

**Skills Priorities and Challenges  
for the Building Services Engineering Sector  
in Scotland**

## Introduction

SummitSkