector as part qualified 'cowboy' craft operatives.

It is difficult to calculate how many individuals obtain employment from graduation on NEVS courses in the building services engineering sector, although this is not believed to be high. This data is probably only available from the providers themselves.

9.4.1 Recommendations

Effectively the proposals in this report prevent progression from NEVS courses into the sector. SummitSkills believes that progression is very low from these courses and proposes to work with partners, stakeholders and providers to assess more scientifically the actual progression from NEVS courses into the sector.

There is a wider issue of whether there should be progression routes into the sector for non-employed status individuals and what form these routes should take. SummitSkills will work with partners and stakeholders (particularly the sector's trade associations) to assess a suitable entry route, which prevents any return to the significant numbers of non-employed status learners that were put through technical certificate and NEVS courses in the year 2004-2005.

One possible solution that might be considered is using programme-led apprenticeships mapped against regional LMI on training requirements, to allow some planned and controlled non-employed status entrants into the sector.

SummitSkills however is still considering the broader merits of programme-led apprenticeships and currently has no official position on the issue.

9.5 Work-based learning public expenditure

This section looks at the public expenditure on work-based learning courses within the sector. Prior to the Learning and Skills Act (2001) and the creation of the LSC, these qualifications would have been funded through the Training and Enterprise Councils in England. The contractual framework appears to have stayed largely the same.

The format of this section will predominantly follow that of the FE-funded provision analysis. The curriculum data for work-based learning is found in Appendix B. Where curriculum is defined as 'not applicable', this means it was not used within a work-based learning full framework apprenticeship.

The full framework apprenticeship (theoretically) involves enrolment of the learners on a number of courses (technical certificate, NVQ), and a number of different NVQs within the work-based learning programme. Therefore SummitSkills has looked at the total number of learners on technical certificates and assumed this covers the totality of learners on the various NVQs, as the technical certificates form a core part of the full framework apprenticeship.

A significant number of the key electrotechnical courses are missing from the data provided, which means that no meaningful analysis can take place for the electrotechnical industry.

Because the amount that Government invests in apprenticeship work-based learning varies around the country and between trades, it is difficult to calculate figures exactly on an all-England basis. Therefore it has been decided to apply current HVACR rates across all the trades of £16k over four years, thus breaking the figure down to £4k per year per learner.

Table 13 Total spend on work-based learning

	Work-based learning
Air conditioning and refrigeration	£1,952,000
Electrotechnical	N/A*
Heating and ventilation	£5,596,000
Plumbing	£34,100,000

* No meaningful data is available at this time. Courses believed to be missing from the 2004-2005 data are contained in the table at the back of this report.

Downstream gas

None of the gas qualifications identified as ‘downstream’ come within the work-based learning apprenticeship framework of the SummitSkills footprint, although they may come within the Energy and Utility Skills footprint.

9.6 Employer expenditure on FE-funded training

As already stated, it is impossible to get an exact figure for the amount of money employers spend on training as there are so many variables. A true expense on training should probably include lost productivity, if the training takes place in work time, travel expenses and wages paid while training takes place - this is considered further in this report. In addition there is a significant amount of in-house training with consultants on non-qualifications issues.

The increase of manufacturer training (identified within the SNA) is another almost unquantifiable factor.

The sector also uses mentoring and on-the-job learning for apprentices with mature fully trained craft operatives. Whilst the cost of this training in relation to lost productivity cannot be truly measured, this report contains a developing model to obtain an indicative cost.

What can be measured is the amount of training paid for by employers to providers. Even here though, there are difficulties as there is no standard rate for a course within the country. FE colleges and other providers are entitled to charge what they think that the market will bear.

It is clearly impractical (if not impossible) to work out from national figures which learners belong to which providers so the correct rate can be applied. Therefore for practical purposes, SummitSkills has used data from one Further Education college to work out a general indicative figure for provision that was funded in part by the employers.

A general rule of thumb is that provision identified by LSC as part time will incorporate some employer support, subject to the caveat below.

An argument might be that some of this funding is self-funded by learners, particularly those wishing to join the sector. For this report it is assumed that this phenomenon is located within the non-economically valuable standard curriculum. It is probably the case with full-time technical certificates and also that some part time technical certificates will be self-funded.

Learners that are unemployed and in receipt of benefit are not required to pay fees if they are studying part time. There is no mechanism other than individual provider records to identify this group.

The tables within Appendix B should be treated as only indicative of the building services engineering sector company investment in training. The total figure for each course is obtained by multiplying the numbers of learners on programme by the individual programme rate, to achieve the overall course expenditure by employers and individuals, and adding them together to get the total sum of expenditure.

Table 14 Total sum of expenditure

	Air Conditioning and Refrigeration	Heating and Ventilation	Plumbing	Electro-technical	Technician	Gas
Total spend on courses	£620,534	£774,135	£4,993,141.00	£646,268	£219,840	£297,000
Personal spend on technical certificates	£57,572.88*	£91,854 ***	£2,699,708.80****	£344,866	£0	£0
Total employer spend	£562,961.12	£682,281	£2,231,932.20	£301,462 ¹²	£219,840	£297,000
DIY Plumbing Courses			£61,500			

* 618 part time enrollments on Technical Certificates, 103 enrolments on NVQ programmes. 83% of enrolments on Technical Certificates are not accompanied by an NVQ therefore we estimate that £57,572.88 is spent by employers on technical Certificates

** Personal Spend on Technical Certificates assume 60% of part time Technical Certificates and 100% Essential Electrics Courses £540510 X 60% = £324,306 + £20,500= £344,866

*** 486 part time tech certificates and 320 NVQ enrolments so 35% of Technical Certificates were not accompanied by an NVQ part time.

**** 7,354 part time enrolments on technical certificates and 2,381 NVQ enrolments. So 68% of technical certificate enrolments did not accompany an NVQ.

9.7 Conclusions

Although the data is only indicative in nature, it suggests a significant amount of expenditure taking place both by individuals and employers (although in relation to employers, a significant amount of data cannot be collected).

¹² This figure is extremely indicative and readers may wish to consider their thoughts on the percentage for electrotechnical and adjust accordingly. The lack of a definable NVQ makes this difficult.

However, in comparison with the total spend on the curriculum for the sector, the amount that employers are spending is not a significant amount of the total percentage of expenditure (indirect costs are considered later).

SummitSkills believes that considerable amounts of personal money are being spent on courses that SummitSkills would not consider to be economically valuable. There is also a substantial amount of public expenditure on this type of curriculum within the sector, particularly within the plumbing industry.

The re-distribution of money away from the identified courses in the order of £22,025,457 (at 2004-2005 prices) will have an impact on providers in adjusting to the changes in curricula. Because SummitSkills was unable to obtain any local or regional data, it is difficult to assess the likely impact on any particular region or sub-region. It is likely to require restructuring of current provision.

9.8 Recommendations

SummitSkills recommends working with partners and stakeholders to identify regional and local impacts of the proposals within this report.

Current Government policy and Leitch (2006) recommendations indicate that employers will be required to pay more in course fees, with the role of the state diminishing at Level 3 and above. SummitSkills proposes to work with partners and stakeholders to reinforce this message. Although, as is shown in the next section, sending employees on courses incurs significant costs for employers.

10 Expenditure on provision 2: employer spend on apprentice training¹³

Please refer to Appendix C for data relating to this section.

10.1 Introduction

This section builds on the work detailed in the previous section. It will, in relation to employer spend on provision, look at the cost of funding an apprentice/operative through a year's training with a provider. It builds on the model that is presented in relation to in-house training, and therefore is subject to the same caveats that are contained within that section. The model will need further refinement and must be considered as work in progress currently and only indicative at this time.

Technician labour rates are not available and tend to be determined by the consultants for whom they work, although there are some rates provided in JIB agreements for those working as technicians for contractors. Further work is required on the model to take account of technicians. Also, the learner numbers are actually 'on programme' numbers and therefore the risk that some double counting where a learner is on more than one programme cannot be discounted. Work will be needed in future revisions of the model to take this phenomenon into account.

More accurate calculations could be reached if data could be provided on the actual number of learners, rather than learner outcomes per programme.

10.2 Apprentice labour rates

Apprentice labour rates are calculated slightly differently by each trade, although reconciliation can be achieved. For this model it is assumed that all apprentices in electrical have their own transport. In plumbing the '07 rate will be used. For heating, ventilation, air conditioning and refrigeration, the average will include all the grades specified in the HVCA agreement shown below.

The calculation will be based on a forty hour week and eight hour day to bring it into line with qualified operative working (see below). It is accepted that this probably too high, but can be adjusted in later versions and updates of the model.

Average labour rates are calculated by adding the total number of wage rates together and dividing this by the number of grades.

¹³ This excludes fees

Electrical

From and including the 08 January 2007 the hourly rate for job-employed apprentices will be:

Table 15 Electrical wage rates

Grade	Transport Provided	Own Transport
Stage 1	£3.81	£4.46
Stage 2	£5.62	£6.28
Stage 3	£8.13	£8.81
Stage 4	£8.61	£9.29

Average labour rate: £7.21

Plumbing

Table 16 Plumbing wage rates

Apprentice Plumbers and Fitters	Rate Per Hour 30/05/05	Rate Per Hour 5/06/06	Rate Per Hour 4/06/07
1 st Year Apprentice	£2.75	£2.84	£2.94
2 nd Year Apprentice	£4.05	£4.25	£4.40
3 rd Year Apprentice	£4.94	£5.14	£5.32
4 th Year Apprentice	£6.38	£6.64	£6.87

Average labour rate: £4.88¹⁴

Heating, Ventilation, Air Conditioning and Refrigeration (HVACR)

Table 17 Heating, ventilation, air conditioning and refrigeration wage rates

	2006	2007
4th year of training with NVQ Level 3*	£9.30	£9.63
4th year of training with NVQ Level 2*	£8.41	£8.70
4th year of training	£7.41	£7.67
3rd year of training with NVQ Level 2*	£7.33	£7.59
3rd year of training	£6.02	£6.23
2nd year of training	£5.34	£5.52
1st year of training	£5.22	£5.40

Average labour rate: £7.25

10.3 Qualified operative average rates¹⁵

Electrician: £10.60 average hourly rate x 8 = £84.80 per day.

Plumber: £10.88 average hourly rate x 8 = £87.04 per day

HVACR: £10.11 average hourly rate x 8 = £80.89 per day

¹⁴ The figures for apprentice plumbers look suspiciously low when compared with those of the other industries, and will need further clarification with APHC when the model is refreshed and refined.

¹⁵ These are taken from the in-house training model; see that section of this report for details.

10.4 Work-based learning (apprenticeship) numbers

The numbers for this section are taken from the Experian/Hammond LMI on the estimated number of new entrants required per year.

Table 18 Work-based learning industry figures

Work-based Learning Industry Area	Experian/Hammond – number required per year in England
Air Conditioning and Refrigeration	853
Electrotechnical	8130
Heating and Ventilation	1599
Plumbing	8130

10.5 Cost to employer of apprentices' time on provider courses

The assumptions underpinning these calculations are that there are no direct costs for training such as course fees. Secondly a further assumption is that the course is day-release and adds up to twenty-nine days' attendance at the provider. This would give the following costs to the employers. The labour rate per hour is multiplied by eight hours to get a labour day, and then multiplied by 29 as being the number of weeks of day release attendance.

Table 19 Employer costs for apprentices on provider courses

Air conditioning and refrigeration	$853 \times £58 \times 29 = £1,434,746$
Electrotechnical	$8130 \times £57.68 \times 29 = £1,359,921.30$
Heating and Ventilation	$1599 \times £58 \times 29 = £ 2,689,518$
Plumbing	$2878 \times £39.04 \times 29 = £3,258,356$
Total	£8,742,541

10.6 Cost to employer of FE-funded provision (fees)

The figures for this sub-section are taken from the LSC data for part-time attendances at an FE provider. This figure does not include any full-time work status employees on block release courses, who while employed are counted as full-time students because of their guided learning hours. Further work needs to be done to assess the percentage of learners that fall within this category.

A further assumption for this work is that employed status learners are not on technical certificates (although clearly some of them will be), but NVQ and industry type not economically valuable skills, excluding the more obvious DIY type plumbing courses. It is assumed that this assumption will make the best fit possible.

The tables relating this data on individual courses by industry are contained in Appendix C. Electrotechnical courses are only an indicative example of how the model works due to data issues and will need refinement. For this reason, costs are calculated by technical certificate.

Learners under 25 on NVQ programmes are assumed to be apprentices.

Table 20 Cost of FE programmes to employers

Cost of Employer Funded Provision on FE Programmes	
Air Conditioning and Refrigeration	£1,421,528.30
Electrotechnical	£3,217,921.20
Heating and Ventilation	£7,702,165.90
Plumbing	£4,481,534.70
Gas	£3,247,518.50 ¹⁶

10.7 Conclusions

Although it is readily conceded that the current model is in need of much refinement, the indicative figures suggest that the sector is absorbing a significant amount of costs in support of operatives obtaining formal qualifications from providers, in addition to course fees.

10.8 Recommendations

SummitSkills will work with the sector’s trade associations to refine and rework this model. Where possible more accurate assumptions will be developed to improve the model before use by Government agencies, trade associations or the sector generally.

SummitSkills welcomes comments from partners and stakeholders on how improvements to the model may be achieved.

¹⁶ This figure is an average of the figure for plumbers and heating and ventilation engineers, both of whom would be likely to access courses on gas.

11 Mentoring: an analysis of cost in England

Please refer to Appendix D for data relating to this section.

11.1 Introduction

A tradition in the building services engineering sector is the on-the-job training that apprentices get from more experienced craft operatives. Indeed the whole concept of an apprentice is that they are apprenticed to a master craftsman from whom they learn their trade.

In the ancient trade guilds the designation of master craftsman (awarded after the production of an assessed test piece) by a lodge carried with it the right to have apprentices articulated to them, and was thus a financial honour as well as a recognition of skill.

The family nature of many businesses within the building services engineering sector means that skills and businesses are passed from father to son (and now daughter) so that mentoring still plays a significant role in the training of apprentices.

A craftsman instructing an apprentice during the working day is not thereby as productive as if no supervision were taking place. Therefore there is a training cost associated with apprenticeships.

This section of the report explores a guideline formula for assessing an indicative cost for this valuable type of training. This must be seen as work in progress and SummitSkills would like to work with trade associations and other interested parties to refine the model, or indeed replace it with a more appropriate model as the case may be.

11.2 Calculating mentoring: all England

The underlining assumption from this research is that all employees on NVQ courses are either employed status adult workers or apprentices, and that as a result they are in receipt of mentoring in the course of their employment.

The second assumption is that mentoring is only carried out by those operatives that are at craft level or above. From this an average rate can be developed from wage rates.

Finally it is assumed that an apprentice receives on average four hours equivalent mentoring time per week while on site. It is likely that some will receive more, some considerably less, as they develop. This key assumption is one that will probably require further discussion with trade association and industry colleagues.

11.3 Air Conditioning and Refrigeration

Table 21 Calculation of the cost of mentoring - ACR

Total Funded NVQ Courses	Total Work-based Learning Courses	Total Cost
466*	776	£2,997,492**

*The courses in table 93 situated in Appendix D represent the further education funded NVQ courses for the air condition and refrigeration courses, provided on the data from LSC.

**The labour rates below indicate the hourly labour rates within the air conditioning and refrigeration industry for operatives who may be engaged in mentoring. Using 2007 Rate: Average Rate= £12.57 x 4 = £50. 28 per Week Assume 48 Week Year £50.28 x 48= £2,413.44 per year per apprentice Total Cost = £2,413.44 x 1242= £2,997,492.

11.4 Electrotechnical

Because of quality of electrotechnical data currently available it is not possible to develop figures for this industry.

11.5 Heating and Ventilation

Table 22 Calculation of the cost of mentoring – H&V

Total Funded NVQ Courses	Total Work-based Learning Courses	Total Cost
436	1463	£4,583,122**

** The labour rates below indicate the hourly labour rates within the heating and ventilation industry for operatives who may be engaged in mentoring. Average Rate= £12.57 x 4 = £50. 28 per Week Assume 48 Week Year £50.28 x 48= £2,413.44 per year per apprentice Total Cost = £2,413.44 x 1899= £4,583,122.56

11.6 Plumbing

The data situated in Appendix D indicates the number of learners on further education funded NVQ plumbing courses.

Table 23 Calculation of the cost of mentoring - plumbing

Total Funded NVQ Courses	Total Work-based Learning Courses	Total Cost
3193	11,999	£33,514,767*

*The labour rates below indicate the hourly labour rates within the plumbing industry for operatives who may be engaged in mentoring. Average Rate= £11.49 x 4 = £45.96 per Week Assume 48 Week Year £45.96 x 48= £2206.08 per year per apprentice Total Cost = £2206.08 x 15192= £33,514,767

11.7 Conclusion

The data suggests that the sector spends a considerable amount of money on mentoring training in the traditional way. More work may need to be done to refine this model to derive more accurate figures, but SummitSkills believes that these figures are indicative of the actual spend on mentoring by industries within the building services engineering sector.

11.8 Recommendations

SummitSkills recommends that work to refine and improve this model takes place with partners and stakeholders, in particular the relevant trade associations for the sector.

12 Calculation of in-house training spend in the South East

12.1 Introduction

The guidance for the Sector Skills Agreement requires SSCs to calculate the cost of the amount of training that is taking place within the UK, including the in-house costs. However, this is fraught with unknowns and difficulties. The true cost of training to an employer is not simply the cost of the course, but must include the cost of wages for the employee while on the course and lost productivity for the duration of the course.

Should this be charged at the daily wage or the day work rate for the operative? The day work rate would give a higher figure, but might overestimate the productivity made by the operative. There is then the question (more importantly) of how do you measure the amount of training across the whole of the sector that takes in every company of every size? Plainly this is not possible. Therefore any figure produced can only be indicative of spend and cannot accurately calculate actual spend.

The data for the South East suggests that 83% of the interviewee companies used in-house training as a method of obtaining their training, and 50% used manufacturer training. The figure of 83% might be challenged by some on the grounds that the majority of companies within the sector are small to micro and therefore less likely to engage in in-house training. An analysis of the small companies in the research did show that only 63% of small companies did engage in in-house training. The sample size is probably too low to state that this is an accurate guide; therefore it is readily conceded that actually engagement in in-house training could be lower among small and micro companies.

Secondly, given the low productivity rates, it was felt that a more accurate figure (within the confines described) could be achieved by the utilisation of the JIB wage rates rather than 'day work' rates, as day work rates are on the high side, and are usually higher than the 'bill of quantities' rates on a job per job basis.

In-house training rates for work carried out by consultants varies in cost, therefore it is only possible to give a general rate. For the purposes of this exercise, SummitSkills has assumed a rate of £500 per day. Because the exercise is based on the number of employees, rather than the number of companies (because either way one has to make an assumption of employees within each company, which appears to be even more problematic), it is assumed that one consultant day is averaged between five employees.

Another major issue with this model at the current time is an allowance for agency staff. This form of labour recruitment is a growing factor in the sector, with agency workers filling in for employed status staff. A future refinement of this model will need to get more accurate data on this area, as these workers are unlikely to engage in any form of training and it would be unlikely that employers would pay an agency rate for a day for an operative to attend in-house training, unless very special circumstances warranted it.

The figure is also based on every employee receiving two days' training per year. In some cases this will be too low, in others, it will be too high. Without asking every company within the sector directly, it is impossible to get the accurate picture, although this model will be able to be further refined by subsequent primary data collection in the field.

This model must be viewed as work in progress as there is considerable further work required. That said it does give an indicative figure for working with at the current time.

12.2 Labour rates

Electrical Wages 2007

From 08 January 2007 the JIB hourly rates for job employed operatives shall be:

Table 24 JIB hourly rates

Grade	Transport Provided	Own Provided
Technician (or equivalent specialist grade)	£13.48	£14.16
Approved Electrician (or equivalent specialist grade)	£11.90	£12.58
Electrician (or equivalent specialist grade)	£10.91	£11.60
Electrical Improver	£9.82	£10.44
Labourer	£8.66	£9.30
Senior graded Electrical Trainee	£9.82	£10.44
Adult Trainee	£8.66	£9.30
Adult Trainee (under 21)	£6.50	£6.98

To calculate the average labour rate for electrotechnical using own transport provided rate, the sum of all the grades is divided by the total number of grades thus the electrical rate is calculated to be: **£10.60**¹⁷

Plumbing JIB Wage Rates and Allowances

Table 25 Plumbing Rates from 04 June 2007

Operative Plumbers & Gas Service Operatives	Rate Per Hour
Plumber and Gas Service Fitter	£10.14
Advanced Plumber and Gas Service Engineer	£11.55
Technician Plumber and Gas Service Technician	£12.79
Plumbing Labourer	£9.04

To calculate the average labour rate for plumbing, the sum of all the grades is divided by the number of grades, thus the plumbing rate is calculated to be: **£10.88**

Heating, Ventilating, Air Conditioning, Piping, and Domestic Engineering Industry Rates of Pay

Table 26 Heating, ventilating, air conditioning hourly rates of wages

	Hourly Rates of Wages		
	2006	2007	2008
Foreman (Pipe fitter)	£13.66	£14.14	£14.71
Foreman (Ductwork Erector)	£12.64	£13.13	£13.66
Charge hand	£12.33	£12.65	£13.16
Advanced Fitter	£12.09	£12.17	£12.66
Fitter	£11.25	£11.69	£12.16
Installer	£10.66	£11.69	£12.16
Improver	£9.97	£11.21	£11.66
Assistant	£9.05	£10.73	£11.16
Adult Trainee	£9.05	£9.72	£10.11
Mate over 18	£9.05	£8.19	£8.52
Mate 16-17	£7.91	£8.19	£8.52
Mate U17	£3.67	£3.80	£3.95

¹⁷ It should be noted that this average rate does not currently take into account the number of apprentices in the industry working as each grade and this data can be filtered in to further refine this model in further reissues.

To calculate the average labour rate for HVACR the sum of all grades is divided by the total number of grades: thus the HVACR rate is calculated to be: **£10.11**

12.3 Calculation of wage rates

To simplify the calculation at this point, an average hourly wage rate is used across all grades and to assume a standard eight hour day.

It is accepted that this assumption can be challenged and a future more sophisticated model might be able to calculate costs more accurately. For example it might be proved that most in-house training is given to senior operatives, although further primary data research is needed to address this.

Calculated wage rates therefore are as follows:

Table 27 Calculated wage rates

Electrician	£84.80 per day
Plumber	£87.04 per day
Heating and Ventilation and Air Conditioning and Refrigeration	£80.89 per day

12.4 Employees in building services engineering sector in the South East

The table below indicates the number of employees currently employed within each of the industries within the UK and the South East

Table 28 UK employment average annual requirement

UK employment	2006	2010	Average Annual Requirement 2006-2010
Electrotechnical	196,400	216,240	8130
Plumbers (including Gas)	82,323	90,617	2878
Heating and Ventilation	45,735	50,343	1599
Air Conditioning and Refrigeration	24,392	26,850	853
South East	2006	2010	2006-2010¹⁸
Electrotechnical	24,940	28,490	1,030
Plumbers (including Gas)	12,150	13,991	383
Heating and Ventilation	6750	7773	213
Air Conditioning and Refrigeration.	3600	4146	114

Source: Experian/ Hammond (2006) Amended

Given the figures above it is assumed that the following numbers of operatives were working in the South East at this time:

Table 29 Number of operatives working in the South East

Electrotechnical	25,970
Plumbers	12,533
Heating and Ventilation Engineers	6963
Air Conditioning and Refrigeration	3714

¹⁸ The average annual requirements for new entrants to use industries are calculated making allowances for retirement and natural wastages and potential productivity improvements.

12.5 Consultant rates per five operatives¹⁹

Table 30 Consultant rates per five operatives

Industry	Calculation	Consultant Rate per five operatives
Electrotechnical	$25,970/5=5194 \times 500=$	£2,597,000
Plumbers	$12,533/5=2507 \times 500=$	£1,253,500
Heating and Ventilation Engineers	$6963/5= 1393 \times 500=$	£696,500
Air Conditioning and Refrigeration	$3714/5=743 \times 500=$	£371,500
Total	$£4,918,500 \times 83%=$	£4,082,355

12.6 Cost of employee attendance on courses for two days per year

Table 31 Cost of employee attendance on courses

Industry	Calculation	Cost of employee attendance on courses
Electrotechnical	$25,970 \times 84.80 \times 2=$	£4,404,512
Plumbers	$12,533 \times 87.04 \times 2=$	£2,181,745
Heating and Ventilation Engineers	$6963 \times 80.89 \times 2$	£1,126,474
Air Conditioning and Refrigeration	$3714 \times 80.89 \times 2$	£600,850.92
Total	$£8,313,314.60 \times 83%=$	£ 6,900,051

12.7 Total model cost of in-house training for the building services engineering sector for South East

£4,082,355 (total cost of consultant training) + £6,900,051.10 (cost of employees to attend courses) = **£10,982,406**

12.8 Conclusions

This model remains work in progress and is in need of significant further work. Therefore it should not be taken as being anything other than a tentative figure, but useful nevertheless as a guide. SummitSkills proposes to work with the sector's trade associations to further improve and refine the model.

12.9 Recommendation

SummitSkills proposes to work with the sector's trade associations to refine, improve, or replace the current SummitSkills model to make it more accurately reflect the sector.

¹⁹ See introduction, it is assumed one consultant day for every five operatives

13 Diversity and social utility

Please refer to Appendix E for data relating to this section.

13.1 Introduction

In the Sector Needs Analysis of the Sector Skills Agreement it was noted that although the companies interviewed employed far more women and people from ethnic minorities than national Labour Force Survey statistics suggested, there was still a significant and enduring gap. Looking at the data for the academic year 2004-2005, SummitSkills first looks at this situation regarding the diversity of the workforce coming through in training, to identify whether there has been any radical alteration in the numbers of women and ethnic minorities coming through the system that would impact on the diversity situation favorably or otherwise.

Secondly, SummitSkills has sought to respond to the Leitch report by analysing the provision currently offered (within the limits of the data returns) to identify which curriculum is of economic value and would support the creation of a fully skilled and experienced workforce, and which curriculum would not.

Within the Leitch report there is an implication that some curriculum due to its social utility²⁰ would be exempt from this exercise, particularly in the area of adult learning/basic skills where social utility and social justice would demand its retention.

Leitch does not define what social utility measure will be used to identify curriculum. SummitSkills assumes that this will be for curriculum that meets a social utility need through increasing opportunities for entry to work in sectors for gender and ethnic groups currently underrepresented in those sectors of the economy, and thus improving diversity.

Where curriculum has been identified as non-economically valuable, and in addition is failing to raise engagement with underrepresented groups and improve diversity, SummitSkills argues that these should not be exempt from removal.

SummitSkills will therefore look at the curriculum from both these two different but similar perspectives within this section. This exercise will be carried out both by gender and ethnic origin where the data is robust enough. As throughout this report, the data analysed is that related to 2004-2005.

Gender and ethnic minority attendance on courses are broken down into three types of provision: FE-funded, technical certificates and work-based learning. Please reference the glossary of terms at the beginning of this report for a detailed description of these types of provision if required.

13.2 Gender

The percentages within this section are based on the total returns for males and females. Learners are traditionally placed on a number of courses as part of their individual learning programmes. Because these can vary significantly, particularly within the Further Education section, calculating the exact number of learners, rather than the total number of learning outcomes (e.g. qualification/course completions) is very difficult.

²⁰ This is the author's terminology, but is in keeping with the thrust of what Leitch says.

The data however is probably indicative of the actual percentages of the actual number of learners within each sex. The data is separated by industry trade area and then by technical certificate (in relation to FE funding) for all the trades except plumbing, where this is further broken down by NEV courses as well as technical certificates. Technicians and gas have no technical certificates and therefore are single graphs.

As in other sections within this SSA, the data is aggregated for FE and work-based learning separately. This will show where female learners are congregated in relation to the sector.

13.3.1 Air conditioning and refrigeration

The table below details the percentage breakdown of males and females on air conditioning and refrigeration courses:

Table 32 Air Conditioning and Refrigeration Gender Profile

	Male	Female
FE Funded	99%	1%
Technical certificates	99%	1%
Work-based learning	100%	0%

If the argument is accepted that technical certificates are being used within the provider network for non-employed status people, then the figures suggest that the technical certificate is not encouraging entry into the sector.

13.3.2 Electrotechnical

The table below details the percentage breakdown of males and females on electrotechnical courses:

Table 33 Electrotechnical Gender Profile

	Male	Female
FE Funded	98%	2%
Technical certificates	98%	2%
Work-based learning	N/A	N/A

There is no meaningful data for electrotechnical courses funded through work-based learning.

13.3.3 Heating and ventilation

The table below details the percentage breakdown of males and females on heating and ventilation courses:

Table 34 Heating and Ventilation Gender Profile

	Male	Female
FE Funded	99%	1%
Technical certificates	98%	2%
Work-based learning	99%	1%

The large expenditure on technical certificates in this area (from the expenditure on public provision section of this report, it can has been calculated that 42% of people undertaking a technical certificate are not mapped onto an NVQ programme), may explain the 1% increase in female participation in this area. However the benefit gained from this very small percentage increase considering the expenditure is questionable.

13.3.4 Plumbing

The table below details the percentage breakdown of males and females on plumbing courses:

Table 35 Plumbing Gender Profile

	Male	Female
FE Funded	97%	3%
NEVS	97%	3%
Technical certificates**	97%	3%
Work-based learning	99%	1%

The NEVS row in table 35 above shows the percentage of males/females on courses that SummitSkills has defined as non-economically valuable skills. The percentages exclude the NVQ courses defined as non-economically valuable (as these are deemed to have been updated, and thus were economically valuable at that time) and technical certificates, which are dealt with elsewhere.

Table 35 also shows the breakdown for technical certificates, where the majority of learners may be deemed to be on non-economically valuable curriculum because the technical certificate is being delivered stand alone part or full time without an NVQ. The figure shows that the number of female learners on further education funded technical certificates in plumbing is 3%.

13.3.5 Technicians

The table below details the percentage breakdown of males and females on technicians' courses:

Table 36 Technicians Gender Profile

	Male	Female
FE Funded	93%	7%
Work-based learning	99%	2%

The table above shows the percentage of males/females in FE-funded technician courses. The majority if not the totality of these learners are probably in full time employment within the sector in a junior capacity, either working for consultants or as estimators or quantity surveyors for medium to large contractors.

The percentage of 7% women confirms what was discovered in the primary data collection for the SNA, which is the technician and professional industry within the sector employs significantly more women than the craft industries.

13.3.6 Gas

The table below details the percentage breakdown of males and females on gas courses:

Table 37 Gas Gender Profile

	Male	Female
FE Funded	100%	0%

13.3.7 Conclusions: Gender

Air conditioning & refrigeration

The data suggests that the air conditioning and refrigeration industry courses have only a very minimal impact on gender diversity. This report suggests that over 40% of technical certificates within the industry being operated in further education cannot be matched against an NVQ and are therefore classed as non-economically valuable skills. The evidence here suggests that no diversity or social utility is being obtained in relation to women in relation to the continued funding of technical certificates in the stand alone full or part time mode.

Electrotechnical

As with air conditioning and refrigeration, the positive impact on diversity and social utility in relation to women appears to be negligible.

H&V

The data suggests that whilst a higher percentage of women may be accessing stand-alone part time and full time technical certificates within the heating and ventilation industry, in actuality this is only a small percentage (1% or less) of the total figure. This leads SummitSkills to presume that the benefit of the part time and full time stand-alone technical certificates is open to question as it is a non-economically valuable qualification when not delivered with a work-based NVQ.

Plumbing

The data for plumbing suggests that despite a massive expenditure on a number of sub-Level 2 qualifications (which have traditionally been targeted at females returning to work) there has been no real increase in female participation. Indeed in work-based learning, plumbing at 1% is at the same level of participation despite the investment as the rest of the industries within the sector. In further education at 3% there is slightly higher engagement than the other craft industries, but it is argued that this is negligible.

SummitSkills believes that based on this data there is no justifiable reason under the Leitch criteria for funding to continue for the courses identified as being non-economically valuable by SummitSkills on the grounds that they are improving gender diversity, as they are not.

Technicians

Although the percentage of women in work-based learning is lower than further education, it is argued that this is not relevant as many of the National Certificate learners will be employed. This data triangulates the primary data in the SNA which identified that the largest percentage of women in the sector worked as technicians/professionals.

Gas

There are no gas courses offered through the SummitSkills footprint and it is probable that all the gas courses that were offered as downstream gas were offered part time to employed status workers seeking up-skilling. As most of these people would be plumbers, heating and ventilation engineers and air conditioning and refrigeration engineers, it is suggested that these figures are in keeping with the figures within those trade areas above.

13.3.8 Recommendations: Gender

Air conditioning, electrotechnical, H&V, plumbing

SummitSkills, partners and stakeholders should continue to work together to encourage women to engage in learning opportunities within the sector. As NEVS courses add no social utility in relation to gender, they should not be considered exempt under the Leitch (2006) criteria.

Apprenticeships for adults funding should be considered as a route to assist employers in recruiting women seeking to join the sector. Data from the SummitSkills SNA suggests that women are more likely to seek entry to the sector in later life as adults and are thus not able to access funding for apprentice training under current funding systems. Funds in this area are likely to be more beneficial in increasing diversity than spend on current stand-alone technical certificate and other NEVS curriculum.

Technicians and gas

SummitSkills will continue to work with partners and stakeholders to increase the engagement of women in technician and gas curriculum.

13.4 Ethnic minority engagement in the building services engineering sector

The percentages here relate to the total number of enrolments against courses and not the number of learners, as it is assumed that learners will have been enrolled on a number of courses, which are caught by this data. Tabular information upon which this data is based is contained Appendix E.

13.4.1 Air conditioning and refrigeration

The table below details the ethnic mix breakdown of learners on FE-funded, technical certificates and work-based learning provision:

Table 38 Air Conditioning and Refrigeration Ethnic Profile

	White	Asian	Black	Chinese	Mixed	Other	Not Provided
FE Funded	78%	5%	7%	0%	3%	5%	2%
Tech certs	76%	6%	8%	0%	3%	5%	2%
Work-based learning	97%	1%	1%	0%	1%	0%	0%

As can be seen from the table above, between 76-78% of all air conditioning and refrigeration enrolments in FE-funded and technical certificate provision are learners with a white ethnic origin. The data suggests that the percentage of ethnic minorities seeking to enter the sector through technical certificates has not substantially increased (1% at most) from FE-funded.

Overall the engagement in FE-funded programmes and technical certificates by ethnic minority groups is significantly larger than those on work-based learning programmes.

13.4.2 Electrotechnical

The table below details the ethnic mix breakdown of learners on FE-funded and technical certificate provision:

Table 39 Electrotechnical Ethnic Profile

	White	Asian	Black	Chinese	Mixed	Other	Not Provided
FE Funded	88%	4%	3%	0%	1%	1%	3%
Tech Certs	93%	3%	2%	0%	0%	1%	2%
Work-based learning	N/A	N/A	N/A	N/A	N/A	N/A	N/A ²¹

The electrotechnical data suggests that the industry is dominated by learners from a white ethnic background. This situation would, contrary to expectations, appear to be

²¹ No meaningful data is currently available

worse on technical certificate courses. This suggests that technical certificates are not a route that ethnic minority groups are using to get into the industry. It is presumed that white males are possibly using technical certificates on a full or part time basis to gain entry to the sector.

13.4.3 Heating and ventilation

The table below details the ethnic mix breakdown of learners on FE-funded, technical certificates and work-based learning provision:

Table 40 Heating and Ventilation Ethnic Profile

	White	Asian	Black	Chinese	Mixed	Other	Not Provided
FE Funded	88%	4%	2%	0%	0%	2%	4%
Tech Certs	80%	10%	5%	0%	3%	2%	0%
Work-based learning	95%	1%	1%	0%	0%	1%	2%

In relation to FE-funded courses the data suggests that, as with all the other industries within the building services engineering sector, the industry is dominated by people from the white ethnic group. Unlike the other industries however, there seems to be a significant increase (8%) of ethnic minority groups using technical certificates as a route into employment within the industry.

13.4.4 Plumbing

The table below details the ethnic mix breakdown of learners on FE-funded, technical certificates, other NEV courses and work-based learning provision:

Table 41 Plumbing Ethnic Profile

	White	Asian	Black	Chinese	Mixed	Other	Not Provided
FE Funded	88%	4%	3%	0%	2%	0%	3%
Tech Certs	87%	4%	3%	0%	2%	1%	3%
NEVS	88%	1%	3%	3%	3%	0%	2%
Work-based learning	95%	1%	1%	0%	1%	2%	0%

The data on plumbing suggests that the sector is predominantly attractive to people from white ethnic groups. There is a small percentage (1%) increase in learners from ethnic minority groups on the technical certificate courses from FE-funded, but no increase at all in the non-economically valuable skills courses. This is a surprise, and must bring into question the social utility value of this curriculum.

13.4.5 Technician

The table below details the ethnic mix breakdown of learners on FE-funded and work-based learning provision:

Table 42 Technician Ethnic Profile

	White	Asian	Black	Chinese	Mixed	Other	Not Provided
FE Funded	93%	1%	1%	3%	2%	0%	0%
Work-based learning	93%	0%	1%	0%	1%	0%	2%

The technician courses are the most white dominated, which is interesting as consultant companies interviewed in this research had significantly more women and people from ethnic minorities than the other industries.

13.4.6 Downstream gas

The table below details the ethnic mix breakdown of learners on FE-funded provision. As downstream gas is not part of a SummitSkills apprenticeship, it is not included within this analysis:

Table 43 Downstream Gas Ethnic Profile

	White	Asian	Black	Chinese	Mixed	Other	Not Provided
FE Funded	88%	0%	7%	3%	1%	0%	0%
Work-based learning	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Downstream gas courses, as with all the other industries within the building services engineering sector, are dominated by the white ethnic minority courses.

13.4.7 Conclusions – ethnic minority engagement

In craft industries, the percentage of ethnic minority learners on work-based learning courses is significantly lower than that of FE-funded courses. SummitSkills will endeavor to explore further to find out why, as the data suggests that ethnic minorities may not be gaining entry to the industry through this route.

For technicians, the percentage engagement in work-based learning technician courses is identical to that of FE funded curriculum, which confirms SNA findings that technician and professional posts in the sector are more favored by ethnic minorities.

13.4.8 Recommendations – ethnic minority engagement

SummitSkills will continue to work with partners, stakeholders and employers to increase engagement of ethnic minorities in work-based learning.

Similar to the previous section on gender, apprenticeships for adults funding should be considered as a route to assist employers in recruiting ethnic minorities seeking to join the sector. Funds in this area are likely to be more beneficial in increasing diversity than spend on current stand-alone technical certificate and other NEVS curriculum.

13.5 Conclusion – all diversity and social utility

Work-based learning courses within the building services engineering sector are more dominated by learners from the white ethnic groups than courses funded through the FE route. Overall, both ethnic minorities and women are substantially underrepresented in the sector. The data suggests that despite the wide use of technical certificates for full and part time non-sector employed learners, these are not widening the diversity of the sector to any extent at all. Therefore, as these courses are defined by SummitSkills as non-economically valuable skills if conducted without an accompanying NVQ and employed status, then continuing to fund such programmes on the basis of a diversity benefit would be incorrect.

In plumbing (also Essential Electrics in the electrotechnical section) there are a number of courses defined by SummitSkills as non-economically valuable, mainly in the DIY-type arena. As with the technical certificates, there is no evidence that continued funding for these courses can be justified on the grounds that they are improving diversity, as the data suggests they are not.

In relation to ethnic minorities there is a significant difference between those on FE-funded courses and those on work-based learning courses. Further research is necessary to identify why this is, as it might indicate that ethnic minorities are not obtaining employment in the sector and in the same way as white people.

13.6 Recommendation - all diversity and social utility

The data suggests that there is no overwhelming reason for the NEVS curriculum identified within this report to be classed as an exemption under the Leitch (2006) criteria. Some further work may be required to confirm the position in relation to ethnic minorities.

14 Mode of delivery and age of participants in building services engineering sector courses

Please refer to Appendix F for data relating to this section.

14.1 Introduction

In this section we analyse the age profile of learners, how they are studying and whether SummitSkills believes that this is an appropriate mode of study. As in other sections of this report, this looks at the curriculum by trade area and by technical certificate (where relevant). In the case of plumbing, where there are a significant number of courses deemed by SummitSkills to lead to non-economically valuable skills, these are defined separately. The data related to this section can be found in Appendix F.

14.2 Mode of attendance

Air conditioning and refrigeration

The table below details the percentage breakdown mode of attendance for learners on both FE-funded and technical certificate air conditioning and refrigeration provision:

Table 44 Air Conditioning and Refrigeration attendance day-time/other

	Day Time	Other
FE Funded	70%	30%
Technical certificates	68%	32%

The table above suggests that the majority of courses are taking place during the day and are day release in nature. 'Other' covers a range of delivery modes such as evenings and weekends. It is interesting to note that there is a slight increase in the 'other' training on the technical certificate courses, which may indicate that there are more learners doing night courses who are not currently employed within the industry.

The table below details the percentage breakdown of learners studying full time or part time on air conditioning and refrigeration courses, either FE-funded or technical certificates:

Table 45 Air Conditioning and Refrigeration attendance full-time/part-time

	Full time	Part time
FE Funded	20%	80%
Technical certificates	20%	80%

There is a significant minority of learners classed as full time, and that there is no variation in the total percentage between FE-funded and technical certificates. The figure of 20% is high and would suggest that one in five learners is not employed in the industry, as it is impossible for a learner to obtain NVQ competence without site experience.

A contributing factor to the 80% figure could be that some employed status learners may be classified as full time because they attend the provider on a 'block release' basis. In this way, the provider manages to accumulate sufficient guided learning hours for the learner to enable them to be classified as full time. This practice is a win-win situation for both the provider and the employer; as the provider receives more funding for a full time student and the employer is exempt any fees for tuition. This practice is an acceptable interpretation of current funding rules.

Electrotechnical

The table below details the percentage breakdown mode of attendance for learners on both FE-funded and technical certificate electrotechnical provision:

Table 46 Electrotechnical Mode of Attendance day-time/other

	Day Time	Other
FE Funded	55%	45%
Technical certificates and NEV courses	50%	50%

The table above shows that a significant number of learners in FE funded electrotechnical courses are studying at night or through other modes of learning than day release. In part this may be due to significant numbers of non-employed learners seeking to enter the industry (particularly in relation to the technical certificates). However there is a tradition in the electrotechnical industry that when IEE regulations change (as they do periodically) then these courses are conducted at night for employed status operatives, which may account for some of the large percentage of 'other' in electrotechnical.

The table below details the percentage breakdown of learners studying full time or part time on electrotechnical courses, either FE-funded or technical certificates and NEV courses:

Table 47 Electrotechnical Mode of Attendance full-time/part-time

	Full time	Part time
FE Funded	19%	81%
Technical certificates and NEV courses	14%	86%

There are still significant numbers of learners who are, according to the table above, still studying full time. As with air conditioning, this could in part be due to the block release strategy described above, although some of these learners would be full time non-employed learners on full time courses seeking entry to the sector.

Heating and ventilation

The table below details the percentage breakdown mode of attendance for learners on both FE-funded and technical certificate provision:

Table 48 Heating and Ventilation Mode of Attendance day-time/other

	Day Time	Other
FE Funded	89%	11%
Technical certificates	60%	40%

The interesting statistic from the table above is the rapid increase in 'other' delivery for technical certificates. This is in keeping with SummitSkills' argument that the technical certificate is being used as an entry qualification for part time and full time non-employed status learners. The fact that 'other' rises from 11% for the industry overall to 40% for technical certificates suggests that a significant number of heating and ventilation technical certificates are being delivered in this way.

Under SummitSkills' proposals, NEVS possibly on evening courses to non-employed status learners provision would subsequently not be fundable.

The table below details the percentage breakdown of learners studying full time or part time on heating & ventilation courses, either FE-funded or technical certificates:

Table 49 Heating and Ventilation Mode of Attendance full-time/part-time

	Full time	Part time
FE Funded	13%	87%
Technical certificates	32%	68%

The increase of full time learners from FE-funded to technical certificates suggests that a significant number of non-employed status learners are being put through the technical certificate full time. Through this route there is no guarantee of future employment, as it is argued that supply outstrips demand.

Plumbing

The table below details the percentage breakdown mode of attendance for learners on plumbing FE-funded provision, technical certificates or other NEV courses:

Table 50 Plumbing Mode of Attendance day-time/other

	Day Time	Other
FE Funded	76%	24%
Technical certificates	75%	25%
NEV courses	73%	27%

Table 50 suggests that the mode of attendance is relatively consistent in relation to the plumbing industry, with an average of 25% of learners probably studying at night school. A majority of these learners may be non-employed status learners, particularly on the large numbers of NEVS courses that have spawned in the plumbing industry, studying at night in the hope of getting employment in the sector post-qualification.

The table below details the percentage breakdown of learners studying full time or part time on FE-funded provision, technical certificates or other NEV courses:

Table 51 Plumbing Mode of Attendance full-time/part-time

	Full time	Part time
FE Funded	45%	55%
Technical certificates	48%	52%
NEV courses	45%	55%

Table 51 shows the depth of the problems in plumbing that have attracted media attention. The percentage of full time learners is significantly higher than the other industries and shows a marked move towards technical certificates and the NEV courses which SummitSkills is recommending be removed from public funding.

The data indicates that significant numbers are on full time courses with non-employment status. This suggests that supply will far outstrip demand and that the qualifications that a significant number of these learners will achieve will not be economically valuable either for them or the economy at large.

Technician

The table below details the percentage breakdown mode of attendance for learners on FE-funded provision:

Table 52 Technician Mode of Attendance day-time/other

	Day Time	Other
FE Funded	93%	7%

The data for technicians is in keeping with what one would expect in relation to technician training, which is the smallest industry within the sector. There are only a small percentage of full time learners reflecting the size and spread of the provision across the UK.

Table 53 Technician Mode of Attendance full time/part time

	Full time	Part time
FE Funded	11%	89%

Downstream Gas

The table below details the percentage breakdown mode of attendance for learners on FE-funded provision:

Table 54 Downstream Gas Mode of Attendance day-time/other

	Day Time	Other
FE Funded	90%	10%

Table 55 Downstream Gas Mode of Attendance full-time/part-time

	Full time	Part time
FE Funded	25%	75%

The data from the table above is partly in keeping with what SummitSkills would expect from gas courses, in that the majority of courses are updating courses for employed status learners. Interestingly however is the percentage of full time learners that the data indicates are present. This is far higher than SummitSkills would have anticipated, although the reasons for it may have already been described above through the full time 'block release' strategy adopted by some providers. Energy and Utility Skills who lead on this industry may however want to explore this issue further.

14.2.1 Recommendation

The data presented in this section emphasises the problems highlighted throughout this report regarding the uptake of NEVS provision by non-employed status learners. SummitSkills believes the data here gives weight to the need to restructure the curriculum and channel money into the identified appropriate curriculum for the sector.

14.2.2 Modes of attendance: work-based learning

Modes of attendance analysis has not been carried out on work-based learning figures, as these are all assumed to be all part-time day study.

14.3 Age profile of learners

Air Conditioning and Refrigeration

Table 56 Air Conditioning and Refrigeration Age Profile of Learners

	U19	19-24	25-59	60+	Missing
FE Funded	11%	25%	64%	0%	0%
Tech Cert	14%	26%	60%	0%	0%
Work-based learning	48%	43%	9%	0%	0%

The table above shows that technical certificates were preferred by younger learners to age 24 than 'other FE provision'. This finding would tend to support the view that has percolated through this report: technical certificates are being used to support non-employment status learners seeking entry into the sector.

For the work-based data figures, the data above is in keeping with the concept of apprenticeships being for under-25 year old learners. It would be interesting to know what the 9% of 25-59 learners were studying within this heading.

Electrotechnical

Table 57 Electrotechnical Age Profile of Learners

	U19	19-24	25-59	60+	Missing
FE Funded	13%	20%	66%	1%	0%
Tech Cert & NEV essential electrics	10%	19%	71%	0%	0%
Work-based learning	N/A	N/A	N/A	N/A	N/A ²²

The age profile for learners on technical certificates/NEVs in electrotechnical shows a fall overall of under-19 and 19-24 learners of 3% and 1% respectively when compared to FE-funded courses. This is against the trend shown in the other trade areas, and indicates that in the electrotechnical area more emphasis appears to be aimed at the adult entrant (post 25). This is particularly marked on the NEV essential electrics course highlighted above. A possible explanation for this phenomenon may be that the electrotechnical sector is employing significantly greater numbers of apprentices in relation to the mechanical trades, facilitating easier access in to the sector. As has been stated however, SummitSkills has concerns about the electrotechnical data currently available and further research is needed.

²² No meaningful data is currently available

Heating and ventilation

Table 58 Heating and Ventilation Age Profile of Learners

	U19	19-24	25-59	60+	Missing
FE Funded	5%	11%	83%	2%	0%
Tech Cert	25%	18%	57%	0%	0%
Work-based learning	53%	46%	1%	0%	0%

The heating and ventilation percentages in the table above show more clearly the extensive use of technical certificates for non-employed learners seeking entry to the sector. There is a massive 20% increase from FE-funded to technical certificates for under-19s, and a 7% rise for the 19-24 age groups, which SummitSkills would expect to be the main ages for non-employed status people seeking to enter the industry.

It is debatable how many of these learners obtained employment in the industry with their technical certificates. SummitSkills argues that as there was no NVQ accompanying the course (as without employment it is not possible to get the competences) the number would be very few.

For work-based learning, the percentage of under 19 and 19-24 learners are in keeping with the use of work-based learning for funding apprentices under 25 years of age.

Plumbing

Table 59 Plumbing Age Profile of Learners

	U19	19-24	25-59	60+	Missing
FE Funded	30%	15%	55%	0%	0%
Tech Cert	32%	14%	54%	0%	0%
NEV course	5%	1%	94%	0%	0%
Work-based learning	74%	26%	0%	0%	0%

As with heating and ventilation technical certificates, there appears to be a substantial percentage of under-19 learners (32%) and 19-24 learners (14%) on the plumbing technical certificate, a significant number of whom are probably not in sector employment.

Given the high number of technical certificates compared to NVQs within the plumbing industry, with 77% of technical certificates appearing to not be accompanied by an NVQ, it is suggested that a significant number of adult learners are also being taught technical certificate programmes, with many from all age groups (up to 48%) being delivered full time with no employment status²³.

What is clear from the data is that on the NEVS courses is that 94% of learners are adults 25-59 and that of these, 55% are being taught full time. SummitSkills suggests that these type of courses are being targeted at the under-16 hour²⁴ unemployed adult market. This is a very lucrative source of income for providers, but is unlikely to facilitate many, if any, of those learners obtaining paid employment in the sector at the end of their training course. Post-25 year old learners would be unable to engage in paid apprenticeships for example, and are unlikely to be attractive to potential employers with the qualifications they have gained, which SummitSkills would define as NEV.

²³ It is still possible that this 48% is made up of some employed status block release students.

²⁴ Unemployed learners who study under 16hrs per week are still eligible for unemployment benefit

Assessment is needed on the validity of these types of courses and their value for money, given the lack of diversity improvement that they currently seem to offer.

The percentages of under-19 and 19-24 learners are in keeping with the use of work-based learning for funding apprentices under 25 years of age.

Technician

Table 60 Technician Age Profile of Learners

	U19	19-24	25-59	60+	Missing
FE Funded	37%	45%	18%	0%	0%
Work-based learning	20%	13%	67%	0%	0%

Technician FE-funded courses show as expected, a significant bias to younger learners (under 25 years of age) and as these courses are traditionally aimed at junior staff within organisations.

For work-based learning, although the total number of learners is small it is not expected that the number of 25-29 learners should be as high on a work-based learning course. SummitSkills is unable to explain this.

Downstream gas

Table 61 Downstream Gas Age Profile of Learners

	U19	19-24	25-59	60+	Missing
FE Funded	0%	14%	84%	2%	0%
Work-based learning	N/A	N/A	N/A	N/A	N/A

As downstream gas courses are seen as being part of an upskilling of existing employed status people within the industry, the figure of 84% 25-59 year olds is in keeping with that assumption.

14.4 Conclusions

Conclusions are dispersed throughout this section, however briefly these are as follows:

There are considerable numbers of learners studying in modes other than day time. These may be non-employed status learners working in other occupations seeking entry to the sector through night school technical certificates.

Across the trades there are a significant minority of learners studying full time. This may be because they are non sector-employed and seeking to use the technical certificate or NEV course to enter the sector. Or, they may be employed status learners on block release courses, whose guided learning hours permit the provider to class them as full time, thus receiving a higher income for them and exempting the employer from paying any fees for training.

Technical certificates within the mechanical trades appear to be targeted at higher numbers of younger learners than the general average, suggesting that these learners are likely to be full time and non-employed status.

In plumbing, based on a comparison between the amount of 25-59 year old learners on technical certificates (54%) and those on other NEV plumbing courses (94%), the NEV plumbing courses appear to be being targeted towards adult learners (probably unemployed) returning to study.

In air conditioning and refrigeration and for technicians there are significant numbers of work-based learning learners identified as being above the age of 25, which is strange as funding for apprenticeships ends at 25. It would be interesting to see where these learners come from.

14.5 Recommendation

This section suggests that there are a number of issues that SummitSkills needs to further investigate. Currently much of this provision seems not to be meeting the needs of the sector or facilitating easy progression into the sector.

15 Quality and inspection

15.1 Introduction

This section looks at Further Education inspection in England and the role that Government perceives inspection should take in the achievement of its policy objectives. Through detailing this information, SummitSkills is providing a background analysis of policy initiatives to date in the quality and inspection arena, and not taking a view on past and present situations.

15.2 Inspection and the policy context of rationalisation and specialisation

Government policy in relation to Further Education has been consistent since the Further and Higher Education Act (1992), in that the underlining rationale for the development of the Further Education Funding Council (FEFC) was to rationalise the number of providers through the development of a market forces model (Coldstream, 1993; Macfarlane, 1993; Hammond, 2003) DfES and FEFC executives responsible for policy or policy administration at the time stated that the purpose of the legislation was to reduce the providers and increase the volume of participation, thus reducing the commitment on the public purse for post-16 provision (Hammond, 2003, Chapter 4; Bradley, 2000).

However, this model did not create the hoped for rationalisations in the numbers anticipated and led to a number of issues within FE college providers, with evidence of similar problems within the private training provider network. A more direct model was put into place with the creation of The Learning and Skills Act (2001) and the creation of the Learning and Skills Council (LSC).

The major policy drive for specialisation of providers and rationalisation of curriculum can be found in paragraph 14 of Success for All (DfES, 2002, p9). This states:

“We want every college and provider to be clear about its own educational and training mission and focus on its particular strengths. This is not about imposing arbitrary or unnecessary restrictions on what is offered where that is of good quality and meets local needs. In the past there have been incentives to pursue every new initiative in order to increase income and expand, which has meant some trying to do too many things. In the future we want colleges and other providers to concentrate on what they do best. This will mean taking hard decisions about whether it is right to continue with everything that they do now, in discussion with the LSC, using OfSTED and Adult Learning Inspectorate (ALI) grades as an important guide. This may mean that some providers discontinue offering some provision where other providers can run it better elsewhere in their locality. It may also mean specialising in certain areas or focusing on particular client groups. It will also mean collaboration in new ways with other providers” (DfES, 2002, para 14, p9).

Hammond (2004a) explored this concept with a practicing OfSTED inspector, who at that time²⁵ stated that the policy had been developed, she concluded:

“To me it is puzzlement at the moment. I wouldn’t want to feel that inspection was going to be used in that way. But also if a college is inspected and deemed to be underachieving, it would have to be re-inspected rather quickly. If that were the case again, then we have problems, and you see it happening in schools. If a school continually fails then there are a lot of failures in top management as well, as well as a lot of changes in the teaching staff. I don’t know how far that’s been thought through yet, how the LSC and the inspectors are going to work together” (Hammond, 2004a, p70).

To the interviewed LLSC Chief Executive, this problem seemed to have been resolved post Success for All. He stated:

“Well I think that there is a clear protocol/precedent, which has been established, which that is following a poor OfSTED / ALI report, the organisation has the opportunity to get its act together, to improve. I don’t think there are any hard and fast rules. I think you have to use a bit of common sense and judgment about these things, and what I mean by that is that you would clearly after a report, be looking for an action plan for recovery in a particular area. And you therefore will be looking for reasonable progress against that action plan. You would need to take a judgment, whether there was an acceptance of the problem and understanding of the problems. Clear action, energy and enthusiasm, commitment to making necessary changes. Most of the things can be assessed pretty well, if you’ve got the right relationship with an organisation” (Hammond, 2004a, p71).

The theme of rationalisation and specialisation appeared in the White Paper ‘Your Region, Your Choice’, where the Government refers to partnering as a means of reducing duplication. The relevant paragraph reads:

“Employment and Skills are at the heart of regional economic development. The Government believes it is important for national, regional, and local partners to work together to improve employment opportunities and skills levels and thereby increase prosperity and competitiveness. Accordingly, Regional Development Agencies were asked to lead on Frameworks for Employment and Skills Action (FRESAs) and to produce a first Framework for each region by October 2002. The Frameworks are intended to provide a forum for planning and delivery, which will involve all the main stakeholders at regional and local level. Their aim is to enhance the range of services that already exist by bringing together the work of different Government agencies, business, the TUC, CBI and other key partners in each region, in a collective approach, which helps to maintain the health of local labour markets. This will mean less overlapping of services and fewer resources being wasted.” (DTLGR, 2004, para 2.11, p26)

²⁵ Whether this remains the case is not certain.

In response to 'Your Region, Your Choice', the LSC created regional directorship, and subsequently through 'Agenda for Change' rationalised its organisation to move away from local LSCs to regional ones. The Government perceived that there would be a large regional shift in policy administration to the English regions, and from this the supply would match the demand regionally more accurately. In a national context, the development and licensing of Sector Skills Councils was also taking place to give employers a voice in the development of a demand-led curriculum in England, where employers would demand what the providers would provide (Hammond, 2004b; Clarke, 2003; Shiner, 2003). To support the demands of 'Your Region, Your Choice' the LSC began, as part of its Success for All initiative, a Strategic Area Review of curriculum (StAR). The LSC described the role of the StAR in the following way:

"Strategic Area Reviews will provide a comprehensive assessment of the pattern of provision in every part of the country. They will examine how well the provision on offer meets the needs of learners, employers and communities and delivers LSC and Government targets and overall policies. StARs will also seek to identify the strengths of providers and build on these, as well as improving areas of weakness in order to drive up quality and success rates across the learning and skills sector" (LSC, 2004,p1).

The fact that rationalisation of curriculum was a part of the thrust of StAR can, it is argued, be seen from paragraph 27 of circular 03/06 on Strategic Areas Reviews which concludes:

"Decisions on the structure and profile of learning and skills provision should be influenced by individual and employment priorities, geography and the quality and pattern of provision. The LSC does not intend to reorganize for reorganization sake and care will be taken not to destabilise the existing learning infrastructure. Advised by the stakeholder group, the local LSC Board will make final decisions on which options should be taken forward." (LSC, 2003, para 27, p5).

Hammond (2005) found examples of change such as schools joining together to form a sixth form (Hammond, 2005a, p5; LSC 2004c) and suggested that the StAR policy initiative concentrated on evolutionary development rather than radical change. That one LLSC saw the StAR as being a far more radical policy than it actually became can be seen from a report produced by the London East Learning and Skills:

"[The] process of transformation started as soon as the Learning and Skills Council was established in April 2001. The London LSCs did not wait for the StAR to bring about changes; working with key partners, including FE Colleges, Schools, LEAs and work-based learning organisation we began the process straight away. In the past three and half years we have achieved a major transformation of the sector already...As a result of work undertaken by the Learning and Skills Council in London since 2001, there are eight new sixth form colleges or centres open or in the process of opening, one poor performing college merged with a successful neighbour, four new sixth forms opened and seven under performing ones closed or proposed for closure. The work-based learning provider base has changed beyond recognition" (LSCLE, 2004, p2).

In an in-depth analysis of the Black Country region of the West Midlands, Hammond (2005c) concluded that although there had been some rationalisation of curriculum within the sub-region, this had been restricted to private training providers with the FE colleges remaining in tact. This is notwithstanding that some of the region's provider grades in areas where there was clear duplication awarded by OfSTED/ ALI were grade 4 (poor), and that this issue had not been addressed at that time (Hammond, 2005c).

As indicated by the LSCLE (2004), this is probably more in line with what was intended by Government in relation to Success for All than what actually emerged from the StAR when Hammond (2005c) carried out his research.

Some additional re-structuring of the FE sector was proposed by the Government in response to Sir Mike Tomlinson's report on the shape of 14-19 education within the UK. Under proposals in the White Paper: 14-19 Education and Skills (DfES, 2005), schools could expand their sixteen plus provision and FE colleges their 14-16 provision and both sectors could produce joint prospectuses under the auspices of the local authority (DfES, 2005, para 11.5, p73; DfES, 2005, para 11.34, p79).

Hammond (2005b) suggested that the White Paper creates a situation where FE colleges may be seen to be moving into a dual role of being a secondary modern/ technical schools, that the funding streams could be confusing, and that FE colleges could struggle in being able to define their mission, given the influx of 'less' academic and troublesome learners²⁶. Smith (2002), commenting on an earlier Green Paper where these ideas were first mooted, stated that the proposals as they stand are "educational apartheid", and a complete refutation of the parity of esteem between vocational and academic pathways that Governments of all political colours have identified as a must in recent years.

It is important to consider that the building services engineering sector is likely to be targeted as a potential employer of these groups, and currently there is (as identified in the SummitSkills Sector Needs Analysis) some disquiet in the building services engineering sector already, as to the quality of candidates identified for entry into the sector. This policy, while potentially being beneficial, also has the potential to exacerbate an already difficult situation for the sector. The minimum standard for a fully trained operative as identified by a majority of the employers interviewed by SummitSkills is for an attainment of Level 3, and therefore it is imperative that the sector is targeted at individuals able to attain this level of qualification and skill.

In 2005 the LSC produced its Agenda for Change²⁷. Within the document there are a significant number of references by the LSC to dealing with poor quality provision, including paragraphs 33 which 35 stated:

"We also see that some [providers] are still under-performing and there is too much provision that remains only satisfactory after years of investment. It is not that any particular part of the sector is failing to improve, but rather that improvement is unevenly spread across the sector, and across subject areas. And the sad reality is that the reputation of the sector overall is determined by the weakest performance" (LSC, 2005, Para 33, p5).

²⁶ The White Paper identifies the vocational route for both less academic and students with 'emotional' (behaviour) problems.

²⁷ A document leading to fundamental structural change within the LSC, however it is its particular impact on the FE sector that it considered within this report.

“Collectively we want to develop a strategic approach to investment in good and excellent provision. We want to see significant further improvements over the next three to five years in attainment inspection outcomes and measures of success. We want to see more provision improving from satisfactory to good or excellent, while we withdraw from funding that which is poor.” (LSC, 2005, Para 35, p5)

Soon after the production of ‘Agenda for Change, Sir Andrew Foster produced the Foster Report which called for a tough approach to be taken where poor quality provision was discovered, with colleges²⁸ being required to improve or close down areas where provision is not giving learners the skills they require to be successful (Foster, 2005, p17). The LSC is tasked by Foster (2005) with working with FE colleges to develop an intensive one year development programme with under-performing colleges who are in the failing category. The QIA (Quality Improvement Agency) and the CEL (Centre for Educational Leadership) should give major support to institutions during this period, with the result that those colleges or departments who do not pass a re-inspection should be made the subject of a contestability review organised by the LSC, which could involve the removal of services, changes in management or the closure of the college (Foster, 2005, p8).

In the Further Education: Raising Skills, Improving Life Chances White Paper (2006) which sought to respond to both Foster (2005) and Leitch (2005)²⁹ the Government concludes that teaching and learning must be uniformly excellent across the sector, with programmes that are well tailored to the needs of individual students but also meet the needs of employers. From this, the White Paper proposes that a more robust framework for intervention and support is developed to tackle poor quality and promote a diverse range of good providers (FERSILC, 2006, p18).

15.2.1 Recommendation

The analysis above suggests that the LSC has a fully developed and long standing policy to deal with poor performing provision. This Assessment of Current Provision makes curriculum recommendations that should give some impetus to restructuring the sector’s providers, should recommendations be implemented on the removal of non-economically valuable curriculum.

SummitSkills will work in partnership with the LSC to assess how any restructuring might look, through a structured and managed process. SummitSkills supports the view that the quality of provider, along with employer needs and regional requirements, should be determinant factors when assessing the location of sector provision.

15.3 Building the future: skills training in construction and building services engineering

The Adult Learning Inspectorate in its report on construction and building services engineering has produced a report on the performance of the sector. For inspection purposes, the building services engineering sector is included within the construction concept as a whole. Therefore SummitSkills has, as best as possible, extrapolated inspectors’ comments from the comments made about ConstructionSkills’ curriculum, the grade given by OfSTED/ALI is for the whole of construction.

²⁸ The Foster report is geared up to FE Colleges rather than Private Training Providers.

²⁹ The Leitch interim report rather than the final report which came later.

The ALI report for construction and the building services engineering sector identifies that the sector has the following strengths:

1. Increased demand for apprenticeships from school leavers.
2. Good practical training in college workshops.
3. Recent improvement in NVQ achievement rates.
4. Good developments in colleges as a result of CoVE funding.
5. The contribution of college staff and training providers' staff as assessors.
6. Support for learners from all types of training provider.

However, ALI also identifies a considerable number of weaknesses that clearly outweigh the strengths and these are:

1. The complex apprenticeship framework requirements that deter employers.
2. Low framework success rates and poor progression to higher level study.
3. Employers increasingly side lined from training as private training providers to manage the complexities of the apprenticeship framework.
4. Too many uncommitted or passive employers.
5. Very few apprentices trained by 'employer-led' companies.
6. Insufficient capacity in colleges to meet current demand.
7. High proportion of inadequate training providers.
8. Bureaucratic assessment regime.
9. Poor teaching of craft theory.
10. The high proportion of poorly qualified entrants, many of whom require basic skills support.
11. Very few women in craft occupations.
12. No means of recognizing excellence in the apprenticeship framework (ALI, 2006, p1).

Many of the weaknesses identified by ALI have already been identified by SummitSkills within the Sector Needs Analysis, as well as in this report, and will form the basis for the solutions within the sector.

16 Quality marks for South East providers of building services engineering sector curriculum

16.1 Introduction

Please see Appendix G for full details of the various types of quality marks and quality assurance systems.

This section shows the results of a telephone survey for the South East undertaken with the providers that were identified through OfSTED and ALI inspection reports. The tables are organised by inspection body. The table below shows the quality marks from ALI inspection report providers, which contains significant amounts of private training providers rather than FE colleges, which tend to be OfSTED inspected.

Table 62 ALI Inspected Providers – quality marks

<u>Provider</u>	<u>ISO9000</u>	<u>EFQM/ BEM</u>	<u>ISRS</u>	<u>IIP</u>	<u>Charter Mark</u>	<u>Positive About Disabled</u>	<u>Matrix</u>	<u>BSAQM</u>	<u>BSI</u>	<u>Beacon or Core Status</u>	<u>Any Other</u>
Apprenticeship Training Limited											
Bracknell Forest Borough Council										*C	
Brinsbury College											
City College Brighton and Hove				*		*				*C	
Greater Brighton Construction Training Ltd											
Isle of Wight Industrial Group Training Services				*							ESFUK
Kent LEA										*C	
Llewellyn Management Services Ltd.											
Milton Keynes College											
North West Kent College											
Royal School of Military Engineering				*							
Southampton City Training				*		*					
Southampton Engineering Training Association											
Sussex Training Group				*							

Table 63 South East Quality Assurance Agency Inspection Reports Quality Marks

<u>Provider</u>	<u>ISO9000</u>	<u>EFQM/ BEM</u>	<u>ISRS</u>	<u>IIP</u>	<u>Charter Mark</u>	<u>Positive About Disabled</u>	<u>Matrix</u>	<u>BSAQM</u>	<u>BSI</u>	<u>Beacon or Core Status</u>	<u>Any Other</u>
Croydon College				*							

Table 64 South East OfSTED Inspected Quality Marks

<u>Provider</u>	<u>ISO9000</u>	<u>EFQM/ BEM</u>	<u>ISRS</u>	<u>IIP</u>	<u>Charter Mark</u>	<u>Positive About Disabled Matrix</u>	<u>BSAQM</u>	<u>BSI</u>	<u>Beacon or Core Status</u>	<u>Any Other</u>
Aylesbury College										
Basingstoke College of Technology				*		*				
Bracknell and Wokingham College										CoVE
Canterbury College										
Chichester College				*		*				CoVE Action for Business College Queens Anniversary Prize
City College Brighton and Hove				*		*				
East Berkshire College										
East Surrey College										
Eastleigh College				*		*			B	CoVE Action for Business
Guildford College of Further and Higher Education				*						Action for Business
Hastings College of Art and technology										
Highbury College										
Mid Kent College of higher and further education										
North East Surrey College of Technology				*		*				
North West Kent College of Technology										
Northbrook College				*		*				CoVE
South Kent College										
Southampton City College										
The Isle of Wight College										CoVE
West Kent College										CoVE

16.2 Conclusions

As can be seen from the ALI inspected grid, providers of building services engineering sector curriculum within the predominantly private sector, do not engage in the accumulation of quality marks to the same extent as the FE college sector. The predominant quality mark for the private sector providers appears to be Investors in People (IIP), with a couple of providers (one of whom happens to be an FE college and one a private training provider) holding a positive about disabled people quality mark. One private provider has the ESFUK quality award. One private provider (a Local Authority Company) has CoVE status in either Construction or Building Services Engineering.

Within the OfSTED inspected provision for the sector, there also appears to be an uptake of IIP awards, and some usage of the positive about disabled people award. A few providers appear to be using the Matrix quality award system, which is interesting. Six FE college providers have CoVE status in either construction or building services engineering, and three have Action for Business Awards, with one holding the Queen’s Anniversary Award for quality.

No provider claimed to have been utilising either ISO9000, or EfQM models of quality assurance. It will be interesting to compare the South East to the rest of the UK when the all-England report is created in due course, as many FE College providers have been encouraged to engage with both.

No providers claimed to have the Charter Mark for quality in public services, which is again very interesting given that this was once considered to be a prestigious award.

16.3 Recommendation

SummitSkills will work with partners and stakeholders to look at the benefits of quality marks in improving quality for learners, and encouraging providers (particularly private training providers) to obtain appropriate quality marks.

17 OfSTED and ALI inspection grades

17.1 Introduction

In section 15, the policy context surrounding OfSTED and ALI inspections and the issues relating to rationalisation of curriculum and providers was discussed. In this element, SummitSkills examines the criteria within which OfSTED and ALI carry out their inspection criteria.

Inspection by OfSTED and ALI is undertaken using the common inspection framework (OfSTED 2001a) which was introduced as an inspection tool in 2001, to equip OfSTED and the newly formed ALI to carry out inspections in the post 16 sector. OfSTED until this time had operated in the compulsory education sector, and the ALI inspectors had in many cases transferred from a pre-existing inspectorate (TSC) which had been responsible for inspecting private training providers.

It is perhaps beneficial to consider the politics running into not only the transfer of inspection powers to OfSTED and ALI. Thus the then Secretary of State could state as long ago as 2000, the Government's concern about the quality of provision in the FE sector:

“In general further education too, there is excellence of which we can be proud. But there are weaknesses that result in too much variation in standards that we must tackle. Some relate to poor advice and guidance for young people about choices at 16, which I will touch on elsewhere, others relate to standard of provision young people receive. The Government will continue to emphasise raising standards, and the Learning and Skills Council will intervene to support the weakest providers and offer constant challengers to the rest” (DfEE, 2000, p1).

The Government then went on to say:

“We must continue to address deficiencies in colleges, causing concern those that independent inspection identifies as failing their students and the wider community. But those represent a small and declining minority. We have a much wider challenge to lever up standards across the great bulk of the colleges that have middling inspection grades, retention and achievement rates against the benchmarks that the FEFC has now established for them. We need together embedded a culture of continuous improvement. To recognize that what was ‘satisfactory’ next, not to discourage our staff by always complaining that the is half-empty, but to challenge and support them to do better. The fact that this is the general message across the UK economy does not make it any less applicable to those of us with responsibility for further education.” (DfEE, 2000, p24).

The Common Inspection Framework has certain objectives attached to it, and these are defined as follows:

“Give an independent public account of the quality of education and training, the standards achieved and the efficiency with which resources are managed. Help bring about improvement by identifying strengths and weaknesses and highlighting good practice. Keep the Secretary of State, the Learning and Skills Council for England and the Employment Services

informed about the quality and standards of education and training. Promote a culture of self assessment among providers, leading to continuous improvement or maintenance of a very high quality and standards.” (OfSTED, 2001a)

In relation to what is evaluated and reported, the Common Inspection Framework provides that:

“Inspectors will focus primarily on the experiences and expectations of individual learners through the evaluation, as applicable of what is achieved, the standards reached and the learner’s achievements, taking into account their prior attainment and intended learning goals. The quality of teaching, training and learning... Other aspects that contribute to the standards achieved such as the range, planning and content of courses or programmes; resources and the support for individual learners. The effectiveness, with which the provision is managed, its quality assured and improved and how effectively resources are used to ensure that the provision gives value for money. The extent to which provision is educationally and socially inclusive, and promotes equality of access to education and training including provision for learners with learning difficulties or disabilities” (OfSTED, 2001a).

Teaching and learning and the individual learner are therefore the fundamental drivers within the Common Inspection Framework. There do however appear to be some differences from the Post 16 and the compulsory sector. The most important appears to be the lack of any concept of ‘special measures’, where in the compulsory sector a school deemed to be failing is put into special measures, usually receives a new head teacher and senior management team and a capital investment to facilitate rapid quality improvements.

The Common Inspection Framework (2002) requires OfSTED/ ALI inspectors to look at number of areas of provision and consider a number of questions, which are detailed below:

Overall Effectiveness

- A. How effective and efficient are the provision and related services in meeting the full range of learners’ needs and why?
- B. What steps need to be taken to improve the provision further?

Achievements and Standards

- A. How well do learners achieve?

The Quality of Provision

- A. How effective are teaching, training and learning?
- B. How well do programmes and activities meet the needs and interests of learners?
- C. How well are learners guided and supported?

Leadership and Management

- A. How effective are leadership and management in raising achievement and supporting all learners?

(Common Inspection Framework, 2002, pp3-5)

The common grading scale for all inspection judgments' is stated below:

- Grade 1= Outstanding
- Grade 2= Good
- Grade 3= Satisfactory
- Grade 4= Inadequate

(Common Inspection Framework, 2002, p5)

The system in the post-compulsory FE sector appears to be that if an FE provider is inspected and a curriculum area receives a grade 4 or below, the provider then receives a re-inspection on those curriculum areas within eighteen months or so. If a significant number of curriculum areas are inspected at grade 4, then the whole institution is re-inspected. If subsequent to a curriculum area re-inspection, curriculum areas have not improved to a grade 3 (satisfactory) or above then the whole of the institution is then re-inspected within twelve months.

As can be seen from the current provision analysis within this report, if the Learning and Skills Council restructures curriculum in line with the recommendations made by SummitSkills, then a significant amount of money will be re-directed away from some curriculum, which may affect some providers adversely. SummitSkills recommends that this money should be re-channeled into provision that is suitable for the sector, as identified within the Sector Needs Analysis. However, there is no guarantee that providers hardest hit by the realignment will be able to respond to the needs for new technologies identified in the SNA.

It therefore seems appropriate for the LSC, in conjunction with partners and stakeholders, to restructure provision taking OfSTED/ALI inspection results into account.

The results do not provide a perfect science for accurately identifying problematic building services engineering providers, because for inspection purposes building services engineering sector courses are lumped together with general construction courses.

To try and overcome this problem, SummitSkills has sought inspector comments from OfSTED and ALI construction reports which specifically relate to building services engineering sector reports. This report also triangulates results data with employer experiences of the quality provision within the sector. The data is presented in English regions for each individual regional report.

17.2 South East OfSTED/ ALI grades for the building services engineering sector

The following table details the ALI inspection grades and the dates when the inspection took place. These inspection results were extrapolated from the ALI website, which is subject to constant update but SummitSkills believes this data was correct as of January 2007.

Table 65 South East ALI Grades

Name of Provider	Date of Report	Previous Mark if Re-inspected	Current Construction Mark	Comments
Apprenticeship Training Limited	15-02-02		*** (3)	Strengths; good support for learners; good facilities for off the job training; good work placements; high rates of retention. Weaknesses; poor progress reviews; insufficient integration of on and off the job training; slow rate of achievement of NVQs; late introduction of training in key skills in learners' training programmes. Other improvements needed: better recording of learners' progress; accreditation of prior achievements in key skills' more stimulating training in theory.
Bracknell Forest Borough Council	27-06-01		**** (5)	Strengths; good off the job training and assessment facilities. Weaknesses; poor knowledge of the NVQ process by workplace supervisors; ineffective progress reviews and target setting for trainees; insufficient co-ordination between on and off the job training and assessment; poor key skills development; poor achievement and retention rates. Other improvements needed: reinforcement of trainees induction; better knowledge of construction programmes by training officer; wider use of the full range of initial assessment methods; better recording of support given to trainees; wider access to subsidised tool kits for trainees.
Brinsbury College	18-01-02	**** (4)	*** (3)	Strengths; good on the job training and assessment; good off the job training resources; effective use of work-based assessment. Weaknesses; insufficient assessment of key skills in the workplace; poor understanding of NVQ requirements by employers.
City College Brighton and Hove	19-11-01	**** (4)	** (2)	Strengths; good range of workplace training opportunities; excellent training and assessment in carpentry and joining; effective links with employers. Weaknesses; lack of flexibility in starting training programmes.
Greater Brighton Construction Training Ltd	05-06-02		** (2)	Strengths; broad range of skills developed in the workplace; effective support by some learners; additional qualifications achieved by some learners; good retention rates; high standard of practical work carried out by learners; good workplace assessments for electrical installation; effective key skills training for plumbers. Weaknesses; inadequate linking of on and off the job training; insufficient use of evidence from the workplace; ineffective target setting during progress reviews; unsatisfactory planning of some plumbing assessments. Other improvements needed; greater involvement of employers in progress reviews; better appreciation of key skills by learners.
Isle of Wight Industrial Group Training Services	05-06-03		*** (3)	Strengths; good development of practical skills; very effective progress reviews. Weaknesses; poor retention rates; slow progress for many learners.
Kent LEA	15-07-05		*** (3)	Strengths; good retention rates; good standard of learners' work; particularly well qualified and experienced tutors. Weaknesses; insufficient recording of learners' progress; poor implementation of health and safety procedures.

Llewellyn Management Services Ltd.	08-02-02	**** (4)	** (2)	Strengths; well motivated and indentured trainees; thorough and well planned on the job training; additional qualifications gained; high achievement and retention rates; many trainees progress to further qualifications; good career progression within the company. Weaknesses; underdeveloped use of work-based evidence for NVQ; little integration of assignments with the building of technicians' work.
Milton Keynes College	06-09-02	**** (4)	*** (3)	Strengths; well structured off the job training; good work placements; additional qualifications provided for trainees. Weaknesses; slow progress by trainees towards achieving NVQs; some poor assessment practice; poor target setting and progress reviews; some overcrowding of classrooms and workshops.
North West Kent College	5-04-02	**** (4)	*** (3)	Strengths; good well presented portfolios of evidence; good off the job training; particularly through internal verification. Weaknesses; little assessment in the workplace; inadequate resources in some workshops.
Royal School of Military Engineering	13-12-02		*** (3)	Strengths; extensive range of good training facilities; good understanding of health and safety issues by learners; good off the job training; comprehensive schemes of work; good retention and achievement rates. Weaknesses, insufficient work-based evidence in most trades; no individualised training; poor initial assessment of individual learning needs; inadequate use of individual learning plans. Other improvements needed; improve the learning of environment in some areas of learning.
Southampton City Training	04-02-05	**** (4)	*** (3)	Strengths; good development of learners' skills' good progress reviews; flexible to meet the needs of learners and local industry. Weaknesses; slow progress by some learners; poor co-ordination of additional support; insufficient monitoring of subcontractors.
Southampton Engineering Training Association	04-02-05		*** (3)	Strengths; good retention rates; good use of accreditation of prior learning and attainment; well planned programme; good additional qualification gained by learners. Weaknesses; weak progress reviews; slow progress on key skills portfolios; insufficiently thorough internal verification.
Sussex Training Group	24-12-04	*** (3)	**** (4)	Strengths; high standards of learners' practical work; good learning and pastoral support. Weaknesses; low achievement rates; slow progress towards achievement of NVQs; poor use of targets in progress reviews; poor leadership and management.

The next table details the OfSTED reports for providers of building services engineering sector qualifications.

It is potentially confusing for employers who want to assess quality of local provision to have to search two data sources. This situation has improved as all reports now sit in the OfSTED database.

SummitSkills believes that this data was correct as of January 2007 and also believes the providers stated below are complete; however SummitSkills welcomes feedback on any discrepancies within the data.

Table 66 OFSTED Inspection Reports

Name of Provider	Date of Report	Previous Mark if Re-inspected	Current Construction Mark	Comments
Apprenticeship Training Limited	15-02-02		*** (3)	Strengths; good support for learners; good facilities for off the job training; good work placements; high rates of retention. Weaknesses; poor progress reviews; insufficient integration of on and off the job training; slow rate of achievement of NVQs; late introduction of training in key skills in learners' training programmes. Other improvements needed: better recording of learners' progress; accreditation of prior achievements in key skills' more stimulating training in theory.
Bracknell Forest Borough Council	27-06-01		***** (5)	Strengths; good off the job training and assessment facilities. Weaknesses; poor knowledge of the NVQ process by workplace supervisors; ineffective progress reviews and target setting for trainees; insufficient co-ordination between on and off the job training and assessment; poor key skills development; poor achievement and retention rates. Other improvements needed; reinforcement of trainees induction; better knowledge of construction programmes by training officer; wider use of the full range of initial assessment methods; better recording of support given to trainees; wider access to subsidised tool kits for trainees.
Brinsbury College	18-01-02	**** (4)	*** (3)	Strengths; good on the job training and assessment; good off the job training resources; effective use of work-based assessment. Weaknesses; insufficient assessment of key skills in the workplace; poor understanding of NVQ requirements by employers.
City College Brighton and Hove	19-11-01	**** (4)	** (2)	Strengths; good range of workplace training opportunities; excellent training and assessment in carpentry and joining; effective links with employers. Weaknesses; lack of flexibility in starting training programmes; slow progress towards qualifications in painting and decorating; poor training materials in painting and decorating.
Greater Brighton Construction Training Ltd	05-06-02		** (2)	Strengths; broad range of skills developed in the workplace; effective support by some learners; additional qualifications achieved by some learners; good retention rates; high standard of practical work carried out by learners; good workplace assessments for electrical installation; effective key skills training for plumbers. Weaknesses; inadequate linking of on and off the job training; insufficient use of evidence from the workplace; ineffective target setting during progress reviews; unsatisfactory planning of some plumbing assessments. Other improvements needed; greater involvement of employers in progress reviews; better appreciation of key skills by learners.
Isle of Wight Industrial Group Training Services	05-06-03		*** (3)	Strengths; good development of practical skills; very effective progress reviews. Weaknesses; poor retention rates; slow progress for many learners.
Kent LEA	15-07-05		*** (3)	Strengths; good retention rates; good standard of learners' work; particularly well qualified and experienced tutors. Weaknesses; insufficient recording of learners' progress; poor implementation of health and safety procedures.
Llewellyn Management Services Ltd.	08-02-02	**** (4)	** (2)	Strengths; well motivated and indentured trainees; thorough and well planned on the job training; additional qualifications gained; high achievement and retention rates; many trainees progress to further qualifications; good career progression within the company. Weaknesses; underdeveloped use of work-based evidence for NVQ; little integration of assignments with the building of technicians' work.
Milton Keynes College	06-09-02	**** (4)	*** (3)	Strengths; well structured off the job training; good work placements; additional qualifications provided for trainees. Weaknesses; slow progress by trainees towards achieving NVQs; some poor assessment practice; poor target setting and progress reviews; some overcrowding of classrooms and workshops.

North West Kent College	5-04-02	**** (4)	*** (3)	Strengths; good well presented portfolios of evidence; good off the job training; particularly through internal verification. Weaknesses; little assessment in the workplace; inadequate resources in some workshops.
Royal School of Military Engineering	13-12-02		*** (3)	Strengths; extensive range of good training facilities; good understanding of health and safety issues by learners; good off the job training; comprehensive schemes of work; good retention and achievement rates. Weaknesses, insufficient work-based evidence in most trades; no individualised training; poor initial assessment of individual learning needs; inadequate use of individual learning plans. Other improvements needed; improve the learning of environment in some areas of learning.
Southampton City Training	04-02-05	**** (4)	*** (3)	Strengths; good development of learners' skills' good progress reviews; flexible to meet the needs of learners and local industry. Weaknesses; slow progress by some learners; poor co-ordination of additional support; insufficient monitoring of subcontractors.
Southampton Engineering Training Association	04-02-05		*** (3)	Strengths; good retention rates; good use of accreditation of prior learning and attainment; well planned programme; good additional qualification gained by learners. Weaknesses; weak progress reviews; slow progress on key skills portfolios; insufficiently thorough internal verification.
Sussex Training Group	24-12-04	*** (3)	**** (4)	Strengths; high standards of learners' practical work; good learning and pastoral support. Weaknesses; low achievement rates; slow progress towards achievement of NVQs; poor use of targets in progress reviews; poor leadership and management.

17.3 Conclusions

The South East regional LSC will need to anticipate the likely impact of curriculum adjustments on the individual providers within the South East region should recommendations within this report be implemented. The OfSTED/ALI data suggests that a number of providers in the region have not performed well in relation to inspections. Six providers on first inspection received a grade 4, with four of these providers on re-inspection obtaining a grade 3 and two going up to a grade 2. One provider is currently a five (under the new inspection regime, this would automatically be a 4) and one is currently a grade 4 (presumably awaiting re-inspection). The regional LSC therefore in consultation with other partners and stakeholders, having established that SummitSkills data is a true reflection of the position within the region, may wish to restructure provision accordingly within the building services engineering sector taking inspection grades into account.

17.4 Recommendation

If restructuring of provision is deemed to be appropriate, SummitSkills proposes to work with partners and stakeholders to facilitate this process effectively to benefit employers within the sector and achieve quality improvement.

18 Quality: achievement on curriculum

Please refer to Appendix H for data relating to this section.

18.1 Introduction

Achievements are a major ingredient in measuring the effectiveness of curriculum delivered by providers and feature heavily in the OfSTED/ALI inspection grades for the sector. The achievement data that is available can appear confusing as there are a number of measures under which achievement is contained. For instance, ‘partial completions’ can often be included as being part of the measure.

For ease, SummitSkills is discounting partial achievement and only looking at the completions in an academic year. To compensate for this, and so as not to skew the figures, although the data contains the ‘continuing’ figures these are not included in the achievement calculation.

SummitSkills interprets ‘continuing learning’ as someone who for example on an NVQ 2 course is moving onto a second or subsequent year of study. This would be normal as most NVQ courses in the building services engineering sector usually take two academic years to complete, although completion under an NVQ may take place at anytime, depending on progress and APL.

There may be occasions where learners on year-long programmes do not complete but are deemed to be ‘continuing’ without achievement, because the provider believes that they will achieve at a later stage (although no funding is usually payable on a continuing student past their learning end date) - these learners are ignored. and the percentage achievement for this report is the difference between the numbers of learners who completed their programmes by the number of learners who achieved their programme and got their qualification.

SummitSkills accepts that people might feel this calculation does not measure the full extent of achievement short of full qualification. There is also a view that a part-qualified member of staff is not qualified at all - this is probably more akin to the view of employers within the sector.

The following therefore are the results from the FE-funded qualifications for the industry areas within the building services engineering sector. The tabular data on achievements are contained within Appendix H. Average achievements figures are derived from the sum of the percentages for all courses, divided by the total number of courses, multiplied by 100.

Air conditioning and refrigeration

Total percentage (%) achievement in FE funded	62%
Total percentage (%) achievement in FE funded technical certificates	25%

The data suggests that technical certificate performance is significantly poorer than in the overall air conditioning and refrigeration performance. This may suggest that non-employed status learners are bringing down the averages by not completing and achieving their learning programmes.

Electrotechnical

Total percentage (%) achievement in FE funded	55%
Total percentage (%) achievement in FE funded technical certificates	65% (60%)

It is interesting to note that in this case, the technical certificate achievements at 60% are higher than the overall achievements. The NEV Essential Electrics course at 65% is higher still than all of the other achievements on all the other programmes.

Heating and ventilation

Total percentage (%) achievement in FE funded	74%
Total percentage (%) achievement in FE funded technical certificates	34%

The data for FE-funded heating and ventilation suggests that, as with air conditioning and refrigeration, the performance of the technical certificates is below the overall performance of the industry. It also suggests that the use of technical certificates for part time and full time non-employed learners may be adversely affecting the performance of these courses.

Plumbing

Total percentage (%) achievement in FE funded	53%
Total percentage (%) achievement in FE funded technical certificates	47%
Total percentage (%) achievement in FE funded NEVS plumbing courses (excluding NVQs)	55%

The overall achievement rates for plumbing are very low compared with other industries and generally across further education. With the exception of electrotechnical (where the data is less robust), a pattern has developed where the performance on technical certificates is lower than other courses. In plumbing this remains the case, despite the high number of NEVS courses within the industry.

The high level of funding invested on NEVS plumbing provision does not seem to have improved the skills base of the population significantly, as only 55% of people on these courses have achieved their qualification. This indicates that funding will be better directed elsewhere.

Technician

Total percentage (%) achievement in FE funded	63%
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Performance in the National Diploma in building services (a full time course, although it may be being used as a top-up in some cases in lieu of an HNC for University) is extremely low for this year, particularly as the low numbers on this course (eight people) indicate there is only one provider.

Downstream gas

Total percentage (%) achievement in FE funded	91%
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Downstream gas courses are traditionally 'bolt-on' courses for learners working in the sector. This may therefore reflect the very high achievement rates for these courses.

18.2 Work-based learning

In relation to work-based learning, the majority of learners within this heading will be on full framework apprenticeships. The data given here however does not cover the components of the full framework, but looks more particularly around the individual achievements of the courses funded under work-based learning.

This means that the percentage given may be higher than the full framework achievements, because many learners struggle to achieve a full framework due to difficulties with achieving key skills.

The data does however give the reader an opportunity to see achievement rates on the various craft courses. These are shown according to industry areas in Appendix H at the end of this report:

Air conditioning and refrigeration

Total % achievement in work-based learning air-conditioning and refrigeration	40%
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Performance in work-based learning courses is lower than that of FE funded provision. This may reflect the predominance of younger learners under-19 accessing work-based learning.

Electrotechnical

No meaningful data is currently available.

Heating and ventilation

Total % achievement in work-based learning heating and ventilation	36%
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As with the air conditioning and refrigeration courses, there is a marked drop in the performance of work-based learning learners to those on FE funded courses.

Plumbing

Total % achievement in work-based learning plumbing	38%
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As with air conditioning, refrigeration and heating and ventilation courses, there is a marked drop in the performance of work-based learning courses in relation to their FE equivalents.

Technician

Total % achievement in work-based learning technician courses	30%
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The trend for work-based learning courses to perform less well than FE funded provision is continued within the technician area, although the number of learners in this area is significantly smaller than in the craft industries.

Downstream Gas

Not applicable

18.3 Conclusions

There are a number of conclusions that can be drawn from this data:

- The general achievement performance of the sector is low and lower than the majority of other sectors within the economy.
- Technical certificates, which attract a lot of non-employed part time and full time learners, are generally performing even worse than the overall average for the industry. This suggests they are not providing effective routes into the industry for non-employed status learners, or adequate progression routes.
- The performance of NEVS in plumbing is also low, and cannot be seen to be providing an adequate progression route into the sector for learners.
- Work-based learning achievement appears to be significantly lower than that of FE funded provision. This in part may be due to the predominance of younger learners (predominantly under-19) in that area of funded provision.

18.4 Recommendations

SummitSkills proposes to work with partners and stakeholders to devise strategies for improving achievements with providers, where figures are particularly low.

As NEVS provision is not improving achievement and therefore nor the qualification base of the nation, it is recommended that this is yet a further justification for removing NEVS from public funding.

19 Quality of provision: views of the building services engineering sector in the South East

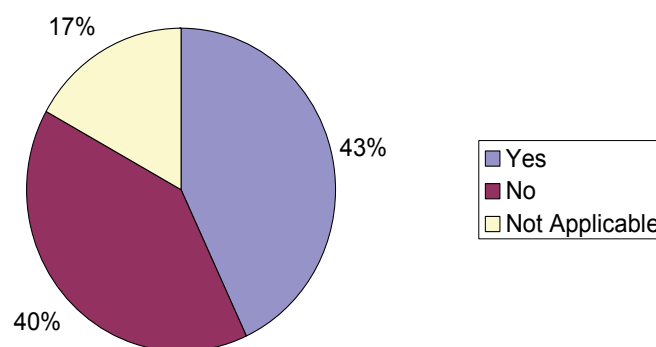
19.1 Introduction

The next two sections look specifically at the issues surrounding quality of provision and the providers within the building services engineering sector. The data splits naturally into two parts. Section 19 looks at the providers and employer views on the quality they receive from these providers. Section 20 looks at employer views on the content of provision and their use of the various grades of provision at technician, graduate and professional level.

19.2 Quality of provision

The first question asked South East building services engineering employers if they had encountered problems with the quality of training. The answers in relation to Further Education colleges (where for most of the companies interviewed, the majority of their apprentices are trained) are detailed in Figure 13:

Figure 13 Percentage of the South East building services engineering sector who have experienced problems with the quality of the training in further education colleges



The quotes below are indicative of the views encapsulated in the diagram above:

We have and we haven't used them again, we give them the feedback and... we can be quite critical as a company... (SESP02)

I wouldn't say it was exceptional no... I wouldn't put them back on that private course... I'm weary of private providers in the sense of... I mean I don't know if you would class these private... (SELP01)

There were some issues with the quality of training.... But you know there were probably too many in the training sessions that I was at; where I think they were trying to cram... economics again. Trying to cram too many people in one... which meant that practical delivery of the practical... delivery of the practical aspects of the course wasn't anywhere near exactly what it should have been... so yeah... (SESET01)

No... I've recently been onto ... to complain that these lads don't know how to fill in test forms, now an old chestnut I can see by your face... yes and according to my lads they had no training at all in that, however ... despite that, but having said that I now find there is they're taking steps to make sure that a bit more of that is done... (SESET02)

It's a double edged sword... it's the lads as well... they're not doing any more until you've done your NVQ level 3...so he comes in with GBTC, takes it out and puts it in front of you. (SEMET01)

I'm happy with the service from ... I'm not happy with the quality of the end product, but I wonder how much that is restricted by what City and Guilds is allowing them... the quality of the delivery could be brilliant, but if the quality of what they're being asked to deliver isn't at the end of the day producing perhaps the quality we're looking for where... is the problem with the college? I don't think it is, but I think that they are getting these direct lines they been told they can only teach up to this and only do up to this and is that enough? (SELET01)

The quality is better than what we're actually getting from the FE colleges, because the training... in our case the training provider that we're using is a provider of gas skills to engineers. (SEMHV01)

I guess quite reasonable... I mean... the people have not had any adverse comments and at the end of the day we need them trained too... (SEMHV02)

I would not under normal circumstances, consider further education colleges for management training. We have used them for specific training, for example... association of accounting technicians... once you get past that stage... if your training to be an accountant, then we have... we'd train our own accountants here, then we always go to the private sector... FE colleges to be quite frank are useless at that. (SEMACR01)

Yes I think so because at the end of the day our apprentices come out with the relevant qualifications so the only way that they're going to get those qualifications is if the teaching's there. (SEMACR02)

Varies, I think it varies a lot. ... is a good college at the moment on the heating and ventilation side... on the plumbing side they lost four tutors I believe and they went to start up on their own at ... which is now a good college as far as I am concerned, we've got out lads there (SELACR02)

Yeah I've some bad experiences with them recently... (SESBSEC01)

We have a very good rapport with all the colleges that we use... (SESBSEC02)

Satisfactory to very high quality... (SEMBSEC01)

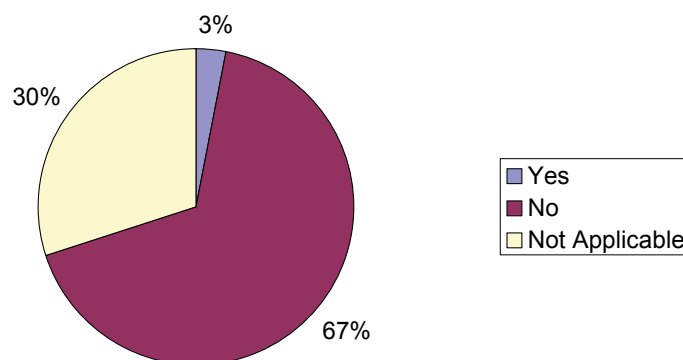
It's like all things, it's good and bad... generally I'd have to say we haven't had a bad experience in terms of the attitude of lecturers, the delivery of lecturers, at the end of the day every student I've put through has passed and they've come out and they've been able to survive within the industry... above and beyond that, it's really down to the individual student or person to make sure that they can, if they want to go beyond those bounds... (SEMBSEC02)

We've had very mixed experience... we've come across some very good training providers and we use them, we've used external training providers for many years... soft skills, technical skills, managerial skills, a real mixed bunch. If anything's missing it's probably somebody who's able to give us a quality on them. We often have to try the before we find out if they're any good. (SELBSEC01)

Very up and down... for this office... we go to 3 colleges... but there are 3 separate colleges, have 3 separate ways of doing things and its all very complicated... I think... (SELBSEC02)

As can be seen from Figure 14, the situation is significantly better in relation to private training providers.

Figure 14 Percentage of building services engineering sector companies within the South East who have had problems with private training providers



The quotes below are indicative of the views encapsulated in the diagram above:

Yeah I can't remember what... the last private provider type course that we did was probably health and safety awareness type courses. They were fine yeah... (SESET01)

I'm happy with their quality of training definitely yes... it's much better than we ever got at... (SEMET01)

We're quite impressed by it... it actually came via an HVCA recommendation for basic health and safety training which we did for skill card issuing. And then the individual concerned, or the organisation which is an individual, we thought it was so good we actually bought him in to do training here so he comes over here quite regularly... (SEMET02)

I am so far... I've learnt quite a lot... (SELET01)

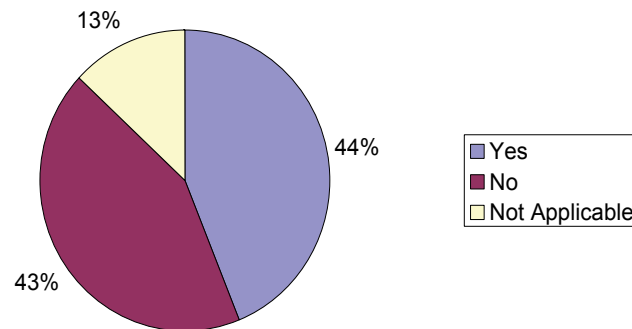
I think generally we're happy because we do as much research as we can before we go on to the training and we do where we can, we try and use fairly well known organisations like CIBSE the IEE, we use some of the local further education colleges and so on and so forth... but even there we get very mixed results... (SELACR01)

I guess quite reasonable. I mean the people have not had any adverse comments and at the end of the day we need them trained too... (SELACR02)

Wouldn't say it was exceptional... no... (SELBSEC01)

There were no criticisms of the quality of manufacturers' courses, and one complaint about the quality of a University course in building services engineering. The completion performance within the sector is not good, therefore it is not surprising that this experience was also demonstrated by a significant percentage of the companies interviewed, shown in Figure 15 below:

Figure 15 Percentage of companies interviewed in south east whose employees had failed to complete a programme of study



The quotes below are indicative of the views encapsulated in the diagram above:

I think the problem they've got is we don't get feedback when apprentices are struggling; from our point of view if we know they're struggling we want to give them the additional support. We'll pay for it, we want them to succeed ut we don't get that type of feedback. (SESP01)

I've only had one who really struggled... I had two dyslexic and I had one who really struggled but he got superb support, in those days we were actually using ... (SESP02)

Oh no, no, no. I think it's, you know they would tell them what they've failed on and in something as important as hazardous areas... that could cause a major problem... you've got to get it right... (SEMHV01)

Yes we had one lad who didn't and he was released because we tried to drum into him that it was very important that he passed his college course and he didn't advance, he was just skiving and things like that so he was paid off. (SESACR01)

Well yes, as I said earlier it's a problem with this key skills learning and having a disability and it was recognised too late... (SELBSEC01)

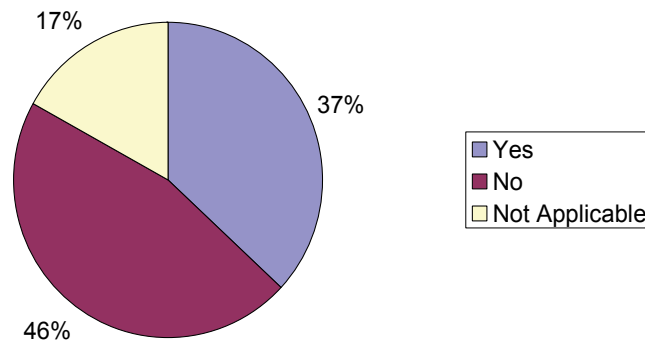
Yes, other than the fact if we have one that suddenly decides that they've had enough and want to do something different. (SELACR01)

I think we've had two failures in health and safety training but we then gave them additional training and made them retake... (SELBSEC02)

As can be seen from the above, the reasons for non completion were far from always laid at the door of the provider, with responsibility often being targeted at the learner by their employer.

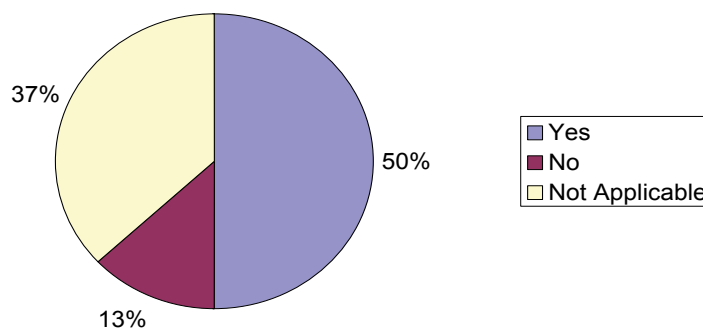
The quality of teaching is a matter for the professional inspection bodies such as OfSTED and ALI (the inspection reports for South East providers are contained within this report). The view of employers therefore is unqualified, but shows some concerns about quality, particularly around teaching in Further Education colleges:

Figure 16 Percentage of building services engineering companies in the South East happy with the quality of teaching in further education colleges



As before, there is significantly less disenchantment of the quality of teaching within private training providers, as can be seen from Figure 17 below:

Figure 17 Percentage of South East building services engineering sector companies who are happy with the quality of teaching from private training providers



One consultant company was extremely unhappy about the quality of teaching received on an undergraduate building services engineering course. There were no complaints about the quality of training from manufacturers.

19.3 Conclusions

The building services engineering sector in the South East uses a diverse group of providers to access its training needs. Predominantly a significant amount of apprenticeship and technician training takes place in Further Education colleges, although more is now taking place within private training providers.

Generally there is more dissatisfaction in the region with the quality of service and teaching provided by FE than for the other sectors. This revolves around issues of communication and quality of teaching, as well as resources and general curriculum planning.

19.4 Recommendation

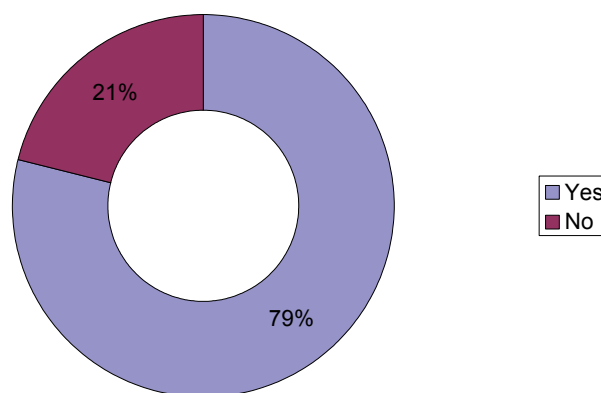
SummitSkills, along with partners and stakeholders, will continue to work with FE colleges offering building services engineering courses to improve the quality of administration and teaching in order to meet the needs of the sector.

20 Content of provision: views of the building services engineering sector in the South East

20.1 Breakdown of firms employing technicians, graduates and professionals

The research first looked at the breakdown of respondents in relation to the sector's vocational areas. As the majority of companies interviewed were craft based then, as can be seen from Figure 18 below, a significant minority of companies (usually the small to medium companies) did not employ technicians:

Figure 18 Percentage of South East building services engineering sector companies employing technicians

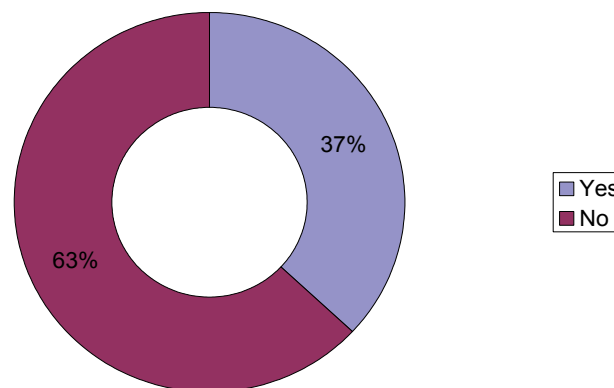


Our technicians are our service engineers who go off to support breakdowns from that point of view... (SESACR02)

Think on my side of things some managerial skills and estimating skills, they're you know things you teach once they came to me, but it would be nice if they could take over a managerial role more readily. (SEMBSEC02)

The next question assessed the number of graduates employed by the sector within the South East. In relation to the craft companies (who represent the majority of this survey), graduates are restricted to the larger companies as would be expected. Figure 19 shows the total percentages:

Figure 19 Percentage of building services engineering sector companies interviewed who employ graduates



I wouldn't close the door on him, but ... your average graduate is not a man that's been on the ground and I need men that have come from the ground up in my experience, he needs the fundamental basic experience to be able to work for me in my company and carry out the duties that he would have to carry out. (SESP01)

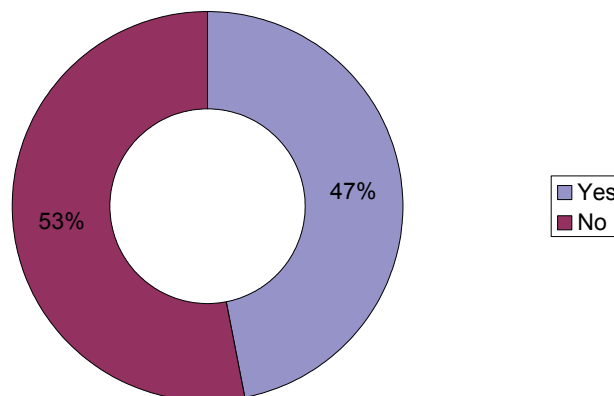
...employ graduates... we have our own graduate scheme... (SEMHV02)

Some and some.... It's a difficult one to answer... I mean we've got people with degrees, but in electronic engineering and manufacturing, which isn't quite... they've got a degree so they've got a certain standard and knowledge, but it isn't specific sometimes in you know what we do... (SELHV02)

The next question identified the companies with professionally qualified staff. The percentage is higher than that for graduates. This is not at all surprising as the construction industry generally has a long standing tradition of professional qualifications, with significant numbers of senior managers/company owners obtaining professional qualifications through non-graduate traditional routes some years ago³⁰. Figure 20 shows the results for professional qualifications within the sector interviewed within the South East:

³⁰ Most professional routes are now through the auspices of either a full time or part time degree course.

Figure 20 Percentage of building services engineering sector companies in the South East who employ staff with professional qualifications



Yes... but I'm a member because somebody elected me to be on it... I said what relevance is that? Someone says you've got the technical ability which I have, but I'm not an engineer. (SELET01)

*I smile here because we had an engineer come in who was so lettered up it was unbelievable but as an engineer he was absolute c**p. I think he spent more time filling in the forms to get his engineering letters than he did doing the work. It's one of those things, I mean obviously some people like to see letters after their names and think it's, you know, it's the bees knees but is it going to get us more work? Is it going to make us more efficient out on the sites? I doubt it. (SEMHV01)*

Well I think there's a need just really to bring the new blood into the business. The professional qualifications, yes they have to have them, because that's what the client looks for and that's what we need. You need someone that knows what they're talking about. But you do need both. You need the professional qualifications and you need people that are maybe more dynamic that are coming in from university that have got different ideas. Yes I think you need both. (SEMHV02)

I mean again that is important, particularly in our sort of design field. (SELHV01)

Absolutely... absolutely totally committed to that... (SELHV02)

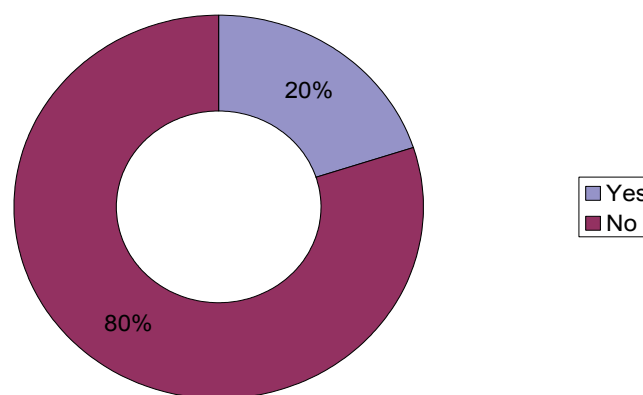
No not really... I've been a member of... for years and years and years... it isn't really relevant... I don't really gain any benefit from it... (SEMBSEC01)

20.2 Views on the content of provision

With the exclusion of consultants (who tend to employ professionals, graduates and technicians), because the majority of the surveyed companies employed people with any number of skills and qualification levels, from professional status to craft, it was not feasible to ask about content for every separate level.

Therefore the content of all skill levels are considered together, with the results detailed below in Figure 21. The quotes that follow are indicative of the views encapsulated in the diagram:

Figure 21 South East building services engineering sector perspective on the suitability of the content of provision for the sector



No, I think they're still a bit archaic... yes... I think for the industry that we're in, there is a divide between commercial and domestic and I think that is a really hard issue for us as a company... (SELP01)

No I think in generic terms it's certainly not... with the way that plumbing plastic advanced tremendously... (SESHV02)

I think it will become increasingly rare for opportunists. I think inevitably with the introduction of the two things that I think are going to be required, possible quite near in the future. I think electrical installations are becoming more complex. So the fault finding becomes more complex. And you do have... you need a degree of technology ability I think in order to solve those. So yeah, I think there will become problems I think for technologies to go together. So my running of a wire from A to B more simply will be more complicated. (SEMHV02)

I don't think that the NVQ is particularly a good way for electricians, it embraces an awful lot of trades and whatever in the industry but I don't think it does the electrical particularly well. I don't think that it should be within NVQs, it maybe that I'm old school and I can't profess to know too much about it, your man would argue that I'm sure... (SEMACR02)

I think they're aimed too low... I think they ought to be aiming them a little bit higher... the major problem I've got with them is competency in testing. (SELACR01)

Yes I mean obviously we've got the changes in the electrical certificate that's coming up and that's yet to be evaluated isn't it? I mean it's new crafts. So at the moment yes, I would say. (SESBSEC01)

I've said a few things in the previous questions about this, about the need to do more on the way a system works on the craft apprenticeship side, the pipefitting and welding. And more practical training, more time actually fitting pipe bending pipe... more emphasis on as I said before a final written exam to me is a vital to prove the guy can do the job. (SESBSEC02)

I mean you come back to the age old chestnut of welding... because... we actually had a guy who did... to get practical experience. We couldn't offer that within... although it was a requirement for his training. There just isn't that much welding done anymore... (SEMBSEC01)

Generally yes because they satisfy the needs of the industry... (SEMBSEC02)

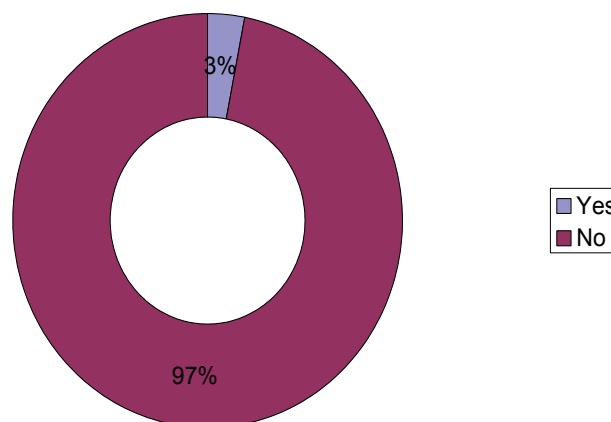
From my experience I would say yes but I've only got a fairly narrow experience. (SELBSEC02)

From the responses given the following concerns come over clearly from South East companies within the building services engineering sector:

- NVQ curriculum is generally thought to be unsuitable for the needs of the sector, with material in it that is out of date and other material not contained within it that should be.
- Technician curriculum is generally thought satisfactory, although there is some concern that some material is too specialised and out of date. The more general nature of HNC/D courses is detracting from the specialist requirement of some employers.
- Degrees also like HNC/D have certain elements within them that are not wholly relevant to the needs of consultants and life in the 'real' world.

To address some of the issues related to technical qualifications the Government, through 'Foundation Degree Forward', has sought to introduce Foundation Degrees in response to the need for a robust sub-degree higher education qualification. As can be seen from Figure 22 below, very few had heard of the qualification and nobody is using it within the South East building services engineering sector:

Figure 22 Percentage of building services engineering sector companies who have heard of Foundation Degrees



The quotes below are indicative of the views encapsulated in the diagram above:

I've heard of them but I don't know what they are... (SEMP01)

Never heard of it what's that? (SELP01)

No I'm not aware of them... (SEMACR01)

I think as an employer, I would say it's not been explained very well... that the whole concept... I'm not against it... I'm in favour... but when you speak to someone of my age who's just done a normal degree and say, well here's a foundation degree because a foundation degree doesn't put letters after your name.... (SELACR01)

That's like first year, getting on a degree course, isn't it really? (SESBSEC01)

20.3 Conclusion

The data within this section suggests that the sector has significant issues with the current content of the provision at all levels, with most concern being at NVQ craft level.

20.4 Recommendation

As the concern is so significant, SummitSkills recommends working with providers and stakeholders to seriously examine the current content of building services engineering courses to bring them into line with sector needs.

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22 Appendices

22.1 Appendix A: Mapping of Training Provision

Table 67 Courses not funded in either 03/04 or 04/05

Qualification Code	Title	Awarding Body
AIR CONDITIONING AND REFRIGERATION		
267234	GC 0601-06 Process Plant Operations Level 3	
00233048	Air Conditioning Appliance	CITB
Q1018012	NVQ in Small Commercial Refrigeration and Air Conditioning Systems	CGLI
00260681	MVT Heating and Air Conditioning	100147AU119 University for Industry
ELECTROTECHNICAL		
1003321X	Certificate in Communications Cabling	CGLI
10012928	Certificate in Knowledge of Electrical Installation Engineering	CGLI
1004338	Certificate in Management of Electrical Equipment Maintenance (Code of practice for in service inspectors.)	CGLI
104071	CG2369 Electrical Installation Work Part 1 (Customer Specific Scheme)	CGLI
104070	CG2369 Supplementary studies in electrical installation work customer specific scheme	CGLI
220630	CG2391 Inspection and testing of certification of electrical installation	CGLI
104077	Design erection and verification of electrical installations	CGLI
267360	CG6161-27 advanced diploma in electrical installation	
111730	CG6347 Electrical Installation Skills (Customer Specific Scheme)	CGLI
111731	CG 6347 For Domestic Electrical Installation (Customer Specific Scheme)	CGLI
267411	CG 9361 Electronic Wiring Skills	CGLI
10033555	NVQ in Installing Public Lighting Systems	CGLI
257678	Commercial Generators LPG	CITB
262298	Intermediate Award in Intruder Alarms	EDEXCEL
267633	Intermediate Award in Security Systems Cabling (Copper and Fire)	EDEXCEL
267634	Intermediate Award in Security Systems Installation	EDEXCEL
Q1050761	NVQ in Fire/ Security and Emergency Alarm Systems	FSEAS2 JS12-CGLI/ Security Industry Training Org
Q1022197	NVQ in Security Systems Technical Services	186601/ JS12- CGLI/ Security Industry Training Organisation
10031042	NVQ in Electrotechnical Services	Lantra
10029990	NVQ in Installing Public Lighting Systems	Lantra
255400	Lighting and Power Circuits	NOCN
10025625	Certificate in Design, Erection and Verification of Electrical Installations	CGLI
10012886	Certificate in Electrical Installation Theory and Practice Part One	CGLI
10012904	Certificate in Electrical Installation Theory and Practice Part Two	CGLI
10012898	Certificate in Electrical Installation Theory Part Two	CGLI
10012916	Certificate in Electrical Installation Work Course C	CGLI
1001293X	Certificate in Inspection, Testing and Certification of Electrical Installations	CGLI
00103945	CG 1862 Intruder Alarms	CGLI
00103946	CG 1862 Intruder Alarms Maintenance	CGLI
0010473	CG2380 16 th Edition of the IEE Wiring Regulations	CGLI
0010474	CG2380 16 th Edition of the IEE Wiring Regulations	CGLI
00272143	Electrical Installation	CITB
00206707	Essential Electrics (Gas)	CITB
00119750	Registered Operative Identity Cards Essential Electrics	CITB
Q1021329	NVQ in Installing and Commissioning Electrical Systems and Equipment	ECITB
Q1016785	NVQ in installing and commissioning Electrical Systems and Equipment	ICESE3 J572 JIB for ELEC/ CGLI
Q10521155	NVQ in Installing and Commissioning Electrotechnical Systems and Equipment	I&CESS3 J649 CGLI
Q1052317	NVQ in Installing Electrotechnical Systems	INSELSY2 J649 CGLI
00255324	Connect Wiring Systems and Equipment using Safe and Appropriate Methods	J9118 CGLI/ JIB ECI
00222518	Introduction to Electrics	A0332 NCFE
00253557	Speed Training Competence Certificate in Electrical Installation	C0167 NCFE
00252808	Certificate in Electrical Installation (Entry Level)	OCNW
10025635	Certificate in Design, Erection and Verification of Electrical Systems.	CGLI

Table 67 Courses not funded in either 03/04 or 04/05 cont...

Qualification Code	Title	Awarding Body
HEATING AND VENTILATION		
10045727	Certificate in Thermal Insulation	CGLI
250578	Advanced Certificate for Medical Pipe Systems (Customer Specific Scheme)	CGLI
250617	CG6042 Central Heating Commercial Skills and Energy Efficiency (Customer Specific Scheme)	CGLI
233022	Closed Flue Fires (LPG)	CITB
272164	Combination Boiler Advanced Fault Finder	CITB
233047	Direct Fired Heating Appliances	CITB
275631	Domestic Forced Draught Burners	CITB
233009	Domestic Gas Fired Ducted Air Heaters of Rated input not exceeding 60kw	CITB
271349	Oil Advanced Domestic/ Commercial/ Industrial Tank Installation	CITB
271347	Oil Commercial/ Industrial Pressure Jet	CITB
271344	Oil Appliance Installation Plus Fuel Conservation	CITB
233029	P.E. Fusion Jointing (LPG)	CITB
257706	Gas Fired Hot Water Boiler	CITB
275622	Internal Burner Controls and Combustion	CITB
275623	Industrial Pipe-work	CITB
271444	Install Exchange Service Repair Breakdown and Commission Hot Water Boilers 15-140kw	ERS
271469	Testing and Direct Purging of Low Pressure Commercial Pipe work not Exceeding 1m cubed in volume	ERS
271470	Testing and Purging Installation Commercial Pipe work Exceeding 1m cubed in volume, up to 7 bar	ERS
271465	First Fix of Commercial Pipe work	ERS
276416	Commercial Commission of Boosters and High Pressure Pipe work	CBHP1 NIC
276451	Oil Tank Installation Assessment	OFT/ 600 NIC
276453	Wet Central Heating	CEN 1 NIC
270519	Advanced Domestic/ Light Commercial Oil Storage Tank Installation Course and Assessment	OFTEC
270095	Domestic Light / Commercial Oil Firing Commissioning and Servicing Course and Assessment Pressure	OFTEC
270096	Domestic/ Light /Commercial Oil Firing Commissioning and Servicing Course and Assessment Vaporizing	OFTEC
270097	Domestic/ Light/ Commercial Oil Firing System Installation Course Assessment with Energy Efficiency	OFTEC
00222137	Domestic Gas Central Heating Systems	BPEC
00222138	Domestic Gas Service and Maintenance	BPEC
00230076	Industrial and Commercial Gas (Pipe work)	BPEC
00230078	Industrial and Commercial Gas (Service and Maintenance of Gas Catering Appliances)	BPEC
00230077	Industrial and Commercial Gas (Service and Maintenance of Gas Fired Boilers and Air Heaters)	BPEC
00253807	CG6013 Gas Service and Maintenance (Level 2)	CGLI
00111750	CG6367 Domestic Central Heating and Boiler Servicing (Customer Specific Scheme)	CGLI
00112249	CG9362 Mechanical Services Skills Domestic Heating Specialism	CGLI
00112248	CG9362 Mechanical Services Skills Heating and Ventilation Specialism	CGLI
00206715	Domestic Heating Appliance Controls	CITB
00206715	Domestic Heating Boilers and Systems	CITB
00206700	Domestic Space Heaters	CITB
00206704	Domestic Warm Air Heaters	CITB
00206702	Domestic Water Heaters	CITB
00233018	Ducted Air Heaters of less than 60kw (LPG)	CITB
00206714	Industrial Pipe work	CITB
00119746	Registered Operative Identity Card Central Heating Parts 1 & 2	CITB
00119755	Registered Operative Identity Cards Hot Water Boiler Controls and Combustion (ACOP)	CITB
00119757	Registered Operative Identity Cards Large Industrial Pipe work	CITB
00119758	Registered Operative Identity cards process Heating (ACOP)	CITB
00119759	Registered Operative Identity Cards Steam Boilers (ACOP)	CITB
Q1050432	NVQ in Thermal Insulation	6015/02 J573- NJC Thermal Insulating Contracting Association.
00222179	Central Heating Installation Commissioning & Servicing Domestic : Combination and Condensing Boiler	LTC- Zurich Cert Ltd (ZCL)

Table 67 Courses not funded in either 03/04 or 04/05 cont...

00222163	Central Heating Installation Commissioning & Servicing Domestic: LPG. Domestic and Light Commercial.	LTC ZCL
00222164	Central Heating Installation Commissioning & Servicing Domestic: LPG. Domestic and Light Commercial	LTC ZCL
00222159	Central Heating Installation Commissioning & Servicing Domestic: Module 2A: Training and Assessment	LTC ZCL
0026894	Commercial Commission of Boosters and High Pressure Pipe work	CBHP1 LTC ZCL
00268891	Commercial Gas Installation First Fix Pipe work Assessment	ICPN1 LTC ZCL
00268903	Oil Commissioning Technician Assessment	LTC ZCL
00268904	Oil Installation Assessment	LTC ZCL
00222175	Oil Services Training/ Assessment: (OF/101) OFTEC Domestic/ light Commercial Technicians	LTC ZCL
00268905	Oil Tank Installation Assessment	LTC ZCL
00222154	Pre-Requisite Gas Safety Domestic: Module 1 A: Training and Assessment	LTC ZCL
00222155	Pre-Requisite Gas Safety Domestic: Module 1 T: Element Based (Test Only)	LTC ZCL
00270509	Vaporizing Appliance Commissioning and Servicing	OFT/ 102 LTC ZCL
00269367	Wet Central Heating	CEN 1 LTC ZCL
00220623	CGLI 2456 Engineering Construction (Pipe Fitting)	CGLI
Qualification Code	Title	Awarding Body
PLUMBING		
270905	Basic Plumbing Skills	
275498	Foundation Level Plumbing 16-18	GAT 622 ASET
289001	National Award in Practical Plumbing Skills	NO 053 ASET
116313	CG 5958 The Certificate in Minimizing the Risk of Legionella in Hot and Cold Water Systems (Customer Specific)	CGLI
267333	CG 6032-01 Sanitary Accommodation Installation Maintenance and Design (Client Specific Scheme)	CGLI
115017	CG6039 Plumbing Craft (Customer Specific Scheme)	CGLI
115022	CG 6050 Master Plumber	CGLI
115058	CG6182 Application and Installation of Celuform UPVC Products (Customer Specific Scheme)	CGLI
116322	CG6188 Installation Specialist in Plastics/ Hot and Cold Water Plumbing and Heating Systems (Customer Specific Scheme)	CGLI
233042	Test and Purge- UP/1	CITB
233043	Test and Purge-UP/1A	CITB
272168	Unvented Hot Water Storage Systems (Inspect/ Commission Only)	CITB
272169	Unvented Hot Water Storage Systems (Install/ Commission/ Service)	CITB
275012	Unvented Domestic Hot Water Systems	ERS
221918	Foundation- Plumbing	NCFE
269387	Multi Skills for Plumbers Course 1	11Q 0002836 NCFE
269388	Multi Skills for Plumbers Course 2	11Q 0002837 NCFE
276473	Unvented Hot water Supply Commissioning and Servicing	UVHW1 NIC
00104285	CG3483 Heating and Domestic Hot Water Systems (Customer Specific Scheme)	CGLI
00115009	CG 5963 Plumbing Advanced Craft	CGLI
00115008	CG 5963 Plumbing Craft	CGLI
00115010	CG 5968 Traditional Lead Roofwork for Plumbers	CGLI
00103415	CG6030 Plumbing Advanced Craft	CGLI
00115016	CG6030 Plumbing Craft	CGLI
00116321	CG6186 Lead Sheet Flashing	CGLI
00111709	CG 6332 Plumbing and Domestic Heating (Customer Specific Scheme)	CGLI
00111718	CG6340 Roof Sheeting and Cladding	CGLI
00112085	CG8320 Plumbing Advanced Craft	CGLI
00222152	Mechanical Services Training/ Assessment: Unvented Hot Water Storage Systems (UVHWS)	LTC ZCL
00269377	Instantaneous Water Heaters	WAT1 LTC ZCL
00259716	Basic Skills in Plumbing	A1015 NCFE
00253559	Speed Training Competence Certificate in Plumbing	C0165 NCFE
00236706	CG 6161 Certificate in Plumbing	CGLI
00206711	Unvented Domestic Hot Water Storage Systems	CITB
00261353	C&G 6988 Certificate in Plumbing	CGLI
00263335	First Fix for Commercial Pipe work (Limited Scope)	BPEC

Table 67 Courses not funded in either 03/04 or 04/05 cont...

Qualification Code	Title	Awarding Body
TECHNICAL/PROFESSIONAL		
116225	Associate Member	Association of Building Engineers
259865	Graduate Member	Association of Building Engineers
111982	CG 7690 Building Services Supervisors/ Caretakers	CGLI
267388	CG 8772 Building Services	CGLI
10030505	Higher National Certificate in Building Services Engineering	EDEXCEL
10030530	Higher National Diploma in Building Services Engineering	EDEXCEL
100567	HNC in Building Services Engineering	EDEXCEL
100570	HNC in Building Services Engineering (Electrical Installations)	EDEXCEL
100571	HNC in Building Services Engineering (HVCA)	EDEXCEL
100572	HNC in Building Services Engineering (Refrigeration)	EDEXCEL
271670	HNC in Building Services Engineering Studies	EDEXCEL
27973	HND in Building Services	EDEXCEL
100730	HND in Building Services Engineering	EDEXCEL
100731	HND in Building Services Engineering (HVAC)	EDEXCEL
271974	HND in Building Services Engineering (Refrigeration and Air Conditioning)	EDEXCEL
Q1028194	NVQ in Building Services Engineering- Design	BSED4 J636- BTEC/ SummitSkills/ CIBSE.
Q1028193	NVQ in Building Services Engineering- Site Supervision	BSE 553 J636 BTEC/ SummitSkills/ CIBSE
241069	BSC (HONS) in Environmental Engineering	OU
00261187	Certificate in Professional Skills for Building Services Engineering Inspectors	LCOB010 ASET
00104072	CG2370 Building Services- Contract Administration Techniques	CGLI
00118077	Continuing Education Certificate in Building Engineering Services (Heat Pumps)	EDEXCEL
00101026	Continuing Education Certificate in Building Services Engineering	EDEXCEL
00101027	Continuing Education Certificate in Building Services Engineering (Electrical Installations)	EDEXCEL
00101103	Continuing Education Diploma in Building Services (HVAC)	EDEXCEL
00101104	Continuing Education Diploma in Building Services Engineering	EDEXCEL
00101106	Continuing Education Diploma in Building Services Engineering (Electrical Installations)	EDEXCEL
00101107	Continuing Education Diploma in Building Services Engineering (HVAC)	EDEXCEL
00100568	HNC in Building Services Engineering (Commercial)	EDEXCEL
00100569	HNC in Building Services Engineering (Controls)	EDEXCEL
00118546	HNC in Building Services Engineering (Plumbing)	EDEXCEL
00118336	HND in Building Services Engineering (Plumbing)	EDEXCEL
00100732	HND in Building Services Engineering (Refrigeration)	EDEXCEL
00272664	Intermediate Certificate in Security and Voice Systems Installation	EDEXCEL
N1010821	National Certificate in Building Services Engineering	EDEXCEL
00100319	National Certificate in Building Services Engineering (Commercial)	EDEXCEL
00100320	National Certificate in Building Services Engineering (Controls)	EDEXCEL
00100321	National Certificate in Building Services Engineering (Electrical Installations)	EDEXCEL
00119566	National Certificate in Building Services Engineering (Gas Utilisation)	EDEXCEL
00100323	National Certificate in Building Services Engineering (Plumbing)	EDEXCEL
00100427	National Diploma in Building Services Engineering (Electrical Installations)	EDEXCEL
00100428	National Diploma in Building Services Engineering (HVCA)	EDEXCEL
00262442	Professional Development Award in Building Services Engineering	EDEXCEL
Q1028192	NVQ in Building Services Engineering-Estimating	BSEE3 J636 BTEC/ SummitSkills/ CIBSE

Table 67 Courses not funded in either 03/04 or 04/05 cont...

Q1027260	NVQ in Building Services Engineering- Service and Maintenance Management	BSESMM4 J636 BTEC/ SummitSkills/ CIBSE
Q1028197	NVQ in Building Services Engineering- Site Management	BSESMM4 J636 BTEC/ SummitSkills/ CIBSE
N1013397	National Certificate in Building Services Engineering	EDEXCEL
Qualification Code	Title	Awarding Body
A Level / AS Level / GCSE		
00201354	GCE A Level Building Services	
00203026	GCE AS Level Building Services	AEB
00204362	GCSE Building Services	MEG (Midland Examining Group)
00201359	GCE A Level Building Services	NEA Assessment and Qualifications Alliance
00204363	GCE AS Level Building Services	NEA
00204363	GCSE Building Services	NEA 1491 P
00201358	GCE A Level Building Services	OCSEB (Oxford and Cambridge School Examination Board)
00203030	GCE AS Level Building Services	OCSEB
00204361	GCSE Building Services	SEG
00201353	GCE A Level Building Services	UCLES
00203025	GCE AS Level Building Services	UCLES
00201355	GCE A Level Building Services	ULSEB
00203027	GCE AS Level Building Services	ULSEB
00204359	GCSE Building Services	ULSEB
00201357	GCE A Level Building Services	UODLE
00203029	GCE AS Level Building Services	UODLE
00201356	GCE A Level Building Services	WJEC (Welsh Joint Education Committee)
00203028	GCE AS Level Building Services	WJEC
00204360	GCSE Building Services	WJEC
Qualification Code	Title	Awarding Body
MISCELLANEOUS		
115039	Multi-Craft Skills in Construction	CGLI
10022417	NVQ in Insulation and Remedial Maintenance Operations (Construction)	CGLI
10047141	NVQ in Insulation Operations	CGLI
10045715	NVQ in Provide Energy Efficiency services	CGLI
10037068	NVQ in Thermal Insulation	CGLI
257692	Changeover Domestic Appliances to Catering Appliances	CGLI
257691	Changeover Domestic Catering	CITB
272170	Steam Utilization	CITB
275627	Domestic MP Regulations	CITB
271479	Install Service Repair Breakdown and Commission Commercial Catering Appliances in Table 1	ERS
271480	Install Service Repair Breakdown and Commission Commercial Catering Appliances in Table 2	ERS
271481	Install Service Repair Breakdown and Commission Commercial Catering Appliances in Table 3	ERS
271483	Install Service Repair Breakdown and Commission Commercial Catering Appliances in Table 3	ERS
271482	Install Service Repair Breakdown and Commission Commercial Catering Appliances in Table 4	ERS
271467	Installation First Fix of Commercial Appliances	ERS
271475	Installation of Commercial Direct Fired Appliances	ERS
271474	Installation of Commercial Indirect Fired Appliances	ERS
271467	Installation of Commercial Overhead Plaque and Tube Appliances	ERS
271468	Installation of First Fix Commercial Appliances (Limited Scope)	ERS
271492	Installation Technician	ERS
276478	Building Regulations Part P Domestic Installer Qualification Defined Scope Level B	DISQB NIC
276479	Building Regulations Part P Domestic Installer Qualification Defined Scope Level C	DISQC NIC
276477	Building Regulations Part P Domestic Installer Qualification Full Scope Level A	DISQA NIC
276417	Commercial First Fix of Appliances Assessment	ICPE1 NIC

Table 67 Courses not funded in either 03/04 or 04/05 cont...

276422	Commission / Service Direct Fired Heaters (Only with CIGA1 and CORT 1)	ICPN1 NIC
276423	Commission/ Service/ Maintain Brat Pans/ Griddle/ Grills etc Assessment	COMCAT 3 NIC
276424	Commission/ Service/ Maintain Indirect Fired Appliances Assessment	CIGA 1 NIC
276425	Commission/ Service/ Maintain Overhead Radiant and Tube Heaters Assessment	CORT 1 NIC
276426	Commission/ Service/ Maintain Stoves Hotplates etc Assessment	COMCAT 1 NIC
276427	Commission/ Service/ Maintain Water Boilers/ Boiling Pans etc Assessment	COMCAT 2 NIC
276434	Domestic Air Heaters	DAH1 - NIC
276 444	Instantaneous Water Heaters	WAT 1 NIC
276472	Pressure Jet Commissioning and Servicing	OFT/ 101 NIC
276474	Water Regulations	WR1 NIC
00261066	General Handypersons Course	LCOB002 ASET
00238078	Home Improvements	CARL 014 ASET
00268211	Home Improvements	CARL 014 ASET
10018980	NVQ in Passive Fire Protection (Construction)	CITB
00268898	Commission/Service Direct-Fired Heaters (only with CIGA and CORT 1)	CDGA 1 LTC ZCL
00268902	Commission/ Service/ Maintain Brat Pans/ Griddle/ Grills etc Assessment	COMCAT 3 LTC- ZCL
00268897	Commission/ Service/ Maintain Indirect Fired Appliances Assessment	CIGA 1 LTC ZCL
00268896	Commission/ Service/ Maintain Overhead Radiant and Tube Heaters Assessment	CORT1 LTC -ZCL
00268900	Commission/ Service/ Maintain Stoves Hotplates etc Assessment	COMCAT 1 LTC ZCL
00268901	Commission/ Service/ Maintain Water Boilers/ Boiling Pans etc Assessment	COMCAT1 LTC -ZCL
00268290	DIY for beginners	ASET
10033300	NVQ in Installing Plant and Systems- Pipefitting	ECITB
1004940X	Industrial Building Systems	CGLI/ City and Guilds
Qualification Code	Title	Awarding Body
GAS (COVERAGE WITH E&U SKILLS)		
263288	Changeover Core Commercial Catering Natural Gas to Liquefied Petroleum Gas	BPEC
263292	Commission/ Service/ Repair/ Breakdown of Gas Boosters/ Compressors Associated Control and High	BPEC
263296	Commissioning Indirect Gas Fired Commercial Plant and Equipment	BPEC
263298	Core Commercial Natural Gas	BPEC
263304	Install/ Exchange/ Disconnect/ Service/ Repair/ Breakdown and Commission Commercial Catering Appliances	BPEC
263303	Install/ Exchange/ Disconnect/ Service/ Repair/ Breakdown and Commission Commercial Catering Appliances	BPEC
263305	Install/ Exchange/ Disconnect/ Service/ Repair/ Breakdown and Commission Commercial Catering Appliances	BPEC
263306	Install/ Exchange/ Remove and Commission Domestic Gas Meters	BPEC
263308	Installation First Fix of Commercial Appliances/ Equipment	BPEC
263338	Installation of Commercial Boosters and Compressors	BPEC
26340	Installation of Direct Fired Appliances	BPEC
26341	Installation of Indirect Fired Appliances	BPEC
259814	Water Regulations	BPEC
253462	Domestic Gas Cooking Appliances	CKR1 BPEC Cert Ltd
253465	Domestic Gas Instantaneous Water Heating Appliances	WAT 1 BPEC Cert Ltd
253466	Domestic Gas Laundry Appliances	LAU 1 BPEC CERT Ltd
253467	Domestic Gas Leisure Equipment Appliances	LEA 1 BPEC Cert Ltd
253468	Domestic Gas Meters	MET 1 BPEC Cert Ltd.
10047864	Certificate in Complex Domestic Natural Gas installation and Maintenance	CGLI
10047852	Certificate in Domestic Natural Gas Installation and Maintenance	CGLI
10047876	Certificate in Gas Emergency Service Operations	CGLI

Table 67 Courses not funded in either 03/04 or 04/05 cont...

250599	CG 5831 Advanced Certificate for Medical Gas Pipe Systems (Customer Specific Scheme)	CGLI
250641	Advanced Certificate for Medical Gas Pipe Systems (Customer Specific Scheme)	CGLI
10019157	NVQ in Domestic Natural Gas Installation	CGLI
10019182	NVQ in Domestic Natural Gas Installation	CGLI
10019169	NVQ in Domestic Natural Gas Installation and Maintenance (ACS)	CGLI
10019194	NVQ in Domestic Natural Gas and Maintenance (ACS)	CGLI
10019170	NVQ in Domestic Natural Gas Maintenance	CGLI
10019200	NVQ in Domestic Natural Gas Maintenance	CGLI
233005	Domestic Open/Balanced and Fan Assisted Gas Fires and Wall Heaters	CITB
233004	Domestic Gas Cooking Appliances	CITB
233011	Domestic Gas Meters	CITB
257684	Domestic Gas Meters Ltd	CITB
257704	Domestic Gas Range Cookers and Range Cooker/ Boiler Appliances	CITB
233004	Domestic Gas Cooking Appliances	CITB
233011	Domestic Gas Meters	CITB
257684	Domestic Gas Meters Ltd	CITB
257704	Domestic Gas Range Cookers and Range Cooker/ Boiler Appliances	CITB
233034	Fish and Chip Ranges (Natural Gas)	CITB
233049	Gas Booster HP Pipe-work	CITB
275621	Industrial/ Commercial Natural Gas Safety	CITB
275621	Intermediate Gas Certificate: Boiler Burners	CITB
275637	Intermediate Gas Certificate: Boilers	CITB
275621	Intermediate Gas Certificate: Commercial Catering	CITB
275648	Intermediate Gas Certificate: Commercial Gas Safety	CITB
275650	Intermediate Gas Certificate: Commercial Test and Purge	CITB
275634	Intermediate Gas Certificate: Cookers	CITB
275647	Intermediate Gas Certificate: Deep Fat Fryers	CITB
275633	Intermediate Gas Certificate: Direct Fired Heating	CITB
275633	Intermediate Gas Certificate: Domestic Gas Safety	CITB
275638	Intermediate Gas Certificate: Ducted Air Heaters	CITB
275635	Intermediate Gas Certificate: Gas Fires	CITB
275652	Intermediate Gas Certificate: Indirect Fired Heating	CITB
275652	Intermediate Gas Certificate: Instantaneous Water Heaters	CITB
275649	Intermediate Gas Certificate: Pipe Installations	CITB
275651	Intermediate Gas Certificate: Radiant Heating	CITB
275646	Intermediate Gas Certificate: Water Boilers	CITB
270457	Changeover Core Domestic Gas Safety Assessment	ERS
271484	Changeover Core Domestic to Core Commercial Catering Gas Safety Assessment	ERS
271485	Changeover Domestic to Commercial Catering (Appliances) Gas Safety Assessment	ERS
271478	Commercial Catering Natural Gas Core	ERS
271463	Commercial Natural Gas Core	ERS
271464	Commercial Natural Gas Core Pipe Installer/ Commissioner	ERS
271472	Commission Service Repair and Breakdown of Gas Boosters/ Compressors Controls and High Pressure	ERS
271471	Commissioning Gas Fired Commercial Plant and Equipment	ERS
271476	Core Commercial Laundry Gas safety Assessment Criteria	ERS
269225	Core Domestic Gas Safety	ERS
271445	Core Domestic Gas Safety Assessment Criteria	ERS
269229	Domestic Gas Laundry Appliances	ERS
270455	Domestic Gas Water and Heater Appliances	ERS
270456	Install Exchange Service Repair Breakdown and Commission Closed Flue Gas Fires	ERS
271454	Install Exchange Service Repair Breakdown and Commission Domestic Gas Fired Mobile Cabinet etc	ERS
269230	Install Exchange Service Repair Breakdown and Commission Domestic Gas Leisure and Misc'	ERS
271443	Install Exchange Service Repair Breakdown and Commission Domestic Gas Range Cookers etc	ERS
271442	Installation/ Conversion of Appliances Fitted or to be Fitted with Forced Draught Burners	ERS
221925	Foundation Gas	A0135 NCFE
221892	Gas/ Installation and Maintenance (Escape Classification/ Deferment)	A0099 NCFE
221891	Gas/ Installation and Maintenance (Purge and Relight)	A0098 NCFE
276418	Commercial Gas Installation First Fix Pipe work Assessment	ICPN1 NIC
276440	Gas Cookers	CKR1 NIC
276441	Gas Fires and Heaters	HTR1 NIC

Table 67 Courses not funded in either 03/04 or 04/05 cont...

276443	Install Exchange Service Repair Breakdown and Commission Closed Flue Gas Fires LPG	HT RLP3 NIC
276455	Install, Exchange, Remove and Commission Gas Fired Hot Water Boilers	HWB1 NIC
276456	Install, Exchange, Remove and Commission Gas Fired Range Cooker/ Boiler Appliances	CK HB1 NIC
00222139	Domestic Gas Appliances	BPEC
00115013	CG5980 Gas Equipment Fault Diagnosis and Rectification	CGLI
00115012	CG5980 Gas Installation Studies	CGLI
00115013	CG5980 Gas Equipment Fault Diagnosis and Rectification	CGLI
00111792	CG6620 Service Engineer Gas	CGLI
Q1027619	NVQ in Gas Service Installation and Maintenance	CGLI
Q1051034	NVQ in Gas Services Installation	CGLI
Q1051035	NVQ in Gas Services Maintenance	CGLI
Q1051036	NVQ in Gas Services Maintenance	CGLI
00257693	Changeover Catering NG-LGP	CITB
00257689	Changeover Domestic LPG-NG	CITB
0023002	Combination Boiler Controls	CITB
00233013	Cooking Appliances (LPG)	CITB
00206701	Domestic Cookers	CITB
00206715	Domestic Gas Leisure & Miscellaneous Equipment /Appliances	CITB
00116104	Gas Approved Code of Practice (ACOP)	CITB
00272145	Heating Boilers not exceeding 70kw (LPG)	CITB
00233017	Heating Boilers of less than 60w (LPG)	CITB
00206712	Industrial Burner Controls and Combustion	CITB
00233020	Meters (LPG)	CITB
00119745	Registered Operative Identity Card Domestic Gas Appliance Installation (ACOP)	CITB
00119744	Registered Operative Identity Card Domestic Gas Safety (ACOP)	CITB
00271451	Install Exchange Service Repair Breakdown and Commission Domestic Gas Leisure and Miscellaneous	LEILP1 ERS
00271446	LP Gas Central Heating Appliances	CENLP1 ERS
0027447	LP Gas Cooking Appliances	CKRLP1 ERS
00271448	LP Gas Fire Ducted Air Heaters	DAHLP1 ERS
00271449	LP Gas Fires and Wall Heaters	HTRLP1 ERS
00271452	LP Gas Meters	METLP1 ERS
00271453	LP Gas Water and Heater Appliance	WATLP1 ERS
00270452	Commissioning Gas Fired Commercial Plant and Equipment	CCP1 LTC ZCL
00270208	Core LPG Safety	CCLP1 PD LTC-ZCL
00270210	Core LPG Safety	CCLP1 RPH LTC ZCL
00268884	Domestic Gas Space Heating Assessment	LTC ZCL
00268886	Domestic Gas Warm Air Heating Assessment	LTC ZCL
00263131	Domestic Gas Water Heater Assessment	LTC ZCL
00268885	Domestic Gas Wet Central Heating Assessment	LTC ZCL
00269369	Gas Cookers	CKR1 LTC ZCL
00269372	Gas Fires and Heaters	HTR1 LTC ZCL
00270454	Install Exchange Service Repair Breakdown and Commission Closed Flue Gas Fires LPG	LTC ZCL
00222166	Non Domestic Gas: Element 16 Non Domestic Large Pipe work & Gas Burner Requirements Training	LTC ZCL
00222167	Non Domestic Gas: Gas Burner Commissioning/ Servicing & Fault Diagnosis	LTC ZCL
Qualification Code	Title	Awarding Body
HEALTH AND SAFETY		
00103257	Managing Safety Certificate	IOHS
0023003	Domestic Natural Gas Core Safety	CITB
00233030	Commercial Catering Safety (Natural Gas)	CITB
002330039	Commercial Natural Gas Safety	CITB
00253460	Core Domestic Gas Safety	BPECT
00257679	Commercial Gas Safety for Pipe Installer/ Commissioner	CITB
00257705	Changeover domestic natural gas safety to commercial natural gas safety	CITB
00263289	Changeover core domestic to core commercial catering (appliances) gas	BPEC
00263291	Changeover domestic to commercial catering appliances gas safety assessment	BPEC
00263297	Core commercial catering gas safety assessment criteria	BPEC
00268890	Commercial gas safety assessment	LTC
00269366	Core domestic gas safety	LTC
00103735	National certificate in construction safety and health	NEBOSH

Table 67 Courses not funded in either 03/04 or 04/05 cont...

0026899	Commercial catering core gas safety assessment	LTC
00237151	Health and Safety- Manual Handling	LANTRA
00231646	Personal Safety at Work	NCFE
00259587	Certificate in Working and Operating Safely	ASET
00206741	Manual Handling- Principles	St. John
00206742	Manual Handling- Patient Handling	St. John
00229819	Certificate in Occupational Safety- Manual Handling	NCFE
00237065	Moving On-Moving and Handling Training	REDCROXX
00238042	Moving and Handling	ASET
00238451	Safer Moving and Handling Techniques	NCFE
00259754	Manual Handling Operations	NCFE
00259770	Manual Handling	ASET
00259794	Manual Handling	EMP
00259835	Principles of Manual Handling	CIEH
00268241	Certificate in Manual Handling Operations	ASET
00269410	Certificate in Moving and Handling	ASET
00270201	Level 2 Certificate in Manual Handling	FAQ
00270386	Moving and Handling Level 2	ASET
00270387	Moving and Handling	ASET
10018062	Certificate of Competence in Safe Manual Handling	NPTC
10018074	Certificate of Competence in Manual Handling Operations Risk Assessment	NPTC
10020767	Certificate in Safer Moving and Handling (Including People)	NCFE
00229796	Safety in the use of Abrasive Wheels	NCFE
00237142	Abrasive Wheels	Lantra
00254107	Abrasive Wheels (Novice)	Lantra
00259706	Abrasive Wheels Regulations	NCFE
10020019	Certificate of Competence in the Safe Use of Abrasive Wheel Machines	NPTC
00259759	Scaffolding Safety Awareness	NCFE
10018165	Certificate of Competence in the Safe Use & Operation etc	NPTC
Qualification Code	Title	Awarding Body
PERIPHERAL FOOTPRINT (WHITE AND BROWN GOODS ETC)		
00104001	CGLI 2240 Electronics Servicing Part 2	
00104002	CGLI 2240 Electronics servicing Part 3	J9117 CGLI
00104003	CGLI 2240-04 Electronics Servicing Part 3 Centre Syllabus	CGLI
00104005	CGLI 2249 Electronics Servicing Part 2 (Joint Certificate with EEB)	J9117 CGLI
00118687	CGLI 2240-01 Electronics Servicing Part 1 (Joint Certificate with EEB)	CGLI
00118688	CGLI 2240-02 Electronics Servicing Part 2	CGLI
00220560	CGLI 7261 Information Technology- Electronics Servicing Certificate	CGLI
00237675	Certificate in Portable Appliance & Testing (Level 1)	OCNW
00263284	CGLI 6958-03 Progression Award: Electrical and Electronics Servicing Customers	CGLI
10017525	Progression Award in Electrical and Electronic Servicing: Consumer/Commercial	CGLI
10027695	Progression Award in Electrical and Electronics Servicing	CGLI
Q1028315	NVQ in Electrical and Electronic Servicing	CGLI
Q1028316	NVQ in Electrical and Electronics Servicing	CGLI
10017513	Progression Award in Electrical and Electronic Servicing	CGLI
00220562	CGLI 7261 Information- Electronic Office Systems Maintenance	CGLI
00220563	CGLI 7261 Information Technology- Electronic Office Systems Maintenance	CGLI
10028626	Certificate in Mechanical Production (Part 3)	CGLI
Q1022310	NVQ in Servicing Electronic Systems (Field)	J547
Q1022311	NVQ in Servicing Electronic Servicing (Workshop)	J547
Q1028079	NVQ in Electrical and Electronics Servicing	ETCAL
Q1027231	NVQ in Electrical and Electronics Servicing	EMTA
Q1027230	NVQ in Electrical and Electronics Servicing	EMTA
Q1050556	NVQ in Remedial Maintenance Operations	J505
Qualification Code	Title	Awarding Body
CONSTRUCTION AND CIVIL ENGINEERING STUDIES		
None		

Table 68 Courses funded in 03/04 but not 04/05

Qualification Code	Title	Awarding Body
AIR CONDITIONING AND REFRIGERATION		
00104110	CGLU 2579 Refrigeration Technicians Part 2 (Customer Specific Theme)	CGLI
00206708	Essential Electrics (Refrigerant Scheme)	CITB
00233000	Refrigeration Pipe work and brazing	CITB
ELECTROTECHNICAL		
104061	Electrical Installation Part 1 Competences	CGLI
00104061	CG2360-01 Electrical Installation Part 1 (Theory)	CGLI
GC 2360-02	Electrical Information Part 2 Competences	CGLI
Q1016784	NVQ in installing electrical systems and equipment	IESE2 J572 JIB/ CGLI
HEATING AND VENTILATION		
00272146	Ducted Air Heaters not exceeding 70Kw (LPG)	CITB
PLUMBING		
116323	CG6189 Specialist advisor in plastics hot and cold water plumbing and heating systems customer specific theme	CGLI
269389	Multi skills for plumbers course three	11Q 002838 NCFE
00254156	Basic Plumbing	OC263 ABC (Awarding Body Consortium)
00103415	GC6030 Plumbing Advanced Craft	CGLI
Q1027620	NVQ in mechanical engineering services plumbing	Mesp2 JS86 SNIJIBPI
Q1927621	NVQ in mechanical engineering services plumbing.	MESP3 JS86 SNIJIBPI
00221050	Foundation Studies in Construction Plumbing	C0003 NCFE
TECHNICAN		
00100322	National Certificate in Building Services Engineering (Gas Utilisation)	EDEXCEL
A LEVEL / AS LEVEL / GCSE		
None		
GAS (COVERAGE WITH E AN U SKILLS)		
00233008	Domestic Gas Fired Central Heating/Hot Water Boilers and Circulators up to 60kw.	CITB
Health and Safety		
00103737	National Diploma in Occupational Safety and Health	NEBOSH
00104380	CGLI 3680 Standard Certificate in Safety Practices	CGLI
00116008	Stage 2 Health and Safety Course (Level 1/2/3 Units)	
00236796	Certificate in Safety Practices	ASET
00238002	Introduction to health and safety at work	ASET
00238244	Certificate in safety practices	ASET
00239363	Diploma in Occupational health and safety management	NTU
00250758	Occupational health and safety practice	ABC
00250759	Certificate in occupational health and safety management	ABC
00257852	TUC Certificate in Occupational Health and Safety Advances Programme	NOCN
00263287	TUC Certificate in Occupational Health and Safety Mackworth College	NEMOCN
00229825	Certificate in occupational safety safe entry and emergency procedures	NCFE
00252322	Certificate in Off site safety management	OCR
00269234	Safety for senior executives	IOSH
00259924	Risk assessment and legal liability certificate	YMCA
00235067	Confined spaces working	NCFE
00263208	Dealing with accidents and emergencies	NCFE
00220639	CGLI2078 Handling of refrigerants	CGLI
0020640	CGLI2078 Handling refrigerants (Ammonia)	CGLI
00257697	LPG Safety External Pipe Work	CITB
00228768	Health and Safety Passport	ECITB
Peripheral Footprint (White and Brown Goods etc)		
00253806	CGLI 6958-01 Progression Award: Electrical and electronic servicing consumer	CGLI
00253814	CGLI 6958-02 Progression Award: Electrical and electronic servicing	CGLI
10025546	Certificate in Electronic Servicing Part1	CGLI
1002558	Certificate in Electronic Servicing (Part 2)	CGLI
10028596	Certificate in Electronic Servicing (Part 3)	CGLI
Construction and Civil Engineering Studies		
None		

Table 69 Courses funded in 04/05 but not 03/04

Qualification Code	Title	Awarding Body
<u>Air Conditioning and Refrigeration</u>		
Q1027262	NVQ in mechanical engineering services ammonia refrigeration systems	603705 J632 CGLI/ESTTL/RIB
Q1027261	NVQ in mechanical engineering services commercial brazing (industrial)	601704 J632 CGLI/ESTTL/RIB
Q1027260	NVQ in mechanical engineering services small commercial refrigeration and air conditioning system	601702 J632 CGLI/ESTTL/RIB
<u>Electrotechnical</u>		
267234	CG 6161-07 Diploma in electrical installation	CGLI
00206724	Electrical Installation (Gas Scheme)	CITB
<u>Heating and Ventilation</u>		
271466	First Fix of Commercial Pipe Work (Limited Scope)	ERS
00206705	Domestic Heating System Control	CITB
<u>Plumbing</u>		
274979	Gateway Plumbing 16-18	GAT 378 ASET
274742	National Award in Plumbing	NA037 ASET
275496	Plumbing Certificate for Adults	GAT 620 ASET
267352	CG 6161-15 Diploma in Plumbing	CGLI
<u>Technician/Professional</u>		
001001107	Continuing Education Diploma in Building Services Engineering (HVAC)	EDEXCEL
<u>A Level / AS Level / GCSE</u>		
None		
<u>Miscellaneous</u>		
None		
<u>Gas (Coverage with E and U Skills)</u>		
00270209	CORE LPG Safety	CCLP01 LAV
269226	Domestic Gas Cooking Appliances	ERS

Health and Safety		
00269233	Managing environmental responsibilities	IOSH
00222465	Introduction to health and safety in the building industry	NCFE
00259754	Safer moving and handling techniques	NCFE
00259770	Manual Handling	ASET
Peripheral Footprint (White and Brown Goods etc)		
10012345	Certificate in competent management of electrical	CGLI
Construction and Civil Engineering Studies		
None		

Table 70 Air conditioning and refrigeration 03/04 data

	Course	Retain Public Funding?
00271018	Introduction to Refrigeration and Air Conditioning	No
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	Yes
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	Yes
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	Yes
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	Yes
00104110	CG 2579 Refrigeration Technicians Part 2 (Customer Specific Scheme)	No
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	No
00206708	Essential Electrics (Refrigerant Scheme)	No
00206710	Safe Handling of Refrigerants	Yes
00233000	Refrigeration Pipework and Brazing	No
00272159	Refrigeration Pipework and Brazing (Industrial)	No

Table 71 Air conditioning and refrigeration 04/05 data

	Course	Retain Public Funding?
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	No
00206710	Safe Handling of Refrigerants	Yes *
00220639	CG 2078 Handling of Refrigerants	Yes *
00220640	CG 2078 Handling Refrigerants (Ammonia)	Yes *
00271018	Introduction to Refrigeration and Air Conditioning	No
00272159	Refrigeration Pipework and Brazing (Industrial)	Yes *
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	Yes *
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	Yes *
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems-	Yes*
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	Yes*
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems	No**
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia	No**
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems	No**

* = Technical Certificates are also dealt with separately for funding purposes

** = These courses were also funded in 2003/2004 but are deemed not economically valuable by SummitSkills.

Table 72 Electrotechnical 03/04 data

	Course	Retain Public Funding?
00104064	CG 2360-03 Electrical Installation Course C	Yes **
00104065	CG 2360-04 Electrical Installation Supplementary Studies	No/expired
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	Yes* **
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	Yes* **
00104061	CG 2360-01 Electrical Installation Part 1 Competences	No/expired
00104063	CG 2360-02 Electrical Installation Part 2 Competences	No/expired
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	Yes* **
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances	Yes **
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	Yes **
00104061	CG 2360-01 Electrical Installation Part 1 Competences	No/ expired
00104063	CG 2360-02 Electrical Installation Part 2 Competences	No/expired
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	No/expired
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	No/expired
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	No/expired
00272142	Essential Electrics	No
10025546	Certificate in Electronic Servicing Part 1	Yes **
10025558	Certificate in Electronic Servicing (Part 2)	Yes **
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	No/ expired
00267347	CG 6161-07 Certificate in Electrical Installation	No

Note: * These programmes are usually self-funded: Expired - Registration Date

** In relation to Technical Certificate Courses please see later.

Table 73 Electrotechnical 04/05 data

	Course	Retain Public Funding?
00104064	CG 2360-03 Electrical Installation Course C	Yes **
00104065	CG 2360-04 Electrical Installation Supplementary Studies	No/expired
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	Yes* **
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	Yes* **
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	Yes**
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	No/ expired
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	No/ expired
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	No/expired
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	Yes **
00267354	CG 6161-17 Diploma in Electrical Installation	No
00272142	Essential Electrics	No
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	Yes* **
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances	Yes**
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	No/expired
00220639	CG 2078 Handling of Refrigerants	No
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)	Yes**
00267347	CG 6161-07 Certificate in Electrical Installation	No
10025558	Certificate in Electronic Servicing (Part 2)	Yes**

Note: * These programmes are usually self-funded: Expired - Retention Date

** In relation to Technical Certificate Courses please see later

Table 74 Heating and ventilation 03/04 data

	Course	Retain Public Funding?
10035126	Certificate in Heating and Ventilation Installation	Yes **
10035515	Certificate in Energy Efficiency for Domestic Heating	Yes
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	Yes
10033762	NVQ in Mechanical Engineering Services Heating and Ventilating Installation	Yes
00257687	First Fix Commercial Pipework (Ltd)	Yes ***
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	Yes
00272161	Central Heating Controls Fault Finding	Yes ****
00272162	Central Heating Controls Wiring	Yes ***
00272163	Combination Boiler Basic Fault Finding	Yes ***
00272146	Ducted Air Heaters not exceeding 70kw (LPG)	Yes
00272146	Ducted Air Heaters not exceeding 70kw (LPG)	Yes
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components	No
Q1027507	NVQ in Mechanical Engineering Services: Heating and Ventilating - Rectification of Systems	No
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	No
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	No
00233050	Overhead Radiant Heaters	Yes ***
00269367	Wet Central Heating	Yes

Table 75 Heating and ventilation 04/05 data

	Course	Retain Public Funding?
00233046	Indirect Fired Heating Appliances	Yes
00233050	Overhead Radiant Heaters	Yes ***
00257687	First Fix Commercial Pipework (Lt)	Yes ***
00269367	Wet Central Heating	Yes ***
00271466	First Fix of Commercial Pipework (Limited Scope)	Yes ***
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	Yes ***
00272161	Central Heating Controls Fault Finding	Yes
00272162	Central Heating Controls Wiring	Yes
00272163	Combination Boiler Basic Fault Finding	Yes ***
10033713	NVQ in Mechanical Engineering Services – Heating and Ventilating (Maintenance of Systems Components)	Yes
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	Yes
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	Yes
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	Yes
10035126	Certificate in Heating and Ventilation Installation	Yes **
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	Yes **
1003514X	Certificate in Heating and Ventilation Installation	Yes **
10035151	Certificate in Heating and Ventilating - Rectification of Systems	Yes **
10035515	Certificate in Energy Efficiency for Domestic Heating	Yes ****
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components	No
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	No
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	No

**= In relation to Technical Certificates please see later

***= This course may also belong in the downstream Gas section which is being led by E&U Skills.

****= Overlap to Electrical Courses

*****= Overlap to Plumbing Courses.

Table 76 Plumbing 03/04 data

	Course	Retain Public Funding?
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)	No
00221050	Foundation Studies in Construction (Plumbing)	No
00221841	Plumbing in The Home	No
00222517	Introduction to Plumbing	No
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)	No ***
00230090	CG 6055 Lead workers Certificate	No ***
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)	No
00237660	Plumbing Heating & Ventilation Foundation Certificate	No
00254156	Basic Plumbing	No
00255399	Plumbing Basic Skills	No
00261353	CG 6988 Certificate in Plumbing	No
00267345	CG 6161-05 Certificate in Plumbing	No
00267358	CG 6161-25 Advanced Diploma in Plumbing	No
00269389	Multi Skills For Plumbers Course 3	No
10008226	Certificate in Plumbing	No
10032848	NVQ in Mechanical Engineering Services – Plumbing	Yes
1003285X	NVQ in Mechanical Engineering Services – Plumbing	Yes
10033567	Certificate in Basic Plumbing Studies	Yes **
10033579	Certificate in Plumbing Studies	Yes **
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	No
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	No

Table 77 Plumbing 04/05 data

	Course	Retain Public Funding?
00274742	National Award in Plumbing	No
00274979	Gateway - Plumbing - Level 1	No
10033567	Certificate in Basic Plumbing Studies	Yes **
10033579	Certificate in Plumbing Studies-YES	Yes **
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)	No
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)	No
00230090	CG 6055 Lead workers Certificate	No
00267345	CG 6161-05 Certificate in Plumbing	No
00267352	CG 6161-15 Diploma in Plumbing	No
00267358	CG 6161-25 Advanced Diploma in Plumbing	No
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	No
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	No
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	No
10032848	NVQ in Mechanical Engineering Services – Plumbing	Yes
1003285X	NVQ in Mechanical Engineering Services – Plumbing	Yes
10008226	Certificate in Plumbing	No
00261353	CG 6988 Certificate in Plumbing	No
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)	No
00237660	Plumbing Heating & Ventilation Foundation Certificate	No
00255399	Plumbing Basic Skills	No
00221841	Plumbing in The Home	No
00222517	Introduction to Plumbing	No

**= Technical Certificates are dealt with later within this section

***= Courses are full cost individual client courses.

Table 78 Technician/professional 03/04 data

	Course	Retain Public Funding?
00100318	National Certificate in Building Services Engineering	Yes
00100322	National Certificate in Building Services Engineering (HVAC)	Yes
00100324	National Certificate in Building Services Engineering (Refrigeration)	Yes
10015656	BTEC National Certificate in Building Services Engineering	Yes
10015668	BTEC National Diploma in Building Services Engineering	Yes

Table 79 Technician/professional 04/05 data

	Course	Retain Public Funding?
10015656	BTEC National Certificate in Building Services Engineering	Yes
10015668	BTEC National Diploma in Building Services Engineering	Yes
00100318	National Certificate in Building Services Engineering	Yes

Table 80 Miscellaneous 03/04 data

	Course	Retain Public Funding?
00269233	Managing Environmental Responsibilities	No

Table 81 Miscellaneous 04/05 data

	Course	Retain Public Funding?
00269233	Managing Environmental Responsibilities	No *

*= This course may be relevant to other SSCs but is not relevant to SummitSkills employers as a fundable course.

Table 82 Gas 03/04 data

	Course	Retain Public Funding?
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters	Yes
00233008	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators up to 60kw	Yes
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	Yes
00233021	Cabinet Heaters (LPG)	Yes
00233022	Closed Flue Fires (LPG)	Yes
00253461	Domestic Gas Central Heating Boilers and Circulators	Yes
00253463	Domestic Gas Ducted Air Heaters	Yes
00253464	Domestic Gas Fires and Wall Heaters	Yes
00257706	Gas Fired Hot Water Boiler	Yes
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliance	Yes
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	Yes
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters	Yes
00263307	Installation First Fix Commercial Pipe Work	Yes
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	Yes
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG	Yes
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure	Yes
00263335	First Fix for Commercial Pipework (Limited Scope)	Yes
00263337	Installation First Fix of Commercial Appliances (Limited Scope)	Yes
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	Yes
00269227	Domestic Gas Fired Central Heating Boilers	Yes

00269228	Domestic Gas Fired Ducted Air Heaters	Yes
00269282	Domestic Gas Fires and Wall Heaters	Yes
00269371	Domestic Air Heaters	Yes
00269372	Gas Fires and Heaters	Yes

Table 83 Gas 04/05 data

	Course	Retain Public Funding?
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances	Yes
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	Yes
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters	Yes
00253461	Domestic Gas Central Heating Boilers and Circulators	Yes
00253463	Domestic Gas Ducted Air Heaters	Yes
00253464	Domestic Gas Fires and Wall Heaters	Yes
00263307	Installation First Fix Commercial Pipe Work	Yes
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	Yes
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG	Yes
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure	Yes
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	Yes
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters	Yes
00269227	Domestic Gas Fired Central Heating Boilers	Yes
00269228	Domestic Gas Fired Ducted Air Heaters	Yes
00269282	Domestic Gas Fires and Wall Heaters	Yes
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	Yes
00257706	Gas Fired Hot Water Boiler	Yes
00269227	Domestic Gas Fired Central Heating Boilers	Yes
00269371	Domestic Air Heaters	Yes
00269372	Gas Fires and Heaters	Yes

Table 84 Health and safety 03/04

	Course	Retain Public Funding?
00103187	Basic Health and Safety Certificate	No
00103188	Advanced Health and Safety Certificate	No
00103257	Managing Safely Certificate	No
00103258	Working Safely	No
00103734	National General Certificate	No
00103737	National Diploma in Occupational Safety and Health	No
00104380	CG 3680 Standard Certificate in Safety Practices	No
00116008	Stage 2 Health and Safety Course (Level 1/2/3 Units)	No
00220873	National Diploma in Occupational Safety & Health Part 2	No
00221887	Occupational Safety	No
00229818	Certificate in Occupational Safety - Managing Health & Safety	No
00229825	Certificate in Occupational Safety - Safe Entry & Emergency Procedures	No
00230171	Health and Safety at Work Certificate	No
00236796	Certificate in Safety Practices	No
00237379	Health and Safety Certificate	No
00237639	Certificate in Health & Safety (Entry Level)	No
00237640	Certificate in Health & Safety in the Workplace (Level 2)	No

00238002	Introduction to Health and Safety at Work	No
00238244	Certificate in Safety Practices	No
00239183	Certificate in Occupational Safety - Safety Essentials	No
00239238	Certificate in Health & Safety for Managers	No
00239363	Diploma in Occupational Health and Safety Management	No
00250758	Occupational Health and Safety Practice	No
00250759	Certificate in Occupational Health and Safety Management	No
00255007	TUC Trade Union Health and Safety Intermediate Programme	No
00255008	TUC Trade Union Health and Safety Advanced Programme	No
00257852	TUC Certificate in Occupational Health and Safety - Trades Union Congress	No
00259742	Health and Safety Awareness	No
00260715	Health and Safety 6 glh	No
00260716	Health and Safety 12 glh	No
00260717	Health and Safety 18 glh	No
00260718	Health and Safety 30 glh	No
00260719	Health and Safety 60 glh	No
00261661	TUC Certificate in Occupational Health and Safety - Lewisham College	No
00263287	TUC Certificate in Occupational Health and Safety - Mackworth College	No
00268006	Advanced Award in Trade Union Health and Safety Representatives	No
00268145	Introduction to Health and Safety in the Workplace	No
00268158	TUC Certificate in Occupational Health and Safety	No
00269457	IOSH-SPA Safety Passport Scheme (Core only)	No
00269458	IOSH-SPA Safety Passport Scheme (Core + Sector Specific)	No
00270067	Modules in Specified Aspects of Occupational Hygiene	No
00270079	Foundation Certificate in Health and Safety in the Workplace	No
00270267	Foundation Certificate in Occupational Health and Safety	No
00270268	Intermediate Certificate in Occupational Health and Safety	No
00270269	Intermediate Certificate in Safe Handling of Medicines	No
00270473	Certificate in Basic Health and Safety	No
00271002	Introductory Health and Safety Training	No
10019005	Progression Award in Health and Safety in the Workplace	No
10019017	Certificate in Health and Safety in the Workplace	No
10019029	Diploma in Health and Safety in the Workplace	No
10019480	Advanced Certificate in Health and Safety in the Workplace	No
10019492	Certificate in Health and Safety in the Workplace	No
10019947	Certificate in Health and Safety in the Workplace	No
10026794	NVQ in Occupational Health and Safety	Yes
10026800	NVQ in Occupational Health and Safety	Yes
10026836	NVQ in Occupational Health and Safety Practice	Yes
10026848	NVQ in Occupational Health and Safety Practice	Yes
10030281	Certificate in Health and Safety in the Workplace	No
10030967	Certificate in Health and Safety in the Workplace	No
10032046	Certificate in Occupational Health and Safety	No
Q1020766	NVQ in Occupational Health and Safety Practice	Yes
Q1020767	NVQ in Occupational Health and Safety Practice	Yes
00252322	Certificate in Off-site Safety Management	No
00259837	Supervising Health and Safety	No
00263160	Certificate in Safety Compliance	No
00267632	Intermediate Award in Safety in Healthcare	No
00269195	Safety in the World of Work	No
00269234	Safety for Senior Executives	No
00270290	Certificate in Health and Safety Management	No
1001469X	Certificate in Off-Site Safety Management	No

Q1020766	NVQ in Occupational Health and Safety Practice	Yes
Q1020767	NVQ in Occupational Health and Safety Practice	Yes
00229822	Certificate in Occupational Safety - Risk Assessment	No
00233168	Risk Assessment	No
00259924	Risk Assessment and Legal Liability Certificate	No
00263240	Introduction to Risk Assessment and Safety Monitoring	No
00268237	Certificate in Risk Assessment	No
10021474	Certificate in Personal Safety Awareness	No
10026927	NVQ in Health and Safety Regulation	Yes
10029680	Certificate in Supervising Health and Safety	No
Q1024822	NVQ in Occupational Health and Safety Regulation	Yes
00103827	CG 0604 Chemical and Process Industry Safety (Customer Specific Scheme)	No
00222691	Hazard Analysis Principles and Practice	No
00229820	Certificate in Occupational Safety - Control of Substances Hazardous to Health	Yes
00235067	Confined Spaces Working	No
00236823	Accident and Incident Awareness and Response	No
00237027	Risk Assessment Principles and Practice	No
00259728	Dangerous Goods Safety Advisor Certificate	No
00263208	Dealing with Accidents and Emergencies	No
00269391	Risk Management and Assessment	No
00269439	Infection Control	No
00270199	Level 2 Certificate in Infection Control	No
00270923	Intermediate Certificate in Infection Control	No
10014974	Certificate in Hazard Analysis Principles and Practice	No
10019947	Certificate in Health and Safety in the Workplace	No
10020214	Certificate for Trade Union Health and Safety Representatives	No
00220562	CG 7261 Information Technology - Electronic Office Systems Maintenance Level 1	No
00220563	CG 7261 Information Technology - Electronic Office Systems Maintenance Level 2 Workshop	No
00222465	Introduction to Health and Safety in the Building Industry	No
00228768	Health and Safety Passport	No
00237327	Health and Safety Passport	No
00259586	Certificate in Safe Handling of Medicines	No
00259710	Basic Health and Safety for the Construction Industry	No
00259836	Principles of COSHH-NO	No
00270149	CCNSG Nationally Accredited Safety Passport	No
00274697	Introduction to Risk Assessment	No
00274948	Introduction to Health & Safety	No

Table 85 Health and safety 04/05 data

	Course	Retain Public Funding?
00103187	Basic Health and Safety Certificate	No
00103188	Advanced Health and Safety Certificate	No
00103257	Managing Safely Certificate	No
00103258	Working Safely	No
00103734	National General Certificate	No
00237379	Health and Safety Certificate	No
00239183	Certificate in Occupational Safety - Safety Essentials	No
10036015	NVQ in Occupational Health and Safety	Yes
00220873	National Diploma in Occupational Safety & Health Part 2	No
00220874	National Diploma in Occupational Safety and Health Part 1	No
00221887	Occupational Safety	No

00230171	Health and Safety at Work Certificate	No
00237639	Certificate in Health & Safety (Entry Level)	No
00237640	Certificate in Health & Safety in the Workplace (Level 2)	No
00260715	Health and Safety 6 glh	No
00260716	Health and Safety 12 glh	No
00260717	Health and Safety 18 glh	No
00260718	Health and Safety 30 glh	No
00260719	Health and Safety 60 glh	No
00259742	Health and Safety Awareness	No
00255007	TUC Trade Union Health and Safety Intermediate Programme	No
00255008	TUC Trade Union Health and Safety Advanced Programme	No
00103735	National Certificate in Construction Safety and Health	No
10026812	NVQ in Occupational Health and Safety Practice	Yes
00275010	Introduction to Health in the Construction Industry	No
00275011	Introduction to Safety in the Construction Industry	No
00275689	Dealing With Accidents and Incidents At Work	No
00229818	Certificate in Occupational Safety - Managing Health & Safety	No
00239238	Certificate in Health & Safety for Managers	No
00261661	TUC Certificate in Occupational Health and Safety - Lewisham College	No
00261777	TUC National Framework for Access Programmes - Trade Union Congress	No
00267632	Intermediate Award in Safety in Healthcare	No
00268006	Advanced Award in Trade Union Health and Safety Representatives	No
00268145	Introduction to Health and Safety in the Workplace	No
00268158	TUC Certificate in Occupational Health and Safety	No
00269457	IOSH-SPA Safety Passport Scheme (Core only)	No
00269458	IOSH-SPA Safety Passport Scheme (Core + Sector Specific)	No
00270067	Modules in Specified Aspects of Occupational Hygiene	No
00270079	Foundation Certificate in Health and Safety in the Workplace	No
00270267	Foundation Certificate in Occupational Health and Safety	No
00270268	Intermediate Certificate in Occupational Health and Safety	No
00270269	Intermediate Certificate in Safe Handling of Medicines	No
00270473	Certificate in Basic Health and Safety	No
00271002	Introductory Health and Safety Training	No
10019005	Progression Award in Health and Safety in the Workplace	No
10019029	Diploma in Health and Safety in the Workplace	No
10019480	Advanced Certificate in Health and Safety in the Workplace	No
10019947	Certificate in Health and Safety in the Workplace	No
10026794	NVQ in Occupational Health and Safety	Yes
10026800	NVQ in Occupational Health and Safety	Yes
10026836	NVQ in Occupational Health and Safety Practice	Yes
10026848	NVQ in Occupational Health and Safety Practice	Yes
10030281	Certificate in Health and Safety in the Workplace	No
10030967	Certificate in Health and Safety in the Workplace	No
10032046	Certificate in Occupational Health and Safety	No
Q1020766	NVQ in Occupational Health and Safety Practice	Yes
Q1020767	NVQ in Occupational Health and Safety Practice	Yes
00250930	Primary Certificate in Infection Control	No
00252382	Competence Award in Health and Safety Review	No
00259837	Supervising Health and Safety	No
00260965	How to stay safe and healthy at work	No
00261777	TUC National Framework for Access Programmes - Trade Union Congress	No
00269195	Safety in the World of Work	No
00270290	Certificate in Health and Safety Management	No

00229822	Certificate in Occupational Safety - Risk Assessment	No
00233168	Risk Assessment	No
00236823	Accident and Incident Awareness and Response	No
00237027	Risk Assessment Principles and Practice	No
00259728	Dangerous Goods Safety Advisor Certificate	No
00263240	Introduction to Risk Assessment and Safety Monitoring	No
00268237	Certificate in Risk Assessment	No
00269391	Risk Management and Assessment	No
1001469X	Certificate in Off-Site Safety Management	No
10020214	Certificate for Trade Union Health and Safety Representatives	No
10020238	Certificate in Risk Assessment Principles and Practice	No
10021474	Certificate in Personal Safety Awareness	No
10026927	NVQ in Health and Safety Regulation	Yes
10029680	Certificate in Supervising Health and Safety	No
Q1024822	NVQ in Occupational Health and Safety Regulation	Yes
00103827	CG 0604 Chemical and Process Industry Safety (Customer Specific Scheme)	No
00222465	Introduction to Health and Safety in the Building Industry	No
00237327	Health and Safety Passport	No
00259586	Certificate in Safe Handling of Medicines	No
00259710	Basic Health and Safety for the Construction Industry	No
00259742	Health and Safety Awareness	No
00259836	Principles of COSHH	No
00269439	Infection Control	No
00270149	CCNSG Nationally Accredited Safety Passport	No
00270199	Level 2 Certificate in Infection Control	No
00270482	Directing Safely	No
00270923	Intermediate Certificate in Infection Control	No
00270924	Certificate in Working Safely	No
00271250	National Award in Health, Safety and Environment for Managers and Supervisors	No
00274472	National Award in Health, Safety and Environment Risk Management	No
00274697	Introduction to Risk Assessment	No
00274948	Introduction to Health & Safety	No
10014974	Certificate in Hazard Analysis Principles and Practice-NO	No
10019017	Certificate in Health and Safety in the Workplace	No
10044152	BTEC Award in Infection Control	No
10044176	Certificate in Infection Control-NO	No
1004419X	Certificate in Control of Infection and Contamination	No
10044279	Certificate in Occupational Health and Safety	No

Table 86 Peripheral 03/04 data

	Course	Retain Public Funding?
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	Yes
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)	Yes

Table 87 Qualifications used to form part of the technical certificate

10033567	Certificate in Basic Plumbing Studies
10033579	Certificate in Plumbing Studies
10035126	Certificate in Heating and Ventilation Installation
10035138	Certificate in Heating and Ventilating - Maintenance of System Components
1003514X	Certificate in Heating and Ventilation Installation
10035151	Certificate in Heating and Ventilating - Rectification of Systems

00220626	CG 2360-05 Electrical Installation Part 1 (Theory) **
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice) **
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)**
00104064	CG 2360-03 Electrical Installation Course C**
00104065	CG 2360-04 Electrical Installation Supplementary Studies **
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)**
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems

**= These qualifications used to form part of the technical Certificate for Work-based Learning Apprenticeship Courses, but are now expired. The delivery of these courses under a general FE heading is not currently prohibited.

Table 88 Additional LAD courses not deemed to be economically valuable by SummitSkills for the building services engineering sector

	Course	
00290886	Basic Plumbing Skills Level 1	SR218
0274742	National Award in Plumbing	ASET
00275496	Plumbing Certificate for Adults	ASET
00267345	CG6161-05 Certificate in Plumbing Level 1	CGLI
T1A7AAB5	Gateway Plumbing-level 1 Gateshead College	ASET
00261156	Introduction to Plumbing (Foundation)	ASET
00116322	CG 6188 Installation Specialist in Plastics/ Hot and Cold Water Plumbing and Heating Systems (Customer Specific Scheme)	CGLI
00116323	CG6189 Specialist Adviser in Plastics/ Hot and Cold Water Plumbing and Heating Styles (Customer Specific Scheme)	CGLI
00115068	CG6221 Plumbing Skills Testing Certificate (Customer Specific Scheme)	CGLI
00111709	CH6332 Plumbing and Domestic Heating (Customer Specific Scheme)	CGLI
00112247	CG 9362 Mechanical Services Skills Plumbing Specialism	CGLI
00220191	Certificate in Basic Plumbing and Maintenance Skills	NCFE
00229006	Certificate in Foundation Plumbing (6150)	NCFE
00285406	Plumbing Level 1	NCFE
T1A06405	Plumbing Level 1	NCFE
00255399	Plumbing Basic Skills	NOCN
00237660	Plumbing, Heating and Ventilation Foundation Certificate	
00250611	CG6161 Advanced Diploma in Plumbing	CGLI
00236706	CG6161 Certificate in Plumbing	CGLI
00250605	CG6161 Diploma in Plumbing	CGLI
00267346	CG 6161-06 Certificate in Refrigeration and Air Conditioning	CGLI
00222151	CG1511 Mechanical Services Training/ Assessment: Refrigeration & Air Conditioning Appreciation	Zurich Insurance Ltd
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	CGLI
00236707	Certificate in Refrigeration and Air Conditioning Level 1	CGLI
00250606	CG6161 Diploma in Refrigeration and Air Conditioning	CGLI

22.2 Appendix B: Expenditure on Provision

Table 89 Public expenditure 04/05 data

		NEVS	Male	Fem- ale	Core Fund	Total Fund
Air Conditioning and Refrigeration 04/05 Data						
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	NEVS	31		£25,021	£29,861
00206710	Safe Handling of Refrigerants		27		£2,825	£3,245
00220639	CG 2078 Handling of Refrigerants		412	2	£80,006	£96,940
00220640	CG 2078 Handling Refrigerants (Ammonia)		25		£4,606	£5,073
00271018	Introduction to Refrigeration and Air Conditioning	NEVS	18		£7,485	£8,174
00272159	Refrigeration Pipework and Brazing (Industrial)		4		£327	£354
10033737	NVQ in Mechanical Engineering Services – Refrigeration and Air Conditioning		280	1	£344,516	£390,971
10033749	NVQ in Mechanical Engineering Services – Refrigeration and Air Conditioning		72	1	£98,902	£109,504
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems		666	4	£764,889	£895,691
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems		103	1	£165,264	£191,966
Q1027260	NVQ in Mechanical Engineering Services – Small Commercial Refrigeration and Air Conditioning Systems	NEVS	109	1	£154,977	£174,806
Q1027261	NVQ in Mechanical Engineering Services – Commercial and Industrial Refrigeration other than Ammonia	NEVS		2	£2,895	£3,144
Q1027262	NVQ in Mechanical Engineering Services – Commercial and Industrial Air Conditioning Systems	NEVS		2	£2,613	£2,837
ELECTROTECHNICAL 04/05 DATA						
00104064	CG 2360-03 Electrical Installation Course C		54	1	£47,374	£53,533
00104065	CG 2360-04 Electrical Installation Supplementary Studies	NEVS	309	11	£176,960	£213,992
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)		25		£9,983	£12,402
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)		60		£38,049	£44,434
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)		45		£19,266	£22,612
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	NEVS	453	4	£379,425	£455,621
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)		432	7	£419,657	£501,801
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)		44		£18,107	£20,886
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)		84	1	£117,826	£154,995
00267354	CG 6161-17 Diploma in Electrical Installation	NEVS	29		£40,760	£45,272
00272142	Essential Electrics	NEVS	172	2	£16,945	£18,628
10012345	Certificate in Competent Management of Electrical Equipment Maintenance		54	2	£10,968	£15,361
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances		86	9	£100,087	£121,278
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	NEVS	68	2	£47,560	£56,693
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)		5		£4,423	£5,071
00267347	CG 6161-07 Certificate in Electrical Installation	NEVS	31		£51,434	£63,432
10025558	Certificate in Electronic Servicing (Part 2)		6		£1,518	£1,660
HEATING AND VENTILATION 04/05 DATA						
00233046	Indirect Fired Heating Appliances		57		£2,736	£2,971
00233050	Overhead Radiant Heaters		42		£2,144	£2,328
00257687	First Fix Commercial Pipework (Ltd)		28		£2,374	£2,586

00269367	Wet Central Heating		178		£10,749	£11,734
00271466	First Fix of Commercial Pipework (Limited Scope)		26		£1,435	£1,561
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw		329	1	£29,174	£31,979
00272161	Central Heating Controls Fault Finding		63	2	£4,694	£5,203
00272162	Central Heating Controls Wiring		63	2	£4,654	£5,159
00272163	Combination Boiler Basic Fault Finding		20	1	£1,729	£1,875
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)		38	1	£51,890	£57,575
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)		9		£12,596	£13,642
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation		197	4	£272,351	£311,307
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation		46		£52,052	£58,784
10035126	Certificate in Heating and Ventilation Installation		570	9	£967,694	£1,161,363
10035138	Certificate in Heating and Ventilating - Maintenance of System Components		14		£17,863	£20,865
1003514X	Certificate in Heating and Ventilation Installation		110	3	£138,868	£156,532
10035151	Certificate in Heating and Ventilating - Rectification of Systems		11		£9,570	£10,297
10035515	Certificate in Energy Efficiency for Domestic Heating		2636	11	£344,861	£377,894
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components	NEVS	33		£36,822	£41,225
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS	71	2	£113,762	£129,183
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS	17		£27,045	£29,363
PLUMBING 04/05 DATA						
00274742	National Award in Plumbing	NEVS	160	2	£258,913	£346,735
		Level 1-NEVS	94		£56,823	£63,740
00274979	Gateway - Plumbing					
10033567	Certificate in Basic Plumbing Studies		12604	369	£17,756,430	£21,974,340
10033579	Certificate in Plumbing Studies		1141	31	£2,043,289	£2,375,390
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)	NEVS	10		£12,269	£14,656
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)	NEVS	279	9	£402,976	£506,914
00230090	CG 6055 Lead workers Certificate	NEVS	38	1	£40,092	£47,366
00267345	CG 6161-05 Certificate in Plumbing	NEVS	80	3	£109,705	£127,675
00267352	CG 6161-15 Diploma in Plumbing	NEVS	47		£119,692	£158,626
00267358	CG 6161-25 Advanced Diploma in Plumbing	NEVS	1		£0	£0
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	169	1	£177,339	£210,567
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	101	1	£135,079	£161,115
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	2	2	£2,808	£3,226
10032848	NVQ in Mechanical Engineering Services – Plumbing		2066	68	£2,614,754	£3,025,901
1003285X	NVQ in Mechanical Engineering Services – Plumbing		771	12	£930,653	£1,056,937
10008226	Certificate in Plumbing	NEVS	27		£27,932	£33,737
00261353	CG 6988 Certificate in Plumbing	NEVS	122	3	£122170	£151,533
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)	NEVS	40		£36,087	£42,530
00237660	Plumbing Heating & Ventilation Foundation Certificate	NEVS	46	1	£44,389	£57,027
00255399	Plumbing Basic Skills	NEVS	42	4	£10,256	£11,530
00221841	Plumbing in The Home	NEVS	77	6	£16,551	£18,169
00222517	Introduction to Plumbing	NEVS	107	11	£139,957	£190,443

TECHNICIAN/PROFESSIONAL 04/05 DATA						
10015656	BTEC National Certificate in Building Services Engineering		458	36	£1,134,818	£1,360,408
10015668	BTEC National Diploma in Building Services Engineering		16	1	£37,544	£44,335
00100318	National Certificate in Building Services Engineering		4		£3,423	£4,314
DOWNSTREAM GAS 04/05 DATA						
00263293	Commission/Service/ Repair/ Breakdown of Commercial Direct Fired Heating Appliances		13		£740	£811
00263294	Commission/Service/Repair/ Breakdown of Commercial Indirect Fired Heating Appliances		44		£2,254	£2,461
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters		4		£192	£210
00253461	Domestic Gas Central Heating Boilers and Circulators		338		£25,692	£28,034
00253463	Domestic Gas Ducted Air Heaters		6		£506	£552
00253464	Domestic Gas Fires and Wall Heaters		26		£19,758	£21,563
00263307	Installation First Fix Commercial Pipe Work		4		£235	£258
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work		31		£1,476	£1,608
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG		35		£2,505	£2,734
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure		25		£2,721	£2,986
00263339	Installation of Commercial Overhead Plaque and Tube Appliances		9		£547	£601
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters		354	3	£30,791	£33,805
00269227	Domestic Gas Fired Central Heating Boilers		281		£13,557	£14,785
00269228	Domestic Gas Fired Ducted Air Heaters		28		£1,349	£1,467
00269282	Domestic Gas Fires and Wall Heaters		188		£9,330	£10,164
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw		47		£3,995	£4,379
00257706	Gas Fired Hot Water Boiler		13		£518	£562
00269227	Domestic Gas Fired Central Heating Boilers		281		£13,557	£14,785
00269371	Domestic Air Heaters		3		£200	£218
00269372	Gas Fires and Heaters		115		£6,811	£7,432

Table 90 04/05 data Females/Males

Where curriculum is defined as 'not applicable', this means it was not used within a work-based learning full framework apprenticeship.

		Female	Male
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	Not Applicable	
00206710	Safe Handling of Refrigerants	Not Applicable	
00220639	CG 2078 Handling of Refrigerants	Not Applicable	
00220640	CG 2078 Handling Refrigerants (Ammonia)	Not Applicable	
00271018	Introduction to Refrigeration and Air Conditioning	Not Applicable	
00272159	Refrigeration Pipework and Brazing (Industrial)	Not Applicable	
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	1	312
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning		165
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	1	381
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems		106
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems	1	146
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia	1	105

Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems		45
Electrotechnical			
00104064	CG 2360-03 Electrical Installation Course C	Not Applicable	
00104065	CG 2360-04 Electrical Installation Supplementary Studies	Not Applicable	
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	Not Applicable	
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	Not Applicable	
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	Not Applicable	
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	Not Applicable	
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	Not Applicable	
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	Not Applicable	
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	Not Applicable	
00267354	CG 6161-17 Diploma in Electrical Installation	Not Applicable	
00272142	Essential Electrics	Not Applicable	
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	Not Applicable	
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances		5
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	Not Applicable	
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)	Not Applicable	
00267347	CG 6161-07 Certificate in Electrical Installation	Not Applicable	
10025558	Certificate in Electronic Servicing (Part 2)	1	11
Electrotechnical Courses not identified by LSC data for Work-based Learning in academic year 2004-2005			
00104064	CG 2360-03 Electrical Installation Course C	Not Applicable	
00104065	CG 2360-04 Electrical Installation Supplementary Studies	Not Applicable	
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	Not Applicable	
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	Not Applicable	
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	Not Applicable	
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	Not Applicable	
10035692	CG- Certificate in Electrotechnical Technology Level 2	Not Applicable	
10036027	CG- Certificate in Electrotechnical Technology Level 3	Not Applicable	
Heating and Ventilation			
00233046	Indirect Fired Heating Appliances	Not Applicable	
00233050	Overhead Radiant Heaters	Not Applicable	
00257687	First Fix Commercial Pipework (Ltd)	Not Applicable	
00269367	Wet Central Heating	Not Applicable	
00271466	First Fix of Commercial Pipework (Limited Scope)	Not Applicable	
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	Not Applicable	
00272161	Central Heating Controls Fault Finding	Not Applicable	
00272162	Central Heating Controls Wiring	Not Applicable	
00272163	Combination Boiler Basic Fault Finding	Not Applicable	
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	1	48
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	2	132
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	4	537
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	2	617
10035126	Certificate in Heating and Ventilation Installation	4	760
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	2	101
1003514X	Certificate in Heating and Ventilation Installation	2	447
10035151	Certificate in Heating and Ventilating - Rectification of Systems	1	82
10035515	Certificate in Energy Efficiency for Domestic Heating	Not Applicable	

Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components		36
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	2	236
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation		684
Q1027507 ³¹	NVQ in Mechanical Engineering Services: Heating and Ventilating-Rectification of Systems		162
Plumbing			
00274742	National Award in Plumbing	Not Applicable	
00274979	Gateway - Plumbing - Level 1	Not Applicable	
10033567	Certificate in Basic Plumbing Studies	57	5700
10033579	Certificate in Plumbing Studies	15	2753
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)	Not Applicable	
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)	Not Applicable	
00230090	CG 6055 Lead workers Certificate	Not Applicable	
00267345	CG 6161-05 Certificate in Plumbing	Not Applicable	
00267352	CG 6161-15 Diploma in Plumbing	Not Applicable	
00267358	CG 6161-25 Advanced Diploma in Plumbing	Not Applicable	
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	4	1506
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	5	1471
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	1	146
10032848	NVQ in Mechanical Engineering Services – Plumbing	5	5870
1003285X	NVQ in Mechanical Engineering Services – Plumbing	17	2921
10008226	Certificate in Plumbing	Not Applicable	
00261353	CG 6988 Certificate in Plumbing	Not Applicable	
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)	Not Applicable	
00237660	Plumbing Heating & Ventilation Foundation Certificate	Not Applicable	
00255399	Plumbing Basic Skills	Not Applicable	
00221841	Plumbing in The Home	Not Applicable	
00222517	Introduction to Plumbing	Not Applicable	
Gas			
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances	Not Applicable	
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	Not Applicable	
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters	Not Applicable	
00253461	Domestic Gas Central Heating Boilers and Circulators	Not Applicable	
00253463	Domestic Gas Ducted Air Heaters	Not Applicable	
00253464	Domestic Gas Fires and Wall Heaters	Not Applicable	
00263307	Installation First Fix Commercial Pipe Work	Not Applicable	
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	Not Applicable	
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG	Not Applicable	
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure	Not Applicable	
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	Not Applicable	
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters	Not Applicable	
00269227	Domestic Gas Fired Central Heating Boilers	Not Applicable	
00269228	Domestic Gas Fired Ducted Air Heaters	Not Applicable	
00269282	Domestic Gas Fires and Wall Heaters	Not Applicable	
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	Not Applicable	
00257706	Gas Fired Hot Water Boiler	Not Applicable	
00269227	Domestic Gas Fired Central Heating Boilers	Not Applicable	

³¹ This qualification was not funded in General FE Section and is specific to Work-based Learning in this academic year.

00269371	Domestic Air Heaters	Not Applicable
00269372	Gas Fires and Heaters	Not Applicable

Table 91 Employer expenditure 04/05 data - sum of core fund

		NEVS	Calculation	Sum of Core Fund
AIR CONDITIONING AND REFRIGERATION				
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	NEVS	29 * £450	£13,050
00206710	Safe Handling of Refrigerants		25* £280	£7,000
00220639	CG 2078 Handling of Refrigerants		287*£280	£80,360
00220640	CG 2078 Handling Refrigerants (Ammonia)		12* £280	£3,360
00271018	Introduction to Refrigeration and Air Conditioning	NEVS	18*£450	£8,100
00272159	Refrigeration Pipework and Brazing (Industrial)		4 * £500	£2,000
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning		241* £400	£96,400
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning		66*£400	£26,400
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems		523*£548	£286,604
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems		95* £548	£52,060
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems	NEVS	100* £400	£40,000
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia	NEVS	2 * £400	£800
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems	NEVS	1 * £400	£400
ELECTROTECHNICAL				
00104064	CG 2360-03 Electrical Installation Course C		45*£430	£19,350
00104065	CG 2360-04 Electrical Installation Supplementary Studies	NEVS	291 * £430	£125,130
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)		20* £430	£8,600
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)		54* 430	£23,220
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)		43*430	£18,490
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	NEVS	408*430	£175,440
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)		402* £430	£172,860
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)		43* £430	£18,490
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)		28* £312	£8,736
00267354	CG 6161-17 Diploma in Electrical Installation	NEVS	18 * £125	£2,250
00272142	Essential Electrics	NEVS	164* £125	£20,500
10012345	Certificate in Competent Management of Electrical Equipment Maintenance		56* £160	£8,960
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances		25* £250	£6,250
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	NEVS	68* 430	£29,240
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)		5 * £430	£2,150
00267347	CG 6161-07 Certificate in Electrical Installation	NEVS	11 *£430	£4,730
10025558	Certificate in Electronic Servicing (Part 2)		6*£312	£1,872
HEATING AND VENTILATION				
00233046	Indirect Fired Heating Appliances		21 *£125	£2,625
00233050	Overhead Radiant Heaters		26 * £125	£3,250
00257687	First Fix Commercial Pipework (Ltd)		23 * £125	£2,875
00269367	Wet Central Heating		128 * £125	£16,000
00271466	First Fix of Commercial Pipework (Limited Scope)		20* £125	£2,500
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw		269* £125	£33,625

00272161	Central Heating Controls Fault Finding		58* £125	£7,250
00272162	Central Heating Controls Wiring		58* £125	£7,250
00272163	Combination Boiler Basic Fault Finding		21* £125	£2,625
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)		37* £391	£14,467
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)		8* £391	£3,128
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation		150* £319	£47,850
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation		36* £391	£14,076
10035126	Certificate in Heating and Ventilation Installation		371* £540	£200,340
10035138	Certificate in Heating and Ventilating - Maintenance of System Components		8* £540	£4,320
1003514X	Certificate in Heating and Ventilation Installation-		98* £540	£52,920
10035151	Certificate in Heating and Ventilating - Rectification of Systems		9* £540	£4,860
10035515	Certificate in Energy Efficiency for Domestic Heating		2,555*£125	£319,375
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components	NEVS	33* £391	£12,903
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS	49* £391	£19,159
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS	7 * £391	£2,737
TECHNICIAN/PROFESSIONAL				
10015656	BTEC National Certificate in Building Services Engineering		441 * £480	£211,680
10015668	BTEC National Diploma in Building Services Engineering		13* £480	£6,240
00100318	National Certificate in Building Services Engineering		4* £480	£1,920
PLUMBING				
00274742	National Award in Plumbing	NEVS	32 * £175	£5,600
00274979	Gateway - Plumbing - Level 1	NEVS	50 * £125	£6,250
10033567	Certificate in Basic Plumbing Studies		6567* £540	£3,546,180
10033579	Certificate in Plumbing Studies		787* £540	£423,980
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)	NEVS	10* £391	£3,910
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)	NEVS	116* £175	£20,300
00230090	CG 6055 Lead workers Certificate	NEVS	35* £175	£6,125
00267345	CG 6161-05 Certificate in Plumbing	NEVS	65* £175	£11,375
00267352	CG 6161-15 Diploma in Plumbing	NEVS	0* £175	£0
00267358	CG 6161-25 Advanced Diploma in Plumbing	NEVS	1 * £175	£175
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	116* £391	£45,356
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	96* £391	£37,536
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	4* £391	£1,564
10032848	NVQ in Mechanical Engineering Services – Plumbing		1,534* £391	£599,794
1003285X	NVQ in Mechanical Engineering Services – Plumbing		631* £391	£246,721
10008226	Certificate in Plumbing	NEVS	5* £175	£875
00261353	CG 6988 Certificate in Plumbing	NEVS	84* £175	£14,700
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)	NEVS	19 * £175	£3,325
00237660	Plumbing Heating & Ventilation Foundation Certificate	NEVS	0*£125	£0
00255399	Plumbing Basic Skills	NEVS	46* £125	£5,750
00221841	Plumbing in The Home	NEVS	82* £125	£10,250
00222517	Introduction to Plumbing	NEVS	27* £125	£3,375
GAS				
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances		2*£250	£500
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances		29* £250	£7,250
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters		3* £250	£750

00253461	Domestic Gas Central Heating Boilers and Circulators		301 * £250	£75,250
00253463	Domestic Gas Ducted Air Heaters		3 * £250	£750
00253464	Domestic Gas Fires and Wall Heaters		228 * £250	£57,000
00263307	Installation First Fix Commercial Pipe Work		0* £250	£0
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work		25* £250	£6,250
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG		22* £250	£5,500
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure		9*£250	£2,250
00263339	Installation of Commercial Overhead Plaque and Tube Appliances		0* £250	£0
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters		275* £250	£68,750
00269227	Domestic Gas Fired Central Heating Boilers		29 * £250	£7,250
00269228	Domestic Gas Fired Ducted Air Heaters		20* £250	£5,000
00269282	Domestic Gas Fires and Wall Heaters		116* £250	£29,000
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw		29 * £250	£7,250
00257706	Gas Fired Hot Water Boiler		10 * £250	£2,500
00269371	Domestic Air Heaters		3 * £250	£750
00269372	Gas Fires and Heaters		84 * £250	£21,000

22.3 Appendix C: Expenditure on Provision 2

Table 92 04/05 data

			Number of Learners
AIR CONDITIONING AND REFRIGERATION			
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	NEVS	29
00206710	Safe Handling of Refrigerants		25
00220639	CG 2078 Handling of Refrigerants		287
00220640	CG 2078 Handling Refrigerants (Ammonia)		12
00271018	Introduction to Refrigeration and Air Conditioning	NEVS	18*
00272159	Refrigeration Pipework and Brazing (Industrial)		4
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning		241
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning		66
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems		523*
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems		95*
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems	NEVS	100
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia	NEVS	2
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems	NEVS	1
ELECTROTECHNICAL			
00104064	CG 2360-03 Electrical Installation Course C		45
00104065	CG 2360-04 Electrical Installation Supplementary Studies	NEVS	291
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)		20
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)		54
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)		43
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	NEVS	408
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)		402
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)		43
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)		28
00267354	CG 6161-17 Diploma in Electrical Installation	NEVS	18
00272142	Essential Electrics	NEVS	164*
10012345	Certificate in Competent Management of Electrical Equipment Maintenance		56
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances		25
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	NEVS	68
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)		
00267347	CG 6161-07 Certificate in Electrical Installation	NEVS	11
10025558	Certificate in Electronic Servicing (Part 2)		6
HEATING AND VENTILATION			
00233046	Indirect Fired Heating Appliances		21
00233050	Overhead Radiant Heaters		26
00257687	First Fix Commercial Pipework		23
00269367	Wet Central Heating		128
00271466	First Fix of Commercial Pipework (Limited Scope)		20
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw		269
00272161	Central Heating Controls Fault Finding		58

* not used in the calculation

00272162	Central Heating Controls Wiring		58
00272163	Combination Boiler Basic Fault Finding		21
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)		37
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)		8
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation		150
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation		36
10035126	Certificate in Heating and Ventilation Installation		371*
10035138	Certificate in Heating and Ventilating - Maintenance of System Components		8*
1003514X	Certificate in Heating and Ventilation Installation		98*
10035151	Certificate in Heating and Ventilating - Rectification of Systems		9*
10035515	Certificate in Energy Efficiency for Domestic Heating		2,555
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components	NEVS	33
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation-	NEVS	49
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS	7
PLUMBING			
00274742	National Award in Plumbing	NEVS	32*
00274979	Gateway - Plumbing - Level	NEVS	50*
10033567	Certificate in Basic Plumbing Studies		6567*
10033579	Certificate in Plumbing Studies		787*
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)	NEVS	10
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)	NEVS	116
00230090	CG 6055 Lead workers Certificate	NEVS	35
00267345	CG 6161-05 Certificate in Plumbing	NEVS	65*
00267352	CG 6161-15 Diploma in Plumbing	NEVS	0*
00267358	CG 6161-25 Advanced Diploma in Plumbing	NEVS	1*
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	116
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	96
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	NEVS	4
10032848	NVQ in Mechanical Engineering Services – Plumbing		1,534
1003285X	NVQ in Mechanical Engineering Services – Plumbing-		631
10008226	Certificate in Plumbing	NEVS	5*
00261353	CG 6988 Certificate in Plumbing	NEVS	84 *
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)	NEVS	19*
00237660	Plumbing Heating & Ventilation Foundation Certificate	NEVS	0*
00255399	Plumbing Basic Skills	NEVS	46 *
00221841	Plumbing in The Home	NEVS	82*
00222517	Introduction to Plumbing	NEVS	27*
GAS			
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances		2
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances		29
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters		3
00253461	Domestic Gas Central Heating Boilers and Circulators		301
00253463	Domestic Gas Ducted Air Heaters		3
00253464	Domestic Gas Fires and Wall Heaters		228
00263307	Installation First Fix Commercial Pipe Work		0
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work		25

* not used in the calculation

00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG		22
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure		9
00263339	Installation of Commercial Overhead Plaque and Tube Appliances		0
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters		275
00269227	Domestic Gas Fired Central Heating Boilers		29
00269228	Domestic Gas Fired Ducted Air Heaters		20
00269282	Domestic Gas Fires and Wall Heaters		116
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw		29
00257706	Gas Fired Hot Water Boiler		10
00269371	Domestic Air Heaters		3
00269372	Gas Fires and Heaters		84

22.4 Appendix D: Mentoring: an analysis of cost in England

Table 93 Air conditioning further education funded NVQ courses

	Course Title	Number of Learners
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning-	281
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	73
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems	110 (NEVS)
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia	0 (NEVS)
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems	2 (NEVS)

Table 94 Air conditioning work-based learning NVQ courses

	Course Title	Number of Learners
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	313
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	213
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems	147 (NEVS)
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia	106 (NEVS)
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems	45 (NEVS)

Table 95 Air conditioning & refrigeration hourly rates of wages 2006/2007

	Hourly Rates of Wages		
	2006	Sept 2007	Sept 2008
Foreman (Pipe fitter)	£13.66	£14.14	£14.71
Foreman (Ductwork Erector)	£12.64	£13.13	£13.66
Charge hand	£12.33	£12.65	£13.16
Advanced Fitter	£12.09	£12.17	£12.66
Fitter	£11.25	£11.69	£12.16
Installer	£10.66	£11.69	£12.16

Table 96 The number of further education funded NVQ learners

	Qualification Name	Number of Learners
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	57
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	9
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	201
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	46
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components	NEVS 33
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS 73
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	NEVS 17

Table 97 Hourly wage rates for heating and ventilation industry

	Hourly Rates of Wages 2006/(Sept 2007)/ (Sept 2008) £
Foreman (Pipe fitter)	13.66 (14.14) (14.71)
Foreman (Ductwork Erector)	12.64 (13.13) (13.66)
Charge hand	12.33 (12.65) (13.16)
Advanced Fitter	12.09 (12.17) (12.66)
Fitter	11.25 (11.69) (12.16)
Installer	10.66 (11.69) (12.16)

Table 98 Number of learners on FE funded NVQ plumbing courses

	Qualification Name	Number of Learners
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	NEVS 170
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	NEVS 102
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	NEVS 4
10032848	NVQ in Mechanical Engineering Services – Plumbing	2134
1003285X	NVQ in Mechanical Engineering Services – Plumbing	783

Table 99 Number of learners on work-based learning programmes in plumbing

	Qualification Name	Number of Learners
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)	NEVS 1510
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)	NEVS 1476
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)	NEVS 8
Q1027621	NVQ in Mechanical Engineering Services (Plumbing)	16
10032848	NVQ in Mechanical Engineering Services – Plumbing	15928
1003285X	NVQ in Mechanical Engineering Services – Plumbing-	2938

Table 100 Plumbing Rates from 4th June 2007

Operative Plumbers & Gas Service Operatives	Rate Per Hour
Plumber and Gas Service Fitter	£10.14
Advanced Plumber and Gas Service Engineer	£11.55
Technician Plumber and Gas Service Technician	£12.79

22.5 Appendix E: Diversity and Social Utility

Table 101 Ethnic minority breakdown FE-funded

		Asian	Black	Chinese	Mixed	White	Other	Not Provided
Air conditioning and refrigeration								
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)	0	0	0	0	31	0	0
00206710	Safe Handling of Refrigerants	2	0	0	0	25	0	0
00220639	CG 2078 Handling of Refrigerants	23	43	1	14	294	29	10
00220640	CG 2078 Handling Refrigerants (Ammonia)	0	0	0	0	24	0	1
00271018	Introduction to Refrigeration and Air Conditioning	1	1	0	1	14	0	1
00272159	Refrigeration Pipework and Brazing (Industrial)	0	0	0	0	4	0	0
10033737	NVQ in Mechanical Engineering Services – Refrigeration and Air Conditioning	4	9	1	5	246	8	8
10033749	NVQ in Mechanical Engineering Services – Refrigeration and Air Conditioning	4	3	0	3	59	2	4
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems.	39	52	2	21	512	31	13
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	9	9	1	6	71	6	2
Q1027260	NVQ in Mechanical Engineering Services – Small Commercial Refrigeration and Air Conditioning Systems- NEVS	9	11	1	3	72	11	3
Q1027261	NVQ in Mechanical Engineering Services – Commercial and Industrial Refrigeration other than Ammonia- NEVS	0	0	0	0	0	2	0
Q1027262	NVQ in Mechanical Engineering Services – Commercial and Industrial Air Conditioning Systems- NEVS	0	0	0	0	2	0	0
Total		91	128	6	53	1354	89	42
Electrotechnical								
00104064	CG 2360-03 Electrical Installation Course C	5	1	0	2	44	1	2
00104065	CG 2360-04 Electrical Installation Supplementary Studies NEVS	4	2	1	5	302	1	5
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	0	1	0	0	18	1	5
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	0	6	1	4	45	1	3
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	4	0	0	0	38	1	2
00220626	CG 2360-05 Electrical Installation Part 1 (Theory) NEVS	12	5	1	1	428	2	8
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	16*	11	0	9	384	7	1
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	2	0	0	0	42	0	2
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	5	6	2	3	61	2	5
00267354	CG 6161-17 Diploma in Electrical Installation NEVS	0	1	0	0	1	3	0
00272142	Essential Electrics NEVS	8	4	1	0	59	1	1
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	0	0	0	0	52	0	4
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances	13	14	0	1	64	1	2

00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice) NEVS	0	1	0	0	67	0	2
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)	1	0	0	1	3	0	0
00267347	CG 6161-07 Certificate in Electrical Installation NEVS	0	0	0	0	30	0	1
10025558	Certificate in Electronic Servicing (Part 2)	0	0	0	0	6	6	0
Totals		71	51	6	26	1744	27	54
Heating and Ventilation								
00233046	Indirect Fired Heating Appliances	0	0	0	0	54	1	2
00233050	Overhead Radiant Heaters	0	0	0	0	41	1	0
00257687	First Fix Commercial Pipework (Ltd)	0	0	0	0	27	0	1
00269367	Wet Central Heating	13	2	0	2	117	1	43
00271466	First Fix of Commercial Pipework (Limited Scope)..	0	0	0	0	26	0	0
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	14	11	3	3	289	5	5
00272161	Central Heating Controls Fault Finding	4	2	0	0	58	1	0
00272162	Central Heating Controls Wiring	4	2	0	0	58	1	0
00272163	Combination Boiler Basic Fault Finding	3	2	0	0	16	0	0
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	0	0	0	0	38	1	0
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	0	0	0	0	9	0	0
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation...	24	6	0	3	166	0	2
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	0	0	0	0	45	1	0
10035126	Certificate in Heating and Ventilation Installation	55	30	0	18	464	9	3
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	0	0	0	0	14	0	0
1003514X	Certificate in Heating and Ventilation Installation	15	8	0	4	82	4	0
10035151	Certificate in Heating and Ventilating - Rectification of Systems	0	0	0	0	11	0	0
10035515	Certificate in Energy Efficiency for Domestic Heating	24	9	1	13	2451	13	136
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components- NEVS	2	3	0	0	28	0	0
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	4	3	0	2	60	2	2
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	0	0	0	1	16	0	0
Totals		162	78	4	48	4070	39	194
Plumbing								
00274742	National Award in Plumbing-NEVS....	5	0	0	1	155	0	1
00274979	Gateway - Plumbing - Level 1-NEVS.	1	0	0	0	89	0	4
10033567	Certificate in Basic Plumbing Studies	532	369	20	205	11350	130	367
10033579	Certificate in Plumbing Studies	49	45	4	15	1001	32	26
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	1	0	0	0	9	0	0
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	13	30	0	9	220	2	14
00230090	CG 6055 Lead workers Certificate-NEVS	0	0	0	0	1	0	0
00267345	CG 6161-05 Certificate in Plumbing-NEVS	2	0	0	1	79	0	1
00267352	CG 6161-15 Diploma in Plumbing-NEVS.....	2	0	1	1	42	1	0
00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	0	0	0	1	153	2	1
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS....	8	5	0	1	153	2	1

Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	9	4	0	2	75	8	4
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	0	0	0	1	3	0	0
10032848	NVQ in Mechanical Engineering Services – Plumbing	67	40	5	24	1926	13	59
1003285X	NVQ in Mechanical Engineering Services – Plumbing	28	13	1	3	705	10	23
10008226	Certificate in Plumbing-NEVS	0	2	0	0	20	0	5
00261353	CG 6988 Certificate in Plumbing-NEVS	6	4	0	2	110	0	3
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	2	0	0	0	38	0	0
00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	1	0	0	2	44	0	0
00255399	Plumbing Basic Skills-NEVS	2	0	0	0	40	1	3
00221841	Plumbing in The Home-NEVS.....	22	3	2	0	55	0	1
00222517	Introduction to Plumbing-NEVS	1	3	0	4	97	1	5
Totals		751	518	33	273	16365	202	518
Technician								
10015656	BTEC National Certificate in Building Services Engineering	17	8	0	2	457	4	6
10015668	BTEC National Diploma in Building Services Engineering	0	0	1	0	16	0	0
00100318	National Certificate in Building Services Engineering	0	0	0	0	4	0	0
Totals		17	8	1	2	477	4	6
Downstream gas								
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances	0	0	0	0	12	0	1
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	0	0	0	0	37	0	7
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters	1	0	0	0	2	0	1
00253461	Domestic Gas Central Heating Boilers and Circulators	10	3	0	0	303	0	22
00253463	Domestic Gas Ducted Air Heaters	0	0	0	0	6	0	0
00253464	Domestic Gas Fires and Wall Heaters	7	4	0	0	233	0	18
00263307	Installation First Fix Commercial Pipe Work	0	0	0	0	26	0	5
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	0	0	0	0	26	0	5
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG....	0	0	0	0	32	0	3
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure	0	0	0	0	23	0	2
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	0	0	0	0	9	0	0
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters....	15	10	2	2	320	3	5
00269227	Domestic Gas Fired Central Heating Boilers	0	1	0	0	260	0	20
00269228	Domestic Gas Fired Ducted Air Heaters	0	0	0	0	27	1	0
00269282	Domestic Gas Fires and Wall Heaters	0	0	0	0	174	0	14
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	4	1	0	0	41	0	1
00257706	Gas Fired Hot Water Boiler	1	0	0	0	12	0	0
00269371	Domestic Air Heaters	1	0	0	0	2	0	0
00269372	Gas Fires and Heaters	9	2	0	2	74	0	28
Totals		48	21	2	4	1619	4	132

Table 102 Ethnic minority breakdown work-based learning

		Asian	Black	Chinese	Mixed	White	Other	Not Provided
AIR CONDITIONING AND REFRIGERATION								
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)- NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00206710	Safe Handling of Refrigerants	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00220639	CG 2078 Handling of Refrigerants	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00220640	CG 2078 Handling Refrigerants (Ammonia)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00271018	Introduction to Refrigeration and Air Conditioning- NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00272159	Refrigeration Pipework and Brazing (Industrial)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	1	1	0	2	307	0	2
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	2	0	0	0	159	2	2
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	2	1	0	2	373	0	4
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	2	0	0	0	101	2	1
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems- NEVS	1	0	0	2	143	2	1
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia- NEVS	1	0	0	0	102	1	2
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems- NEVS	0	0	0	0	43	0	2
Totals		9	2	0	6	1228	7	14
ELECTROTECHNICAL								
00233046	Indirect Fired Heating Appliances	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00233050	Overhead Radiant Heaters	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00257687	First Fix Commercial Pipework (Ltd)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00269367	Wet Central Heating	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00271466	First Fix of Commercial Pipework (Limited Scope)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00272161	Central Heating Controls Fault Finding	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00272162	Central Heating Controls Wiring	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00272163	Combination Boiler Basic Fault Finding	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	0	0	0	0	49	0	0
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	1	2	0	0	129	0	2
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation- --- A=4 , B=4 ,C=0	4	4	0	7	517	3	6
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation.	4	7	0	5	594	2	7
10035126	Certificate in Heating and Ventilation Installation	4	4	0	10	737	2	7
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	1	2	0	0	99	0	1
1003514	Certificate in Heating and Ventilation	2	4	0	5	426	3	9

X	Installation								
1003515 1	Certificate in Heating and Ventilating - Rectification of Systems	1	0	0	0	82	0	0	
1003551 5	Certificate in Energy Efficiency for Domestic Heating	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Q102750 6	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components- NEVS	0	0	0	0	35	0	1	
Q102750 8	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	1	1	0	2	217	3	14	
Q102750 7	NVQ in Mechanical Engineering Services: Heating and Ventilating - Rectification of Systems	3	0	0	0	153	0	6	
Q102750 9	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation	1	2	0	7	631	5	38	
Totals		22	26	0	36	3669	18	91	
PLUMBING									
00274742	National Award in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00274979	Gateway - Plumbing - Level 1-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10033567	Certificate in Basic Plumbing Studies	29	37	2	56	5566	6	61	
10033579	Certificate in Plumbing Studies	20	19	0	15	2688	5	21	
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00230090	CG 6055 Lead workers Certificate-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00267345	CG 6161-05 Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00267352	CG 6161-15 Diploma in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	7	6	0	7	1455	18	17	
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	3	3	0	3	1433	10	14	
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	1	0	0	0	15	0	0	
Q1027621	NVQ in Mechanical Engineering Services (Plumbing)	0	0	0	0	8	0	0	
10032848	NVQ in Mechanical Engineering Services – Plumbing	37	36	2	56	5722	5	70	
1003285X	NVQ in Mechanical Engineering Services – Plumbing	20	20	0	16	2846	11	25	
10008226	Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00261353	CG 6988 Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00255399	Plumbing Basic Skills-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00221841	Plumbing in The Home-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00222517	Introduction to Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		117	121	4	153	19743	55	208	
TECHNICIAN									
10015656	BTEC National Certificate in Building Services Engineering	2	0	0	0	42	0	1	
10015668	BTEC National Diploma in Building Services Engineering	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
00100318	National Certificate in Building Services Engineering	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total		2	0	0	0	42	0	1	

22.6 Appendix F: Mode of delivery and age of participants in the building services engineering sector

Table 103 Mode of delivery

		Day Time	Other	Full Time	Part Time
AIR CONDITIONING AND REFRIGERATION					
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)- NEVS	6	25	2	29
00206710	Safe Handling of Refrigerants	4	23	2	25
00220639	CG 2078 Handling of Refrigerants	324	90	127	287
00220640	CG 2078 Handling Refrigerants (Ammonia)	25	0	13	12
00271018	Introduction to Refrigeration and Air Conditioning- NEVS	8	18	0	18
00272159	Refrigeration Pipework and Brazing (Industrial).	0	4	0	0
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	225	56	40	241
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	57	16	7	66
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	462	208	147	523
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	62	42	9	95
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems- NEVS	65	45	10	100
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia- NEVS	2	0	0	0
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems- NEVS	2	0	1	1
ELECTROTECHNICAL					
00104064	CG 2360-03 Electrical Installation Course C	24	31	29	45
00104065	CG 2360-04 Electrical Installation Supplementary Studies NEVS	194	12	29	291
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	25	0	5	20
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	43	17	6	54
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	1	44	2	43
00220626	CG 2360-05 Electrical Installation Part 1 (Theory) NEVS	199	25	49	480
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	192	247	37	420
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	7	37	1	43
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	81	3	56	28
00267354	CG 6161-17 Diploma in Electrical Installation NEVS	0	29	11	18
00272142	Essential Electrics NEVS	139	35	10	164
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	56	0	0	56
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances	79	16	7	25
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice) NEVS	2	50	70	25
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2) NEVS	0	5	0	0
00267347	CG 6161-07 Certificate in Electrical Installation	23	8	20	11
10025558	Certificate in Electronic Servicing (Part 2)	6	0	0	6
HEATING AND VENTILATION					
00233046	Indirect Fired Heating Appliances	49	8	36	21
00233050	Overhead Radiant Heaters	34	8	16	26
00257687	First Fix Commercial Pipework (Ltd)	28	0	5	23

00269367	Wet Central Heating	178	0	50	128
00271466	First Fix of Commercial Pipework (Limited Scope)	0	26	6	20
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	329	1	61	269
00272161	Central Heating Controls Fault Finding-	20	45	7	58
00272162	Central Heating Controls Wiring	20	45	7	58
00272163	Combination Boiler Basic Fault Finding	11	10	0	21
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	14	25	2	37
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	7	2	1	8
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	157	44	51	150
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	34	12	10	36
10035126	Certificate in Heating and Ventilation Installation	353	226	208	371
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	14	0	6	8
1003514X	Certificate in Heating and Ventilation Installation	55	58	15	98
10035151	Certificate in Heating and Ventilating - Rectification of Systems	11	0	2	9
10035515	Certificate in Energy Efficiency for Domestic Heating	2647	0	92	2555
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components- NEVS	2	31	0	33
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	55	18	24	49
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	16	1	10	7
PLUMBING					
00274742	National Award in Plumbing-NEVS	149	13	130	32
00274979	Gateway - Plumbing - Level 1-NEVS	65	29	44	50
10033567	Certificate in Basic Plumbing Studies	9673	3300	6406	6567
10033579	Certificate in Plumbing Studies	967	205	385	787
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	10	0	0	0
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	245	43	172	116
00230090	CG 6055 Lead workers Certificate-NEVS	28	11	4	35
00267345	CG 6161-05 Certificate in Plumbing-NEVS	83	0	18	65
00267352	CG 6161-15 Diploma in Plumbing-NEVS	47	0	47	0
00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	1	0	0	1
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	121	49	54	116
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	85	17	6	96
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	4	0	0	4
10032848	NVQ in Mechanical Engineering Services – Plumbing	1762	372	600	1534
1003285X	NVQ in Mechanical Engineering Services – Plumbing	654	129	152	631
10008226	Certificate in Plumbing-NEVS	23	4	22	5
00261353	CG 6988 Certificate in Plumbing-NEVS	95	30	41	84
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	20	20	21	19
00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	19	28	47	0
00255399	Plumbing Basic Skills-NEVS	0	46	0	46
00221841	Plumbing in The Home-NEVS	0	83	1	27
00222517	Introduction to Plumbing-NEVS	95	16	84	27
TECHNICIAN					
10015656	BTEC National Certificate in Building Services Engineering	459	35	53	441
10015668	BTEC National Diploma in Building Services Engineering	17	0	4	13
00100318	National Certificate in Building Services Engineering	4	0	0	4

DOWNSTREAM GAS					
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances	13	0	11	2
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	44	0	15	29
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters	4	0	1	3
00253461	Domestic Gas Central Heating Boilers and Circulators	327	11	37	301
00253463	Domestic Gas Ducted Air Heaters	6	0	3	3
00253464	Domestic Gas Fires and Wall Heaters	231	31	34	228
00263307	Installation First Fix Commercial Pipe Work	4	0	4	0
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	31	0	6	25
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG	35	0	13	22
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure	25	0	16	9
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	9	0	9	0
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters	329	28	82	275
00269227	Domestic Gas Fired Central Heating Boilers	46	1	18	29
00269228	Domestic Gas Fired Ducted Air Heaters	12	16	8	20
00269282	Domestic Gas Fires and Wall Heaters	112	76	72	116
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	46	1	18	29
00257706	Gas Fired Hot Water Boiler	13	0	3	10
00269227	Domestic Gas Fired Central Heating Boilers	46	1	18	29
00269371	Domestic Air Heaters	3	0	0	3
00269372	Gas Fires and Heaters	115	0	31	84

Table 104 Age profile of learners FE-funded

		U19	19-24	25-59	60+	Missing
AIR CONDITIONING AND REFRIGERATION						
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)- NEVS	7	10	14	0	0
00206710	Safe Handling of Refrigerants	3	7	17	0	0
00220639	CG 2078 Handling of Refrigerants	33	73	308	0	0
00220640	CG 2078 Handling Refrigerants (Ammonia)	1	1	22	1	0
00271018	Introduction to Refrigeration and Air Conditioning- NEVS	0	2	16	0	0
00272159	Refrigeration Pipework and Brazing (Industrial)	0	0	4	0	0
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	32	75	174	0	0
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	4	21	48	0	0
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	97	180	391	2	0
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	14	22	68	0	0
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems- NEVS	0	22	79	0	0

Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia- NEVS	0	1	1	0	0
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems- NEVS	0	2	0	0	0
Totals		200	438	1142	3	0
ELECTROTECHNICAL						
00104064	CG 2360-03 Electrical Installation Course C	0	25	30	0	0
00104065	CG 2360-04 Electrical Installation Supplementary Studies	42	76	198	4	0
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	4	3	18	0	0
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	5	19	36	0	0
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	3	15	27	0	0
00220626	CG 2360-05 Electrical Installation Part 1 (Theory)	70	81	305	1	0
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	49	91	297	0	0
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	0	7	37	0	0
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	49	17	15	3	0
00267354	CG 6161-17 Diploma in Electrical Installation	0	2	27	0	0
00272142	Essential Electrics	3	10	157	2	0
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	5	6	45	5	0
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances	25	16	49	5	0
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice)	4	25	41	0	0
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)	0	0	5	0	0
00267347	CG 6161-07 Certificate in Electrical Installation	6	10	15	0	0
10025558	Certificate in Electronic Servicing (Part 2)	0	0	6	0	0
Totals		265	403	1308	15	0
HEATING AND VENTILATION						
00233046	Indirect Fired Heating Appliances	0	2	53	2	0
00233050	Overhead Radiant Heaters	0	2	39	1	0
00257687	First Fix Commercial Pipework (Ltd)	0	5	22	1	0
00269367	Wet Central Heating-	0	23	149	6	0
00271466	First Fix of Commercial Pipework (Limited Scope)	0	2	24	0	0
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	0	50	267	13	0
00272161	Central Heating Controls Fault Finding	2	6	57	0	0
00272162	Central Heating Controls Wiring	2	6	57	0	0
00272163	Combination Boiler Basic Fault Finding	1	1	20	0	0
010033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	5	5	29	0	0
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	2	5	2	0	0
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	34	47	120	0	0
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	3	12	31	0	0
10035126	Certificate in Heating and Ventilation Installation	152	90	337	0	0
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	11	0	3	0	0
1003514X	Certificate in Heating and Ventilation Installation	8	35	70	0	0
10035151	Certificate in Heating and Ventilating - Rectification of Systems	6	5	0	0	0
10035515	Certificate in Energy Efficiency for Domestic Heating	6	206	2346	88	1
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components- NEVS	1	3	28	1	0
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	9	12	50	2	0
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	0	8	9	0	0
Totals		241	525	3713	114	1

PLUMBING						
00274742	National Award in Plumbing-NEVS	137	5	20	0	0
00274979	Gateway - Plumbing - Level 1-NEVS	35	10	49	0	0
10033567	Certificate in Basic Plumbing Studies	427 4	1676	699 1	24	8
10033579	Certificate in Plumbing Studies	185	264	720	3	0
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	3	2	5	0	0
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	105	30	152	1	0
00230090	CG 6055 Lead workers Certificate-NEVS	9	11	18	1	0
00267345	CG 6161-05 Certificate in Plumbing-NEVS	17	10	56	0	0
00267352	CG 6161-15 Diploma in Plumbing-NEVS	31	5	11	0	0
00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	0	0	1	0	0
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	36	37	97	0	0
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	5	32	65	0	0
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	0	1	3	0	0
10032848	NVQ in Mechanical Engineering Services – Plumbing	444	355	132 2	2	1
1003285X	NVQ in Mechanical Engineering Services – Plumbing	68	252	460	2	1
10008226	Certificate in Plumbing-NEVS	18	3	6	0	0
00261353	CG 6988 Certificate in Plumbing-NEVS	36	12	77	0	0
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	10	5	25	0	0
00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	27	2	18	0	0
00255399	Plumbing Basic Skills-NEVS	1	3	40	1	1
00221841	Plumbing in The Home-NEVS	1	5	76	1	0
00222517	Introduction to Plumbing-NEVS	50	16	45	0	0
Totals		549 2	2736	102 57	35	1 1
TECHNICIAN						
10015656	BTEC National Certificate in Building Services Engineering	184	221	89	0	0
10015668	BTEC National Diploma in Building Services Engineering	7	10	0	0	0
00100318	National Certificate in Building Services Engineering	0	2	2	0	0
Totals		191	233	91	0	0
DOWNSTREAM GAS						
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances	0	0	13	0	0
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	0	1	42	1	0
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters	0	0	42	1	0
00253461	Domestic Gas Central Heating Boilers and Circulators-	1	47	284	6	0
00253463	Domestic Gas Ducted Air Heaters	0	1	5	0	0
00253464	Domestic Gas Fires and Wall Heaters	0	43	216	3	0
00263307	Installation First Fix Commercial Pipe Work	0	1	3	0	0
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	0	2	29	0	0
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG	0	3	31	1	0
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure	0	3	22	0	0
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	0	0	9	0	9
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters	2	53	293	9	0
00269227	Domestic Gas Fired Central Heating Boilers	0	43	233	5	0
00269228	Domestic Gas Fired Ducted Air Heaters	0	2	26	0	0
00269282	Domestic Gas Fires and Wall Heaters	0	32	152	4	0
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	0	6	38	3	0
00257706	Gas Fired Hot Water Boiler	0	0	13	0	0
00269227	Domestic Gas Fired Central Heating Boilers	0	43	233	5	0

00269371	Domestic Air Heaters	0	0	3	0	0
00269372	Gas Fires and Heaters	0	14	98	3	0
Totals		3	294	1785	41	0

Table 105 Age profile of learners work-based learning

		U19	19-24	25-59	60+	Missing
AIR CONDITIONING AND REFRIGERATION						
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)- NEVS	N/A	N/A	N/A	N/A	N/A
00206710	Safe Handling of Refrigerants	N/A	N/A	N/A	N/A	N/A
00220639	CG 2078 Handling of Refrigerants	N/A	N/A	N/A	N/A	N/A
00220640	CG 2078 Handling Refrigerants (Ammonia)	N/A	N/A	N/A	N/A	N/A
00271018	Introduction to Refrigeration and Air Conditioning- NEVS	N/A	N/A	N/A	N/A	N/A
00272159	Refrigeration Pipework and Brazing (Industrial)	N/A	N/A	N/A	N/A	N/A
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	194	119	0	0	0
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	99	66	48	0	0
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	236	146	0	0	0
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	50	56	68	0	0
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems- NEVS	63	83	1	0	0
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia- NEVS	22	83	1	0	0
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems- NEVS	4	40	1	0	0
Totals		668	593	119	0	0
HEATING AND VENTILATION						
00233046	Indirect Fired Heating Appliances	N/A	N/A	N/A	N/A	N/A
00233050	Overhead Radiant Heaters	N/A	N/A	N/A	N/A	N/A
00257687	First Fix Commercial Pipework (Ltd)	N/A	N/A	N/A	N/A	N/A
00269367	Wet Central Heating	N/A	N/A	N/A	N/A	N/A
00271466	First Fix of Commercial Pipework (Limited Scope)	N/A	N/A	N/A	N/A	N/A
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	N/A	N/A	N/A	N/A	N/A
00272161	Central Heating Controls Fault Finding	N/A	N/A	N/A	N/A	N/A
00272162	Central Heating Controls Wiring	N/A	N/A	N/A	N/A	N/A
00272163	Combination Boiler Basic Fault Finding	N/A	N/A	N/A	N/A	N/A
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	34	15	0	0	0
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	78	56	0	0	0
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	379	161	1	0	0
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	368	246	5	0	0
10035126	Certificate in Heating and Ventilation Installation	558	204	2	0	0
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	75	8	0	0	0
1003514X	Certificate in Heating and Ventilation Installation	239	206	4	0	0
10035151	Certificate in Heating and Ventilating - Rectification of Systems	39	44	0	0	0
10035515	Certificate in Energy Efficiency for Domestic Heating	N/A	N/A	N/A	N/A	N/A
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components- NEVS	16	19	1	0	0
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	117	120	1	0	0

Q1027507	NVQ in Mechanical Engineering Services: Heating and Ventilating - Rectification of Systems	21	139	2	0	0
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	142	531	11	0	0
Total		2066	1749	27	0	0
PLUMBING						
00274742	National Award in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00274979	Gateway - Plumbing - Level 1-NEVS	N/A	N/A	N/A	N/A	N/A
10033567	Certificate in Basic Plumbing Studies	4040	1695	22	0	0
10033579	Certificate in Plumbing Studies	1526	1225	17	0	0
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	N/A	N/A	N/A	N/A	N/A
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	N/A	N/A	N/A	N/A	N/A
00230090	CG 6055 Lead workers Certificate-NEVS	N/A	N/A	N/A	N/A	N/A
00267345	CG 6161-05 Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00267352	CG 6161-15 Diploma in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	638	858	14	0	0
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	243	1201	32	0	0
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	3	5	0	0	0
Q1027621	NVQ in Mechanical Engineering Services (Plumbing)	13	3	0	0	0
10032848	NVQ in Mechanical Engineering Services – Plumbing	1417 0	1716	42	0	0
1003285X	NVQ in Mechanical Engineering Services – Plumbing	1612	1307	19	0	0
10008226	Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00261353	CG 6988 Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	N/A	N/A	N/A	N/A	N/A
00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	N/A	N/A	N/A	N/A	N/A
00255399	Plumbing Basic Skills-NEVS	N/A	N/A	N/A	N/A	N/A
00221841	Plumbing in The Home-NEVS	N/A	N/A	N/A	N/A	N/A
00222517	Introduction to Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
Totals		2224 5	8010	146	0	0
TECHNICIAN						
10015656	BTEC National Certificate in Building Services Engineering	27	18	89	0	0
10015668	BTEC National Diploma in Building Services Engineering	N/A	N/A	N/A	N/A	N/A
00100318	National Certificate in Building Services Engineering	N/A	N/A	N/A	N/A	N/A
Totals		27	18	89	0	0

22.7 Appendix G: Quality marks/awards

Introduction

As part of the assessment of quality within this Assessment of Current Provision it was important to look at the underlining quality marks and awards that the providers to the building services engineering sector have, although in doing this, it should be stressed that the some of the awards do not necessarily relate to the curriculum delivered for building services engineering sector employers. The primary data was obtained for this section from the providers themselves through telephone interviews (see methodology). The quality marks and awards do not in general relate to the quality of teaching and learning taking place within a provider as this is inspected independently by the relevant inspection body for the nation concerned i.e. OfSTED/ALI (England) HMI (Scotland). The role of quality awards therefore within providers tend to take the form of providing quality assurance to the functions around the teaching and learning initiative, such as dealing with complaints, quality of learning facilities, systems for course management, with a view to providing standardisation across providers. Much of the drive in England particularly for colleges to obtain quality assurance marks such ISO9000:2000 was due to the sector receiving incorporated status and coming out of Local Authority control in 1993 (Sallis, 1996; Stone, 1997).

In England the impetus to retain quality assurance marks was increased by the decision by OfSTED/ALI not to inspect quality assurance in providers within a recognised quality mark when they took over inspection in England in 2001. This element of the report seeks to analyse the types of quality marks/awards that the primary research collected within the providers attached to the building services engineering sector, and give a description of their main elements and where appropriate their development within the sector through Government encouragement.

ISO 9000/9001:2000

As indicated above the incorporation of Further Education Colleges and the introduction of market forces leading to the development of a mature private training provider network through the Further and Higher Education Act (1993) led further education colleges to become more business focused and market driven and led to a more open engagement in the language of business (Hammond, 2003). It is perhaps not surprising that the newly styled chief executive should look to enhance the language of business within the sector through the development of quality assurance marks and awards, as these were being pushed hard at the time, because since 1992, when the then Conservative Government of (1979-1997) through a White paper had targeted quality, which in turn had then led to a National Quality Campaign, which subsequently led to a significant Government supported drive for certification under what was then BS5750 (later to evolve into ISO 9000) which newly 'liberated' providers of further education embraced with enthusiasm (Dale, 2003, p267).

There are a number of sub-species within the generic species of what is generally classified under the umbrella ISO 9000: 2000, and the ones that invariably are utilised within Further Education (FE) and are not classified in most provider quality systems separately are:

- ISO 9000: Quality Management Systems: Fundamentals and Vocabulary.
- ISO9001: Quality Management Systems: Requirements.

- ISO9004: Quality Management Systems: Guidelines for Performance Improvements.

ISO9001 (which is the predominant system utilised in FE which uses the ISO systems) is based on eight quality management principles, which are:

1. Customer Focus
2. Leadership
3. Involvement of People
4. Process Approach
5. System Approach to Management
6. Continual Improvement
7. Factual Approach to Decision Making.
8. Mutually beneficial supplier relationship. (Dale, 2003, p269).

ISO9000: 2000 has reduced the number of requirement clauses down from twenty to five, but these clauses have a depth in them that clearly identifies that the original twenty clauses are still covered in a significant amount of depth. The five elements are as follows:

1. General requirements: under this heading the organisation is required to establish, document, implement and maintain a quality system, and improve its effectiveness.
2. Management responsibility: within this section the management commitment, customer focus of the organisation, the quality policy, planning and responsibility for quality both authority and communication are considered.
3. Resource management: within this requirement clause the provision of resources is considered including both human, infrastructure and work environment resources.
4. Product Realisation: This section looks at the planning of product realisation; customer- related processes, design and development, purchasing, production and service provision and control and monitoring of measuring.
5. General: Within this heading the organisation will plan and implement the monitoring, measurement, analysis and improvement processes needed to demonstrate conformity of the produce and the ensure conformity of the quality management system, and finally to continually improve the effectiveness of the quality management system. Also within this general heading are the systems for monitoring and measurement, control of non conforming products, analysis of data and systems for improvement (Dale, 2003, p270).

As can be seen above from the descriptor in Dale (2003) the language of ISO 9000: 2000 does not sit comfortably in a very specialist services sector such as FE provision (not surprisingly as it was originally designed for the defence (and therefore manufacturing) industry after the second world war), and the systems that developed under ISO 9000 systems often led to claims of stifling creativity, bureaucracy gone mad and descent into a paper chase (Dale, 2003, 279). Inspection by auditors is also questioned as the exercise it is argued become more about seeing that the right piece of paper is in the file, rather than whether what the paper refers to is quality (Seddon, 1997). The obtaining by Further and Higher Education institutions of the ISO 9000 standard was heralded in the 1990s as being an exemplar for good quality, however on the election of the new labour Government in 1997, a new quality model came into favour within the FE sector.

European framework for quality management (EfQM)/ business excellence model

The Labour Government was not as impressed with the ISO model for Further Education as the former Conservative Government had been, and therefore in their first Green Paper on Further Education entitled: The Learning Age (1998), the Government proposed the use of the EfQM model³² as being a more robust model for quality management within the sector than the ISO model. The EfQM model is a more self assessment team model³³ requiring participants to score themselves against given quality criteria to arrive at a score for each section within the model. There are nine boxes in the EfQM which are grouped within two heading generically described as 'enablers' and 'results.' The model is described in a cyclical way through enablers being arrow pointed to results and then arrow circled back to begin the process again through innovation and learning, which is deemed to be the result of the exercise in the first place.

The nine key areas of EfQM are as follows:

1. Leadership: in the EfQM model, leaders are the catalyst for quality improvement in that they facilitate the achievement of mission and vision and can direct and inspire the company to take a lead in the new direction of travel post the quality assessment.
2. Policy and strategy: within this heading company explore how they implement their vision and mission, with excellent companies developing a stakeholder focused strategy that takes account of the market in which they operate. From this analysis policy, plans and objectives including processes are developed and deployed to deliver the strategy.
3. People: under this heading companies examine the use they make of their people. Excellent companies manage, develop and release the full potential of their people at an individual, team based and organisational level. Excellent companies within this heading are able to prove that they promote fairness and equality and involve and empower their people, and in addition they care for, communicate, reward and recognize their staff in a way that motivates them and builds commitment within the company for the staff to use their skills and knowledge for the benefit of the company.
4. Partnerships and resources: within this heading companies are deemed to be excellent against the criteria if they plan and manage external partnerships, suppliers and internal resources in order to support policy and strategy and the effective operation of processes. This also entails planning and ensuring that the partnerships and resources balance the current and future needs of the company, the community and the environment.
5. Processes: under this heading, excellent companies design, manage and improve processes in order to fully satisfy and generate increasing value for customers and other stakeholders.
6. Customer results: under this heading, excellent companies comprehensively measure and achieve outstanding results with respect to their customers.

³² The Business Excellence Model is the British Name for EfQM, which although it has fallen predominantly out of usage is still sometimes used and can thus cause confusion.

³³ Self Assessment was a key factor in the inspection regime in England in the second round of FEFC inspections of Further Education Colleges, with providers having to self assess themselves and have their self assessment grades marked accordingly. This procedure was carried through into OfSTED/ ALI inspections in England.

7. People results: using performance indicators and perception measures, excellent companies comprehensively measure and achieve outstanding results with respect to their people.
8. Society results: using performance indicators and perception measures, then outstanding companies under this measure achieve outstanding results with respect to society.
9. Key performance results: using key performance outcomes and key performance indicators, an excellent company under this heading comprehensively measures and achieves outstanding results with respect to key elements of their policy and strategy (EfQM Excellence Award, 2006 pp37-40).

The nine points above are only a taste of the categories for which companies measure themselves against the EfQM framework and score themselves. Most companies are not expected to score very highly on the criteria if they are scrupulously honest and from this quality improvement can be recognised, as well as there being an opportunity for companies to put themselves in for an award if their self assessment is validated. The general EfQM self assessment method is a useful accompaniment to the OfSTED/ALI concepts of self assessment in England although the paperwork differs for inspection purposes from those bodies, the two exercises could probably be developed to complement each other.

International safety rating system (ISRS)

This system is designed to facilitate management in the building of a safety management (care) system in an organisation with a view to reducing the number of accidents and also a measure for safety management systems evaluation from which a company's safety management system can be evaluated. The ISRS contains four key words, which are as follows:

1. Philosophy: the philosophy on which the safety management approach is based.
2. Concept: the platform model including the four main building blocks for an improvement process.
3. Process: the most important steps to transfer the concept into a structured improvement tool.
4. Tool: the ISRS as a tool to put the safety management philosophy into practice.

Top (1991) description of the philosophy of ISRS suggests that many accidents within the workplace are as a result of sub standard management, in the management criteria or the compliance of workers. The next factors in accidents are basic causes, which could be substandard personal and task or job factors. Direct causes follow from this are and are substandard acts and conditions within the company. The incident is an undesired event with the losses resulting to people, equipment, material and the environment (Top, 1991, p5). Top (1991) concludes that:

“Success comes from desired events originating from the right acts and conditions based on the right personal and job factors which evolve from right organisation and management systems” (Top, 1991, p6).

Success in this case is where there is:

1. No (undue) injury to people
2. No (undue) damage to equipment
3. No (undue) loss or damage to materials.

4. No (undue) damage to the environment
5. No (undue) loss of market.
6. No (undue) damage to the company image or brand name.
7. No (undue) loss to image of management.

The concept behind ISRS is a plan, do train circular model (similar in nature to Plan, Check, Do Act cyclical model of Deming (1986)). First part of the concept is to plan to achieve safety, through identifying the training required. Second the personnel within the company are trained so that they are all facing in the same direction. After the training has taken place then the systems are put in place. Top (1991) proposes that this is achieved through both a top down and bottom up model, with the company leadership evaluating the performance of the system, and the company itself having specific knowledge of the implementation of the problem and control in execution, the cyclical model goes back to the company leadership through the company giving review and feedback of the system to the leadership (Top, 1991, p13).

The process incorporates the use of top management leadership, top management's leadership of teams, project improvement teams using whole company membership. The model also seeks to use the concepts of internal expertise to strengthen the performance of the system. Other functions described in the process section of this report include the communication of the written plan, the use of an opinion survey to engage whole company buy-in. At the commencement of the implementation of ISRS there is a base line assessment of where the company is to facilitate the measurement of progress under the assessment. From the base line assessment the leadership of the company can highlight a selection of activities for concentration on.

There is also a requirement within the ISRS system for management to be specifically trained in the areas of the ISRS systems to facilitate the development of this system. Also within this section are the development of activity co-ordination teams to carry out activities, and the training of these teams. System Activities development is also a factor in the ISRS, where the company defines what needs to be done and how it should be done to get the right results. Other elements within the the process include practical activity training, management briefings and carrying out element activities. Finally, through continuous evaluation, the project is extended as action plans and actions are reviewed and reformed to meet the issues that develop out of the work (Top, 1991, pp14-21).

The tool itself for the ISRS system is an audit, which should be carried out periodically to obtain the desired level of safety performance. This can be achieved through a process in which audits, improvement suggestions, training and execution of related action plans are combined until the desired level has been reached, and finally to maintain the desired level once this has been achieved (Top, 1991, p25). The audit report, which is carried out by an Accredited Safety Auditor is in five stages which are:

1. Introduction(s)
2. Interviews and verification
3. Initial report.
4. Final report
5. Presentation on findings.

The ISRS elements that the audit considered are twenty in number and cover the following issues:

1. Leadership
2. Leadership training
3. Planned inspections and maintenance
4. Critical task analysis and procedures
5. Accident/incident investigation
6. Task observation
7. emergency preparedness
8. Rules and work permits
9. Accident/ incident analysis
10. Knowledge and skill training
11. Personal protective equipment
12. Occupational health and hygiene
13. System evaluation
14. Engineering and change management
15. Individual communication
16. Group communication
17. General promotion
18. Hiring and placement
19. Management and services management
20. Off-the-job safety

The audit is then used to give percentage scores to each element, and from this new goals for improvement can be set. Through this methodology continuous improvement is maintained.

Charter mark

Initially the charter mark was an award (conceived by the Conservative Government of John Major 1992-97) to award organisations within the public sector who were performing excellently. The charter mark has now evolved into an award that organisations within the public sector can work to as a definable quality mark in its own right. The charter mark appears to have many similarities in the way that it is assessed to ISO9000 in that the evidence required to achieve charter mark status comes through descriptive work, where the organisation is required to describe in a few paragraphs what activity or actions it has undertaken to meet the requirements of a particular criterion of the charter mark. Secondly the charter mark requires that the applicant provides supportive evidence, which could be in the form of a brochure, report, or even a CD that supports the descriptive evidence given above. Finally, there is the observed evidence that consists of evidence that can be gained on site, such as activities that take place around the reception area, or a display of information to staff and customers (SGS, 2004, p3).

Once an application has been made, a report is prepared on that documentation, which identifies areas that will be considered in the next stage of the assessment. The final stage in the assessment (as with ISO9000) is an on-site assessment, which is undertaken with the view of determining whether the organisation has achieved the charter mark status. The scoring for the charter mark is as follows:

- Best practice: all aspects of the element are met, and the applicant can demonstrate that they have gone beyond the requirements.
- Full compliance: all aspects of the element are met.

- Partial compliance: some but not all aspects of the element are met and remedial action to meet the remainder could be put in place within a short period of time (maximum three months).
- Major non-compliance: the requirements of the element are not met.

The scheme allows for a number of partial compliances, while still permitting the award to be made, and this is shown in the table below and equates to a pass mark of 70% for each criteria:

Table 106 Partial compliances

Criterion	Number of Elements	Maximum Number of Partial Compliances
1	11	3
2	15	4
3	10	3
4	13	3
5	7	2
6	7	2

Once the on site assessment has taken place, then a report is prepared that enables an action plan to be produced to enable the organisation to address the issues the report has identified within a given time frame of three months. If the organisation has not achieved charter mark status, the action plan can be used to address the issues raised before the organisation is reassessed. If the organisation is successful, then the organisation then it is required to undertake regular reviews, to make sure that it retains its quality output (SGS, 2004,p4-7).

Positive about disabled people symbol

The positive about disabled people symbol is given by the employment service to employers who have agreed to take action to five commitments regarding the employment, retention, training and career development of disabled employees. These five commitments are as follows:

1. To interview all disabled applicants for posts who meet the minimum criteria for a job vacancy, and appoint candidates on their abilities.
2. To make sure that there are mechanisms in place to discuss with disabled employees (at least once a year) what the employer can do to aid the disabled employee to use and develop their abilities.
3. To make every effort when employees become disabled, to make sure that they stay in employment.
4. To develop disability awareness among all staff, to make sure that the organisation is able to meet its commitments.
5. To constantly review the commitments under the symbol and plan ways of improving and disseminate this information to both employees within the organisation and the employment service.

This symbol is very common with FE providers, particularly FE colleges.

Matrix standard

The matrix standard is a quality standard that is given to organisations in both the private and public sectors, who give advice and guidance to people. It would probably therefore be more common to find such a standard awarded to the students services departments of larger further education colleges. The matrix standard is the national quality mark for any organisation that delivers information, advice and

guidance on learning and work. The matrix standard has eight elements associated with it:

1. People are made aware of the service and how to engage with it
2. People's use of the service is defined and understood.
3. People are provided with access to information and support in using it.
4. People are supported in exploring options and making choices.
5. Service delivery is planned and maintained.
6. Staff competence and support they are given are sufficient to deliver the service.
7. Feedback on the quality of the service is obtained.
8. Continuous quality improvement is ensured through monitoring, evaluation and action. (Matrix, 2006a, p3).

Matrix (2006b) identifies eight signposts on the matrix journey to obtaining the matrix standard. These are as follows:

1. Make the decision and commitment to the matrix standard and decide which areas of the business related to advice and guidance it will apply to (as there is no requirement that it apply to all areas of the business).
2. Review current organisational practices and seek the help of a registered matrix adviser. This is not principally about collecting paper evidence but developing a matrix standard behaviour pattern.
3. Develop an action plan and review this with a registered matrix adviser if required.
4. Implement the action plan and prepare for assessment on that plan.
5. Receive assessment and feedback from the assessor.
6. Accreditation (subject to meeting the Matrix standard).
7. Identify development activities in the organisations continuous improvement plan.
8. Accreditation review, where an organisation is able to demonstrate on an on-going basis, how the elements of the standard are contributing improvements and ensuring continued success. (Matrix, 2006b, p1-10 incl).

Although an indicator of the potential quality of advice that a learner looking for a career in the building services engineering sector might get, this standard would not directly impact on the curriculum within the sector.

The basic skills agency quality mark

The Basic Skills Agency Quality Mark is an award that is given to providers for achievements in the teaching of basic skills and is relevant (as least in the primary and secondary school sectors) to the teaching of literacy.

There has been developed a Basic Skills Agency Post-16 Quality Mark, which is currently only available in Wales. Whether this concept will be rolled out to other nations within the UK is not known.

Learning and Skills Beacon status (England)

The learning and skills beacon status provides public recognition of the excellence and innovation that exists within the learning and skills sector. This award celebrates providers who have delivered outstanding teaching and learning and are well led and managed, and is given to providers funded by the LSC and inspected by OfSTED and ALI inspections. Application for beacon status is by invitation only, with the DfES

using inspection information and LSC performance assessments to identify potential candidates, with a advisory panel scrutinizing applications, and making recommendations to ministers.

The development of the Quality Improvement Agency (QIA) for Learning has led to a reconsideration of the role that Beacon status should have, taking into account the desire to reflect Success for All's Accelerated Quality Improvements and to reposition Beacons, particularly in light of planned Further Education reforms, which propose to encourage quality via exemplars. Beacon status is therefore seen as a way of taking forward this work within the QIA by taking forward improvement, innovation and leading edge development work. A review established to consider this issue has made six recommendations, which appear to be shifting the beacon status as with the charter mark away from being an award towards it being a quality mark. The findings of the review were as follows:

1. Retention of the award and name, retaining the focus on improving performance and quality.
2. It should remain a general award for overall excellence.
3. It should be a centralized model managed by the new QIA.
4. The criteria should be absolute and tough to achieve.
5. There should be retention of an independent assessment panel.
6. Award of the status should be time limited. (LSCB, 2006,p9).

Investors in people

Investors in People is a quality standard identified by the Government in the green paper the Learning Age (1998) as being a quality mark that they wished to see providers within the Further Education Sector obtain. Investors in People are an award which recognizes that the organisation that it is awarded to is committed to investing in their staff, and providing the relevant training for the staff to maximise performance. Inspection is a major part of the achievement of the IIP standard within the UK, with inspectors measuring managers against their ability to produce evidence to cover certain standards within the award. Competence is also a major part of the IIP standard, so for example in version 21 IIP standards, under the general heading of "Developing strategies to improve the performance of the organisation" and beneath a sub-heading of "Learning and development is planned to achieve the organization's objectives" there are four competences/standards that senior management must satisfy (IIP, 2004, p1). For example competence/standard one states:

"1. Top managers can explain the organizations' learning and development needs, the plans and resources in place to meet them, how these link to achieving specific objectives and how the impact will be evaluated" (IIP,2004,p1)

IIP faces similar difficulties to ISO9000 in that it is difficult for the competence standard to cover the soft skills of managing environments, for example under a sub-heading of "*Strategies for managing people are designed to promote equality of opportunity in the development of the organisations people,*" the IIP declares:

"1. Top managers can describe strategies they have in place to create an environment where everyone is encouraged to contribute ideas to improve their own and other people's performance". (IIP, 2004, p1).

In part to address this issue the formal audit and assessment prior to an award of IIP tends to use interviews with staff at all grades within the organisation, and this teases

out to some degree the difficulties that the measurement of soft skills through a paper based system would throw up.

22.8 Appendix H: Achievement on Curriculum

Table 107 Achievement on curriculum

		Continue	Completed	Withdrawn	Achieved	Percentage Achievement
AIR CONDITIONING AND REFRIGERATION						
00118685	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)- NEVS	0	16	15	15	94%
00206710	Safe Handling of Refrigerants	2	25	0	25	100%
00220639	CG 2078 Handling of Refrigerants	1	369	44	320	77%
00220640	CG 2078 Handling Refrigerants (Ammonia)	0	25	0	22	88%
00271018	Introduction to Refrigeration and Air Conditioning-NEVS	0	8	10	8	44%
00272159	Refrigeration Pipework and Brazing (Industrial)	0	4	0	4	100%
10033737	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	131	117	33	57	38%
10033749	NVQ in Mechanical Engineering Services - Refrigeration and Air Conditioning	6	59	7	30	45%
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	252	296	114	8	0%
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems.	9	83	11	46	49%
Q1027260	NVQ in Mechanical Engineering Services - Small Commercial Refrigeration and Air Conditioning Systems- NEVS	6	93	11	69	66%
Q1027261	NVQ in Mechanical Engineering Services - Commercial and Industrial Refrigeration other than Ammonia- NEVS	0	2	0	0	0%
Q1027262	NVQ in Mechanical Engineering Services - Commercial and Industrial Air Conditioning Systems- NEVS	0	2	0	2	100%
ELECTROTECHNICAL						
	CG 2360-03 Electrical Installation Course C	18	25	12	14	38%
00104065	CG 2360-04 Electrical Installation Supplementary Studies NEVS	23	261	34	166	56%
00104066	CG 2369 Electrical Installation Competences Part 1 (Customer Specific Scheme)	0	24	1	0	60%
00104068	CG 2369 Electrical Installation Competences Part 2 (Customer Specific Scheme)	0	55	5	27	19%
00104069	CG 2369 Electrical Installation Work Course C (Customer Specific Scheme)	9	26	10	7	19%
00220626	CG 2360-05 Electrical Installation Part 1 (Theory) NEVS	8	400	40	320	73%
00220627	CG 2360-06 Electrical Installation Part 1 (Theory and Practice)	0	407	30	314	72%
00220628	CG 2360-07 Electrical Installation Part 2 (Theory)	0	43	1	31	70%
00253806	CG 6958-01 Progression Award: Electrical and Electronic Servicing (Consumer/Commercial Electronics) (Level 2)	1	76	7	55	67%
00267354	CG 6161-17 Diploma in Electrical Installation NEVS	6	11	1	9	75%
00272142	Essential Electrics NEVS	0	170	4	167	96%
10012345	Certificate in Competent Management of Electrical Equipment Maintenance	0	54	2	46	82%
10017513	Progression Award in Electrical and Electronic Servicing; Domestic Electrical Appliances	17	53	25	42	54%
00220629	CG 2360-08 Electrical Installation Part 2 (Theory and Practice) NEVS	0	67	1	34	50%
00253814	CG 6958-02 Progression Award: Electrical and Electronic Servicing (Domestic/Electrical Appliances) (Level 2)	0	5	0	4	80%
00267347	CG 6161-07 Certificate in Electrical Installation NEVS					

10025558	Certificate in Electronic Servicing (Part 2)	0	6	0	0	0%
HEATING AND VENTILATION						
00233046	Indirect Fired Heating Appliances.	0	57	0	54	95%
00233050	Overhead Radiant Heaters	0	42	0	39	93%
00257687	First Fix Commercial Pipework (Ltd)	0	28	0	27	96%
00269367	Wet Central Heating	0	178	0	172	97%
00271466	First Fix of Commercial Pipework (Limited Scope)	0	26	0	26	100%
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	0	329	0	316	96%
00272161	Central Heating Controls Fault Finding	0	62	3	59	91%
00272162	Central Heating Controls Wiring	0	62	3	60	92%
00272163	Combination Boiler Basic Fault Finding	0	21	0	21	100%
10033713	NVQ in Mechanical Engineering Services - Heating and Ventilating (Maintenance of Systems Components)	9	23	1	19	79%
10033725	NVQ in Mechanical Engineering Services - Heating and Ventilating (Rectification of Systems)	2	6	1	4	57%
10033750	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	71	97	24	70	58%
10033762	NVQ in Mechanical Engineering Services - Heating and Ventilating Installation	30	10	6	6	38%
10035126	Certificate in Heating and Ventilation Installation	142	301	129	244	57%
10035138	Certificate in Heating and Ventilating - Maintenance of System Components	6	4	4	4	50%
1003514X	Certificate in Heating and Ventilation Installation	65	10	35	12	27%
10035151	Certificate in Heating and Ventilating - Rectification of Systems	10	0	1	0	0%
10035515	Certificate in Energy Efficiency for Domestic Heating	2	2634	0	2340	89%
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating - Maintenance of System Components- NEVS	0	32	0	25	78%
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	0	69	3	61	85%
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	0	16	1	13	76%
PLUMBING						
00274742	National Award in Plumbing-NEVS	10	120	29	87	58%
00274979	Gateway - Plumbing - Level 1-NEVS	0	84	10	83	88%
10033567	Certificate in Basic Plumbing Studies	4965	5194	2213	3682	50%
10033579	Certificate in Plumbing Studies	645	325	180	219	43%
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	6	3	1	0	0%
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	0	205	66	197	73%
00230090	CG 6055 Lead workers Certificate-NEVS	1	29	9	14	37%
00267345	CG 6161-05 Certificate in Plumbing-NEVS	8	70	5	54	0%
00267352	CG 6161-15 Diploma in Plumbing-NEVS	38	3	5	0	0%
00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	0	0	0	0	0%
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	3	152	14	127	77%
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	7	85	10	50	53%
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	3	0	1	0	0%
10032848	NVQ in Mechanical Engineering Services – Plumbing	796	970	242	616	51%
1003285X	NVQ in Mechanical Engineering Services – Plumbing	396	258	113	134	52%
10008226	Certificate in Plumbing-NEVS	0	23	4	8	30%
00261353	CG 6988 Certificate in Plumbing-NEVS	2	110	10	89	74%
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	0	45	1	39	85%

00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	0	45	1	39	85%
00255399	Plumbing Basic Skills-NEVS	0	36	10	31	67%
00221841	Plumbing in The Home-NEVS	0	76	7	75	90%
00222517	Introduction to Plumbing-NEVS	0	92	19	82	74%
TECHNICIAN						
	BTEC National Certificate in Building Services Engineering	202	183	101	157	55%
10015668	BTEC National Diploma in Building Services Engineering.	2	6	6	4	33%
00100318	National Certificate in Building Services Engineering.	0	4	0	4	100%
DOWNSTREAM GAS						
00263293	Commission/Service/Repair/Breakdown of Commercial Direct Fired Heating Appliances	0	13	0	13	100%
00263294	Commission/Service/Repair/Breakdown of Commercial Indirect Fired Heating Appliances	0	44	0	43	98%
00263295	Commission/Service/Repair/Breakdown of Gas Fired Commercial Overhead Luminous Radiant Plaque and Radiant Tube Heaters.	0	4	0	4	100%
00253461	Domestic Gas Central Heating Boilers and Circulators	12	323	3	313	96%
00253463	Domestic Gas Ducted Air Heaters.	0	6	0	6	100%
00253464	Domestic Gas Fires and Wall Heaters	15	244	3	236	96%
00263307	Installation First Fix Commercial Pipe Work	0	4	0	4	100%
00263310	Limited Scope Operative Installation First Fix Commercial Pipe Work	0	31	0	31	100%
00263311	Testing and Purging Commercial Installation Pipe Work Exceeding IM3 in Volume up to 7 Bar Operating Pressure NG and 2 Bar LPG	0	35	0	34	97%
00263312	Testing and Direct Purging of Low Pressure Commercial Pipe Work Not Exceeding IM3 in Volume; mbar Operating Pressure- C=0 ,CE=25 , W=0 , A= 22, %A= 88% .	0	25	0	22	88%
00263339	Installation of Commercial Overhead Plaque and Tube Appliances	0	9	0	9	100%
00233005	Domestic Open/Balanced and Fan Assisted Flued Gas Fires and Wall Heaters.	1	353	1	349	99%
00269227	Domestic Gas Fired Central Heating Boilers	0	46	0	46	100%
00269228	Domestic Gas Fired Ducted Air Heaters	0	28	0	28	100%
00269282	Domestic Gas Fires and Wall Heaters	0	188	0	183	97%
00233009	Domestic Gas Fired Ducted Air Heaters of Rated Input not exceeding 60kw	0	46	0	46	100%
00257706	Gas Fired Hot Water Boiler.	0	13	0	13	100%
00269371	Domestic Air Heaters	0	3	0	2	67%
00269372	Gas Fires and Heaters	0	115	0	102	89%

Table 108 Achievement on curriculum

		Continue	Completed	Withdrawn	Achieved	Percentage Achievement
AIR CONDITIONING AND REFRIGERATION						
	CG 1511 Basic Refrigeration and Air Conditioning Engineering (Customer Specific Scheme)- NEVS	N/A	N/A	N/A	N/A	N/A
00206710	Safe Handling of Refrigerants-	N/A	N/A	N/A	N/A	N/A
00220639	CG 2078 Handling of Refrigerants	N/A	N/A	N/A	N/A	N/A
00220640	CG 2078 Handling Refrigerants (Ammonia)	N/A	N/A	N/A	N/A	N/A
00271018	Introduction to Refrigeration and Air Conditioning-NEVS	N/A	N/A	N/A	N/A	N/A
00272159	Refrigeration Pipework and Brazing (Industrial)	N/A	N/A	N/A	N/A	N/A

10033737	NVQ in Mechanical Engineering Services – Refrigeration and Air Conditioning	266	11	35	11	24%
10033749	NVQ in Mechanical Engineering Services – Refrigeration and Air Conditioning	124	6	30	6	17%
10035102	Certificate in Small Commercial Refrigeration and Air Conditioning Systems	262	69	51	68	57%
10035114	Certificate in Complex Commercial Refrigeration and Air Conditioning Systems	73	7	17	7	29%
Q1027260	NVQ in Mechanical Engineering Services – Small Commercial Refrigeration and Air Conditioning Systems NEVS	42	70	34	72	69%
Q1027261	NVQ in Mechanical Engineering Services – Commercial and Industrial Refrigeration other than Ammonia- NEVS	44	17	31	18	38%
Q1027262	NVQ in Mechanical Engineering Services – Commercial and Industrial Air Conditioning Systems NEVS	14	10	15	12	48%
HEATING AND VENTILATION						
00233046	Indirect Fired Heating Appliances	N/A	N/A	N/A	N/A	N/A
00233050	Overhead Radiant Heaters	N/A	N/A	N/A	N/A	N/A
00257687	First Fix Commercial Pipework (Ltd)	N/A	N/A	N/A	N/A	N/A
00269367	Wet Central Heating	N/A	N/A	N/A	N/A	N/A
00271466	First Fix of Commercial Pipework (Limited Scope)	N/A	N/A	N/A	N/A	N/A
00272144	Domestic Gas Fired Central Heating/Hot Water Boilers & Circulators not exceeding 70kw	N/A	N/A	N/A	N/A	N/A
00272161	Central Heating Controls Fault Finding	N/A	N/A	N/A	N/A	N/A
00272162	Central Heating Controls Wiring	N/A	N/A	N/A	N/A	N/A
00272163	Combination Boiler Basic Fault Finding	N/A	N/A	N/A	N/A	N/A
10033713	NVQ in Mechanical Engineering Services – Heating and Ventilating (Maintenance of Systems Components)	44	0	4	0	0%
10033725	NVQ in Mechanical Engineering Services – Heating and Ventilating (Rectification of Systems)	113	7	14	7	33%
10033750	NVQ in Mechanical Engineering Services – Heating and Ventilating Installation	421	59	61	57	48%
10033762	NVQ in Mechanical Engineering Services – Heating and Ventilating Installation	532	27	60	27	31%
10035126	Certificate in Heating and Ventilation Installation.	589	94	81	93	53%
10035138	Certificate in Heating and Ventilating – Maintenance of System Components.	85	7	9	7	44%
1003514X	Certificate in Heating and Ventilation Installation	320	18	47	19	29%
10035151	Certificate in Heating and Ventilating – Rectification of Systems.	54	2	8	2	20%
10035515	Certificate in Energy Efficiency for Domestic Heating	N/A	N/A	N/A	N/A	N/A
Q1027506	NVQ in Mechanical Engineering Services: Heating and Ventilating – Maintenance of System Components- NEVS	12	14	6	4	20%
Q1027508	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	43	163	30	169	88%
Q1027507	NVQ in Mechanical Engineering Services: Heating and Ventilating – Rectification of Systems	53	50	29	30	38%
Q1027509	NVQ in Mechanical Engineering Services: Heating and Ventilating – Installation- NEVS	266	196	121	101	32%
PLUMBING						
00274742	National Award in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00274979	Gateway – Plumbing – Level 1-NEVS	N/A	N/A	N/A	N/A	N/A
10033567	Certificate in Basic Plumbing Studies	4078	582	1069	554	34%
10033579	Certificate in Plumbing Studies	2207	101	436	103	19%
00115018	CG 6039 Plumbing Advanced Craft (Customer Specific Scheme)-NEVS	N/A	N/A	N/A	N/A	N/A
00229037	CG 6022 Copper Tube Advice and Installation (Customer Specific Scheme)-NEVS	N/A	N/A	N/A	N/A	N/A
00230090	CG 6055 Lead workers Certificate-NEVS	N/A	N/A	N/A	N/A	N/A
00267345	CG 6161-05 Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00267352	CG 6161-15 Diploma in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A

00267358	CG 6161-25 Advanced Diploma in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
Q1027228	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	159	1092	243	1115	84%
Q1027229	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	500	574	305	97	11%
Q1027620	NVQ in Mechanical Engineering Services (Plumbing)-NEVS	12	3	1	3	75%
Q1027621	NVQ in Mechanical Engineering Services (Plumbing) C=3 ,CE=2 , W=3 , A=2, %A=40%	3	2	3	2	40%
10032848	NVQ in Mechanical Engineering Services – Plumbing	4352	403	1149	384	24%
1003285X	NVQ in Mechanical Engineering Services – Plumbing	2394	88	445	86	16%
10008226	Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00261353	CG 6988 Certificate in Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
00237659	Certificate in Plumbing Heating & Ventilation (Entry Level)-NEVS	N/A	N/A	N/A	N/A	N/A
00237660	Plumbing Heating & Ventilation Foundation Certificate-NEVS	N/A	N/A	N/A	N/A	N/A
00255399	Plumbing Basic Skills-NEVS	N/A	N/A	N/A	N/A	N/A
00221841	Plumbing in The Home-NEVS	N/A	N/A	N/A	N/A	N/A
00222517	Introduction to Plumbing-NEVS	N/A	N/A	N/A	N/A	N/A
TECHNICIAN						
10015656	BTEC National Certificate in Building Services Engineering	25	6	14	6	30%
10015668	BTEC National Diploma in Building Services Engineering	N/A	N/A	N/A	N/A	N/A
00100318	National Certificate in Building Services Engineering	N/A	N/A	N/A	N/A	N/A

22.9 Methodology

This section identifies the proposed methodology to be utilised within the primary research and data collection in relation to the Sector Needs Analysis (SNA) portion of the Sector Skills Agreement (SSA). In the first section, the philosophical basis of the study is discussed, and the paradigm for the work is described. The second element in this section deals with the methodology it is proposed to use for data collection itself. In the third element of this section, the rationale for the design of the work is discussed in relation to the national and regional perspectives and the structuring of the primary data within the report structure, in addition the choice of participants is described and justified in relation to the SummitSkills footprint, and how the data will be analysed is described. Finally there is an element that addresses the issues relating to trustworthiness in both quantitative and qualitative studies. The potential delimitations and limitations under which the study will be carried out are defined and considered in relation to both quantitative and qualitative analysis.

Research Philosophy

In carrying out this research, the research manager was to a certain degree directed by the requirements and expectations of the Sector Skills Development Agency (SSDA) towards the need to follow an eclectic paradigm involving both quantitative and qualitative data (SSDA, 2005a). In carrying out any piece of research, clear paradigm grounding is required (Silverman, 1985; Patton, 1990; Cohen and Manion, 1994).

There are two overarching paradigms in which research can be couched and these are the positivistic paradigm and the interpretative paradigm (Cohen and Manion, 1994, p25). Positivism postulates that the truth is out there and can only be identified by a process of empirical science and rational methods of analysis and data collection, with objectivity as its goal (Burrell and Morgan, 1979; McNeil, 1990).

The Skills for Business Network (SfBN) has a clear and long standing association with LMI, and positivistic quantitative studies, which form a key part of the data collection process in previous SNAs (SSDA, 2005a, p28).

The research manager however took the view that the use of a purely positivistic paradigm based on LMI data collection would not facilitate the production of an effective SNA, as it would reduce the effectiveness of employer involvement and focuses, required by SSDA to create an employer focused document (SSDA, 2005a, p26). It therefore was deemed important by the research manager, to incorporate a more objective interpretative paradigm to supplement the robust positivism of LMI, with an interpretive paradigm to give the 'voices' of contractors within the building services industry the chance to inform policy makers through the vehicle of the SNA.

An interpretative paradigm is eminently suitable for social science research (Cohen and Manion, 1994, p56). The harnessing of positivism and interpretative paradigms therefore has created an eclectic paradigm mix, which it is hoped will complement the overall quality of the final product, where in relation to policy grounded research in any case, 'methodological eclecticism' is deemed to reign supreme (Finch, 1985; Troyna, 1994; Cohen and Manion, 1994).

In deciding to a qualitative element within the paradigm design, the research manager allowed for the individuals involved to have different social constructs (Berger and Luckmann, 1967). Based on SSDA suggestions, the research has designed this part of the research to not only get answers to the questions that form the part of the SNA, but allow the voices to get behind the questions themselves, and to gain the individual insights and experiences of the interviewees; that are considered important for the research (SSDA, 2005, p27).

SummitSkills had already commissioned some Labour Market Intelligence reports through BSRIA Limited, a company experienced in positivistic quantitative data collection. For scenario planning purposes, this data is triangulated by using statistical data produced by Experian, which also covers the SummitSkills footprint.

In selecting a qualitative element to the research in addition to the other issues already discussed, the researcher facilitated staff in SummitSkills, in becoming through interpretative naturalistic enquiry the instruments of the research (Lincoln and Guba, 1985; Tesch, 1990). This helped the operations managers, who led on the field research³⁴, to engage in debate and argument with participants to extract rich meanings around the research questions, as well as facilitate a primary function of the organisation of employer engagement (LeCompte and Preissle, 1984). Qualitative data does leave the possibility of bias open, and concessions were made to the fact that the qualitative section of the SNA cannot be value free (Brinberg and McGrath, 1985, p97). Within the research design however, the research manager made allowances for the fact that on some occasions this type of research cannot easily be replicated, and thus verification of the findings are difficult, which is why multiple qualitative, quantitative and literature sources were used (Miles and Huberman, 1994, p17-18).³⁵

The benefits of qualitative data within the report have already been referred to within this paper, but they can be defined as being 'rich descriptions', interpretations of social phenomena, 'serendipitous' findings and new research integration, as well as the more meaningful presentation that words can give to concepts, rather than mere quantitative numbers (Miles and Huberman, 1984, p14-1; SSDA, 2005a, p27; Maykut, P. and Morehouse, R. 1994, p27).

³⁴ See methods of data collection section of this paper.

³⁵ *ibid*

Method of Data Selection

Although not considered under paradigm analysis, the role of literature was considered vital within the production of this paper, especially in relation to the policy research element of the SNA (Salter and Tapper, 1981). It was anticipated that the primary and secondary literature would supply both statistical data to underpin current LMI data produced nationally and regionally by SummitSkills. It was also anticipated that regional and national reports relating to construction and/or building services produced elsewhere and by others would also be incorporated as secondary literature and as further support to the primary data analysis and thus facilitate the more theoretical areas of the SNA, where it was anticipated that relevance and contextualisation may be an issue in relation to building services contractors. Where possible, secondary literature was used to contextualise primary policy literature, with a view to aiding robust triangulation (SSDA, 2005a, p28)³⁶.

The type of interview that was used in this research was the semi-structured in-depth interview. This approach was considered apposite, since an in-depth semi-structured interview may be seen as a conversation, in which the researcher encourages the informant to relate in his or her own terms, experiences and attitudes, which relate to research, and helps to prevent the 'restricted and jerky' response problems sometimes encountered by using a very rigid questionnaire (Walker, 1985, p4-5).

The operations managers were issued with an interview guide, which contained open questions related to SSDAs Part 1 Guidance (SSDA, 2005b). The purpose of using open questions was to seek to avoid simply 'Yes' and 'No' answers (Patton, 1991). The interview guide encouraged researchers to concentrate on the issues that were central to the research question, but in addition allowed the type of questioning and discussions to be more flexible, although all questions were required to be considered within the interview (Patton, 1990, p90; Minichiello et al, 1995, p65).

As the research manager, who was responsible for managing and conducting the data analysis was not carrying out the interviews, the possibility of researcher bias through preconceptions contained in the secondary literature was avoided and was not an issue in this research (Bogdan and Biklen, 1992, p161-2).

To collect the rich data sources in the way stated the research manager purchased twenty-five MP3 players for recording purposes. To avoid any allegations of duplicity or breaches of research ethics, the participants in the research were advised at the commencement of each interview the ethical basis under which the interviews were being carried out, which was the British Educational Research Association (BERA) code of ethics in relation to primary data collection. The participants were therefore guaranteed anonymity and any references within the interview that might identify the participant or any other individuals were deleted from the text, and would not be used within the reports. The exception to this being where Government agencies were identified, and where good practice was identified, as it was felt that it was in the public interest for these agencies to be named. Where criticisms were made of organisations excluding Government bodies, then the names were expunged from the reports. Due consideration was given to the possibility that some participants may feel inhibited by the presence of a MP3 recorder; however it was anticipated that this would not be a problem.

Nations, Regions, Participants: Selection, Process and Data analysis

In preparing this methodology, the research manager had conversations with the Scottish Executive and Education and Learning Wales (ELWa) as well as operations managers who fed back data into the process. The view had been expressed that previous Skills Needs Analysis have not met the needs either of the devolved administrations in the nations, nor the regional agenda. It has therefore been decided to produce not one SNA, but twelve, one for each region and one for each nation³⁷.

It was therefore decided by the research manager, in consultation with other managers in the nations and regions that SummitSkills would design a standard template for the SNA through which quantitative and qualitative data would be fitted.

The template would then be varied to incorporate the data from the large national LMI project that SummitSkills had commissioned, with comparative analysis being made between this and regional/national statistical data produced by organisations such as Future Skills Wales and Future Skills Scotland. Further triangulation and comparative analysis was obtained through primary and secondary literature, which was standard across the suite of reports excluding the regionally specific literature produced by the local and regional LSCs/WAG/ DELNI/Scottish Enterprise/Highlands and Islands Enterprise and qualitative interviews.

SummitSkills' footprint breaks down nicely into five primary areas and these may be defined as:

- Electrotechnical
- Plumbing
- Heating and ventilation
- Air conditioning and refrigeration
- Consultancy

To obtain methodological robustness³⁸ it was decided to carry out thirty interviews within each region³⁹. These interviews were divided equally between the five areas of the footprint, and equated to six interviews per region per

³⁶ See trustworthiness and validity section of this paper.

³⁷ Effectively Scotland will consist of two reports, as it will consider Highlands and Islands and Central Scotland differently, this is considered further later in this section.

³⁸ This is explained in more detail in the next section.

³⁹ The exception to this being London where sixty interviews was carried out because of issues coming out of the first thirty interviews. There were then pro-rotas accordingly.

sector of the footprint. The operations managers were instructed to further subdivide the interviews so that they took place in 'small, medium and large' contractors and to spread the interviews out around their nation/region. In Wales the demographics of that country required sixty interviews, and in Scotland thirty in Highlands and Islands and Scottish Enterprise.

The definition of what constitutes a small, medium or large company within the SummitSkills footprint was somewhat constrained by the way that SummitSkills LMI has been computed, rather than by other definitions. Thus, a small contractor is defined as being an organisation with up to ten employees, a medium contractor having up to seventy employees, and a large contractor having over seventy-one employees. This is at variance with EU definitions, which place a small-medium enterprise as having 250 or less employees. SummitSkills LMI data suggests that in the building services engineering sector, there are in any event only 468 contractors that have over 71 employees and the LMI does not identify 250+ employee contractors that would satisfy the criteria of being a large contractor, which would make analysis under that heading difficult (BSRIA, 2005, p24). On occasions it was deemed necessary to 'blur' the edges of this definition in regions like Highlands and Islands where there simply were not companies of the larger size on the ground.

The MP3 players had a computer download function which permitted the user to interface with their computer and upload the data to a company identified by SummitSkills for audio typing purposes, and from this the transcripts were typed and returned to the research manager for analysis. To keep up a steady flow of data, operations managers were instructed to upload data after every interview, so that as much as possible log jams are avoided, and the audio typists were able to maintain a free flow of data. All interviews were coded according to nation/region sector of the footprint and size of contractor. Data was then filed according to nation/region and sector and sector size. Analysis did not begin until all interviews were received, as the literature took considerably longer than had originally been anticipated.

The data was identified against a generic heading of concept, and whether the interviewee is generally in favour/not in favour of the concept discussed⁴⁰, and then any potential statement that might be incorporated within the text to illuminate the rationale for the conclusions was drawn out. Where other threads could clearly be identified, these were referred to if there is sufficient triangulation from elsewhere within the regional data to substantiate this as an issue, otherwise they are mentioned and related to proposals for further research post the SNA. Over time it is proposed to revisit this data to identify meaning units for in-depth analysis, but the time submission deadlines for the SNA documents make this prohibitive initially (Tesch, 1990, p95).

The data collected here formed a rich data source that will feed updates to the SNA and further research, but even this limited analysis has it is argued allowed the voices of the interviewees to speak out on the face of the document, and aid the ownership process (SSDA, 2005b, p27).

Validity and Trustworthiness

Stakeholder consultation is an important part of SummitSkills' mandate, and one of the main group of stakeholders are the trade associations for the various trades associated with the SummitSkills footprint. To receive feedback for the process, the research manager identified a number of individuals within the following trade associations:

- Association of Plumbing and Heating Contractors (APHC)
- Electrical Contractors' Association (ECA)
- Heating and Ventilating Contractors' Association (HVCA)
- Scottish & Northern Ireland Plumbing Employers' Federation (SNIPEF).
- SELECT

All these stakeholders were invited to comment on the research data and the process particularly in relation to LMI data and the proposed methodology and other matters of importance were discussed with them. It is anticipated that these organisations will be major drivers in the 'bedding' of the SSA in the later stages, as well as having an input into the research in the earlier parts of the research process.

In any piece of research, it is important to create credibility. Triangulation will be used to achieve credibility both between primary and secondary data and between quantitative and qualitative data, and between the data sets themselves. There are a number of different methods of undertaking triangulation (Denzin, 1978; Lincoln and Guba, 1985; Smith and Kleine, 1986; Patton, 1990). For this research the research manager adopted Denzin's (1978) four categories of triangulation, being data triangulation, investigator triangulation, theory triangulation and methodological triangulation.

Data triangulation involves using various data sources to test for robust messages, by testing these data sources against each other. In this research, this was achieved by triangulating primary literature sources against secondary ones, national LMI data against secondary and primary literature, national LMI against any regional and nation LMI, and LMI both nationally and regionally/nation against qualitative interview material. Internal triangulation of the qualitative data took place through cross triangulation of small companies with identical small companies within the same sector of the footprint, and with small companies from other parts of the footprint. Upward triangulation took place between small to medium, small to large and medium to large contractors within the same footprint, and also between small to medium, small to large and medium to large contractors across the footprint. SummitSkills believes that this cross, downward and upward triangulation creates an extremely robust interpretation of the needs of all building services contractors across the whole footprint and where there are both areas of commonality and variance.

⁴⁰ It is expected that this would then create a tabular descriptor of qualitative responses for comparative analysis against the quantitative data.

Investigator triangulation was achieved through the use of a significant number of operations managers to collect the primary qualitative data, this helped to identify where there may be an element of researcher bias creeping into the research, and this allowed the research manager to compensate for that during the data flow when necessary, although this was not an issue in actuality.

Theory triangulation was achieved through the use of multiple perspectives, to interpret a single set of data. To attempt this form of triangulation, it is proposed before final draft to allow stakeholder groups, special interest group members and the operations managers to review documents and make sure that the messages identified by the research manager and any other people involved in data analysis are justifiable given the data received. This is a very important area of the triangulation process, and it is intended that where possible time will be allocated for it in some way, although the timelines are tight, and may have to be retrospective in nature.

Methodological triangulation uses multiple methods, to study a single problem or programme. It was anticipated that this form of triangulation would equate with areas of theory triangulation in that the research manager designed an eclectic paradigm which sought to harness both quantitative and qualitative methodologies of data collection, to give as accurate a picture of the industry as possible, so that it can be owned by employers and other stakeholders within the industry.

A delimitation of the proposed methodology that can be identified by the research manager is that data analysis will by virtue of time constraints be reduced, although the quotes extracted from the transcripts and incorporated in the final texts were pertinent and relevant, the deeper meanings and alternative paradigms that might be identified and the meaning units identified by Tesch (1990) which could yield such rich multiple meaning work, will have to wait for analysis until a future date, and be the basis of further work. The limitation of this was that the document will not be as rich as it can be initially, although this can be developed over time.

Delimitation was the way that the operations managers identified the participants for the qualitative data. Some used contacts in FE colleges to access their databases, others approached stakeholder trade associations to access their databases, and some used their own contacts. All participants therefore were likely to be companies that train, or that are active in the promotion of their industry. This, it was argued, created the limitation of not getting to the organisations who habitually do not train to elicit their views, or find out why.

A further delimitation was the quality and quantity of regional construction data, and this to some extent depended on the RDA and the LSC, as well as ConstructionSkills and any work that they might have done in their regional observatories. It was apparent that the work was patchy, but that stakeholders in the regions expected to see it included in the SNA/SSA, to ensure buy in where possible, although it was argued that the lack of it would not denigrate the quality of the SNA reports given the large volume of data available from multiple sources. This is particularly true in the English regions and possibly Northern Ireland, although Scotland and Wales through Future Skills Scotland and Future Skills Wales appear to have a more mature data collection source. The limitation of this problem on the quality of the SNA may be that there will be an over reliance on national LMI, which feedback suggests is already being questioned by stakeholders in the regions, and to triangulate or differentiate between 'wrinkles' between national data and regional perceptions may incorporate very close attention to qualitative participants and data received. To overcome this to a certain extent, qualitative LMI collected regionally is indicating trends within that region for the benefit of partners and stakeholders.

The delimitation of timelines has already been identified within this section and these were tight, there was no slack in the system, and writing had to commence before data collection and analysis was totally complete. This means that the synergy one would normally expect in a piece of academic work was compromised, and the SNA came together in a more 'modular' fashion than is normal in work of this kind.

Conclusions

This research methodology was designed to take into account the tight timelines required for production of the research-intensive parts of the SSA. If more time and resource had been available, then further work on increasing the interview base of the research would have course been beneficial, and a further interesting category might have been the sole trader as a distinct entity. Notwithstanding this however, the research manager believes this SNA was a robust methodological piece of work, which will enable a real and effective debate to take place on the future of the industry.

22.10 Interview Schedule

(This Interview Schedule is intended to be used with Company Directors/ Owners/ Managers of Building Services Engineering Companies as appropriate)

SECTOR SKILLS AGREEMENT PART ONE – SECTOR NEEDS ANALYSIS

The Lead in is to be used by operations managers to set the scene for the questions, this should reduce the time explaining any issues, and will address any potential failure on the part of the interviewee to read the fact sheets.

Lead in:

In many sectors of manufacturing and other sectors of the economy, British Business and Manufacturing is increasingly being subjected to competition from organizations across the World. This increasing competition for work is often called globalization. What products are being specified, and do they raise a training need in your company?

Questions:

Have you experienced in your business, or do you think that you might experience competition from companies based overseas.

If you have, what countries are you discovering that these organizations come from?

Lead in:

Technological Change is another issue that is affecting some sectors of British Manufacturing and Business

Question:

Do you find that there are a number of new products being specified in work that you tender for?

Lead In:

Another area that may be affect the Building Services Engineering Sector is the Area of Customer Demand and how this is changing the industry. This may be particularly the case in relation to the concepts of Environmentally Friendly Construction Techniques and Sustainable Development, for example things like combined heating and power, grey water, solar panels etc.

Questions:

Is your organisation discovering that more regard for Issues relating to the environment, green issues and sustainability are appearing in tender documentation and contracts?

Do you have employees with skills and expertise in sustainable development construction techniques?

How is your organisation preparing for the future in relation to the requirements for 'greener' buildings and sustainable development?

Moving away from sustainability, are there any other issues that are driving change in your organisation, for example have the industry licensing scheme had any impact on your organisation?

(Prompt if necessary, if it appears anything else might be coming out of this question)

Lead in: Government Policy has a great affect on the economy through its laws and regulations, and in relation to the Building Services Sector, these might take the form of Building Regulations, Health and Safety, tax and self employment issues etc.

Question:

To what extent therefore have Government regulations affected your organisation and the Building Services Sector generally?

(CHANGES IN THIS AREA HAVE GENERALLY AFFECTED ONLY ENGLAND AND WALES, INTERVIEWERS PLEASE BE AWARE OF THIS)

Lead in: In addition to regulations, the Government also play a major part in the development of policy for training of new entrants and existing employees within the Building Services Sector, through for example the Foundation and Modern Apprenticeship scheme.

Question:

What is your view on the role that Government play in the development of policy in relation to the training of existing and new entrants to the Building Services Sector?

Lead in: Another area that I want to consider with you, is the concept of barriers to entry to the Building Services Engineering Sector, which includes the Plumbing Industry, the Electrotechnical Industry, the Heating and Ventilating Industry and the Air Conditioning and Refrigeration industry, and Building Services Consultancy or more simply, if you were starting out in business now, in a firm of the same size as that to which you now belong what issues such as for example qualification requirements, capital investment, insurances, management skills etc might hinder this development?

Question:

So, what problems do you think you would face today, if you were going to start up in business?

Lead in: A strange concept perhaps, but one that might affect the performance of contractors within your industry is the concept of rivalry between the various organisations. Rivalry between contractors/ consultants between each other might lead to cost cutting on tenders to win prestigious work, or to get on a particular Architects or Engineers approved contractor list or simply because of the diverse personalities of Chief Executives for example?

Question:

In your experience then, what is the extent of rivalry currently existing between the various contractors/ consultants within the Building Services Industry?

Lead in: Another issue for contractors particularly within the Building Services Sector might be that of bargaining power, particularly between the contractor and sub-contractors and the contractor/ subcontractor and the materials suppliers, this may be strong or weak depending upon whether the contractor is a large national contractor or a jobbing one man band plumber or electrician, or the contractor can do things like buy materials in bulk on ninety day credit, or weaker if the contractor can only buy materials over the counter job by job on a cash only basis.

Question:

What factors affect the bargaining power of your organisation with your material suppliers and sub-contractors?

Lead in: Another issue related to this is the bargaining power that a contractor in the Building Services Sector might have with clients, to an extent this might relate to the current performance of the economy and/or the competitive position of the relevant industries, which make up the Building Service Sector.

Question:

What factors affect the bargaining power of your organisation with your clients?

Lead in: A very important issue for contractors and consultants alike to consider in relation to the Building Services Engineering Sector, is how they feel that the sector will perform economically over the short to medium term, and whether they feel that there will be plenty of work and the sector will enjoy growth and prosperity, in which case they will decide to invest etc, or whether they feel that the sector is likely to contract, in which case Contractors and consultants alike may decide to 'draw in their horns' etc.

Question:

How do you think the Building Services Sector is likely to perform over the short to medium term of one to five years? Do you think the sector will grow in size and value, or contract?

Lead in: Investment in plant and equipment is an important part of the business strategy for many organisations within the British economy.

Question:

Does or has your organisation invested in plant and equipment?

Lead in: Research and Development is also a major factor in many sectors, for example the pharmaceutical industry, and this research may take place in-house by the companies own research department, through professional research companies, or through the University Sector.

Question:

Does your organisation engage in any form of Research and Development, and if it does, who carries it out?

Lead in: In this interview we have already looked at the incorporation of new technology in relation to sustainability, I would now like to look at your organisations investment in the IT hard and software end of new technologies

Question:

Is your organisation planning to incorporate new technologies into your business practice?

Lead in: Although this question may have been considered previously under other headings, I want to look at competition that you and your organisation are discovering within the industry. So in relation to competition there may be new companies entering the market, or your competitors may be investing in R&D, new plant and equipment or engaging in a large upskilling of the workforce etc; which is likely to affect your organisation.

Question:

So given the behaviour of the competition, what changes do you envisage that your organisation will experience over the short to medium term in relation to the competitive environment? And what do you intend to do about it?

Lead in: Enterprise and the role of the entrepreneur is a major issue in relation to the development of improved performance in the British Economy

Question:

Do you think that the concept of enterprise and the entrepreneur is relevant to your industry? If it is, how do you feel that your organisation is being entrepreneurial, how do you think it might be more entrepreneurial?

Lead In: Investment, innovation, competition and enterprise are factors that Building Services Engineering Companies may need to be successful in the future regardless of size or industry.

Question:

Do you feel that your organisation has the relevant skills to aid your organisation to develop an enterprise culture using investment, innovation, competition and enterprise?

Lead in: Many organisations have traits that they feel make them better than their competition and give them the edge in business. This might include things like paying higher wages, multi-skilling, providing extra training, safety equipment, private healthcare for employees, productivity bonus etc anything that gives you the edge.

Question:

What particular thing do you think that your organisation does that makes it better than your competitors?

Lead in: Another business technique that is popular is called benchmarking, which means comparing your organisational performance against another organisation. This can be in the same industry or sector, or indeed an organisation from another industry or sector, and can be done informally or formally, and can take many forms from desk top research to visits and sharing of ideas. The purpose of benchmarking is to help an organisation to gather ideas of good practice, and seek to implement them into their own organisation.

Question:

Do you ever compare your organisation formally or informally with your competitors?

Lead in: We are now going to talk about basic skills; these are the traditional skills of reading, writing and arithmetic, renamed today as literacy, numeracy or information technology (computer use). There is concern in Government that the poor basic skills of the workforce may be affecting the productivity and performance of the UK economy.

Questions:

Do your employees have sufficient basic skills to meet the needs of your organisation both now and in the future?

When recruiting school leavers etc as apprentices, do these and other relevant new entrants to your organisation display the relevant and requisite basic skills to meet your organisational requirements?

Lead in: Talking now about general and practical skills that your employees need to do the work that you require of them, and this could relate to things like requiring a pipe fitter who can weld pipes using both gas and arc. If you struggle however to find staff who have the skills you require to complete a task satisfactorily such that you may have to sub it out, then this might affect your organisation's productivity etc it is therefore an important issue to discover what skills you are finding difficult to obtain/ retain or train.

Question:

What Skills do the existing staff in your organisation not have, and what skill requirement issues do you think that they have, and how do you perceive that these will affect your business, and what do you intend to do about it?

Lead in: Skills are categorised between basic which is level One and Advanced, which is level five. In relation to craft level operatives, the S/NVQ level 2 is equivalent to old craft level certificate and the S/NVQ 3 is equivalent to the Advanced Craft Certificate. The old ONC and HNC are still in place as are degrees, but S/NVQ levels 4 & 5 are also qualifications available for professionals, particularly in relation to supervisory and management qualifications for staff within Building Services Engineering Organisations.

Questions:

Given the size and type of work that your organisation carries out, what level of skill do you find that you need in your organisation for the various levels and occupations of the staff employed?

Does your organisation see training craft operative staff to the economically valuables in plumbing, and/or H & V, Electrical and Air conditioning and Refrigeration as a priority, this being level 3?

What if any are your organisations needs for technical skills and qualifications at National Certificate/ Higher National Certificate/Diploma both now and in the future?

Does your organisation train its supervisory staff and management using management qualifications or training and if so, which are they?

Lead in: Given the issues that we have looked at in relation to competitiveness and investment etc, it is important to consider how the future need for skills will impact on your organisation, and how your organisation is seeking to address the issues related to future skills.

Question:

What future skill needs does your organisation anticipate needing in the short to medium term future? What is your organisation doing to address these identified needs?

Lead In: Akin to skills is the recruitment of staff to replace staff lost through retirement and natural wastage within the industry, and in some cases it may be that some organisations failed to retain existing staff.

Questions:

How many staff do you anticipate requiring in the short to medium term to take account of retirement and natural wastage?

How would you describe your organisation's retention of employees, and what percentage would you put on staff turn over within your organisation yearly? How do you think that your percentage turn over compares with the percentage turn over of other organisations within your industry?

Do you think that giving existing employees more training would improve organisational loyalty?

Lead in: Construction and the Building Services Engineering Sector is often perceived by the outside world as a white male dominated preserve, and so the Government is keen to engage with sectors such as ours to encourage the employment of as diverse a range of staff as possible. Within this context, although not directly related to it, Construction is also seen as a sector that is beginning to recruit migrant workers to fill skills gaps and skills shortfalls.

Questions

How many of your staff are women, and what percentage of the total staff are made up of women, and of them, how many are engaged as Craft operatives, and how many as technicians or professionals?

How many of your staff are from black ethnic minorities, and what is the percentage of the total staff are from BEM backgrounds, and of those, how many are women?

Do you or have you employed migrant workers from other parts of the world? What percentage of the staff total would you classify as migrant workers?

Lead In: Scenario planning, or if you like, trying to judge what the future will look like, is a very important theme in the Government's efforts to shape the economy and plan for the future, and it is important to look at the planning of the Building Services Sector also over a five year period, seeking to look at what the size of the industry might be, the type of work being undertaken, whether there will be a need for more employees or less, and what skills and qualifications these workers will require if the Building Services Sector is going to continue to be successful.

Question:

How do you think the Building Services Industry will change and what do you think it will look like in the short to medium term?

NATION SPECIFIC QUESTIONS

OPERATIONS MANAGERS ARE RESPONSIBLE FOR THE REGIONAL/ NATIONAL FEEL OF THE SNA FOR THEIR REGION, SOME QUESTIONS HAVE BEEN IDENTIFIED, AND IT IS RECOMMENDED THAT MORE QUESTIONS BE ADDED TO AID REGIONALISATION.

WALES

Does your organisation carry out work in England? If yes, what percentage of your total work comes from England?

Does your organisation carry out its business through the medium of the Welsh language? If not, are you aware of the current legislation relating to the Welsh language?

EXTRA QUESTIONS AS REQUIRED

NORTH WEST/ SOUTH WEST/ SOUTH EAST/ WEST MIDLANDS REGIONS IN RELATION TO WALES

Does your organisation carry out work in Wales, if yes what is the percentage of your total work that comes from working in Wales?

Is your organisation familiar with the requirements of the Welsh language Act and marketing/developing your business through the medium of Welsh?

If your organisation is familiar with the issues surrounding the Welsh language, then how are you implementing them? If not, how are you planning to address the issues related to the Welsh language, and do you intend to undertake any training in this area?

ADDITIONAL QUESTIONS RELATING TO ENGLISH REGIONS

SCOTLAND

Does your organisation carry out work in England? If yes, what percentage of your total work comes from England? If yes, what percentage of your total work comes from England?

Are there any additional issues for Scottish Organisations, working within England, in relation to for example the Building Regulations?

ADDITIONAL QUESTIONS RELATING TO SCOTLAND

NORTHERN IRELAND

Does your organisation carry out work in Eire? If yes, what percentage of your work comes from Eire? To what extent is your organisation affected by the performance of the economy in the South of Ireland?

ADDITIONAL QUESTIONS RELATING TO IRELAND

SECTOR SKILLS AGREEMENT PART TWO - ASSESSMENT OF CURRENT PROVISION

Private/ Independent Training Providers

Questions:

Does your organisation use private/independent training providers for some, all, or none of your training? If your organisation does not use independent training providers why does your organisation not use them? If your organisation does, then why do they?

If you do use private/independent training providers for some of your training, is this for management, technical or craft training?

What type of training do you currently use?

Do your organisation currently make any financial contributions to the training you use, and at what level i.e. craft , technician, management level is it at?

To what extent would your organisation be willing or happy to pay more for your training in the future?

Is your organisation happy with the Quality of teaching/ training your trainees received from the Independent/ Private Training Providers?

Did/ do your learners complete their courses at the private training provider on time?

Have you had problems with a trainee not completing the course, and if so, why do you think that was?

Did/do you think that the training that your employees received from the Private/ Independent Training Provider was of high quality?

Further Education Colleges

Questions:

Does your organisation use FE College training providers for some, all, or none of your training? If your organisation does not use FE College training providers why does your organisation not use them? If your organisation does, then why do they?

If you do use FE College training providers for some of your training, is this for management, technical or craft training?

What type of training do you currently use?

Do your organisation currently make any financial contributions to the training you use, and at what level i.e. craft , technician, management level is it at?

To what extent would your organisation be willing or happy to pay more for your training in the future?

Is your organisation happy with the Quality of teaching/ training your organisation received from the FE College?

Did/ do your learners complete their courses at the FE College provider on time?

Have you had problems with a trainee not completing the course, and if so, why do you think that was?

Did/do you think that the training that your employees received from the FE College Provider was of high quality?

Does your organisation undertake informal training, which may take the form of on-site/ on-the-job employee mentoring etc?

Do you ever use this type of training approach for your management training, your technician training or your craft training?

What is your organisations experience of the effectiveness of this training to enhance the skills of your employees and how do you evaluate it? If you do not use this method of training, what is the reason for this?

In-House Training

Questions:

Does your organisation undertake in-house training? Do you use In-house training for your management training, technician training or craft training?

What is your experience of the quality of the in-house training delivered? How do you evaluate the quality of the in-house training taking place?

If you do not use In-House Training as part of your training provision, why do you not use In-House Training as part of your training provision?

Individual Training

Question:

Are you aware of your employees carrying out individual training? How do you evaluate whether any of this individual training is of benefit to your organisation?

Applicability of Curriculum Content

Craft

Questions:

Do you think that the content of S/NVQ courses at craft level is applicable to the needs of industry? What do you think should be kept in, what needs to be added, what do you think is surplus to requirements and should be removed?

Are there any qualifications for which you think standards have noticeably declined or improved during the last ten years?

Technicians

Question:

What qualifications do you consider the best indication of someone who would be a good building services engineer?

On the whole how happy are you with current qualification provision?

Are there any qualifications for which you think standards have noticeably declined or improved during the last ten years?

Do you think that the content of National Certificates and Higher National Certificates and Diploma courses is applicable to the needs of industry? What do you think should be kept in, what needs to be added, what is surplus to requirements and should be removed?

Has your organisation had any involvement in the development of foundation degrees? If so do you think that the content of Foundation degree courses is applicable to the needs of industry? What do you think should be kept in, what needs to be added, what is surplus to requirements and should be removed?

Graduate/ Professional

Questions:

In relation to degree and postgraduate programmes if these are relevant to your organisation, do you think that the content of these degree courses is applicable to the needs of industry? What do you think should be kept in, what needs to be added, what is surplus to requirements and should be removed?

Is it important to you and your organisation that staff are members of Professional Institutions, if so why, and if not, why not?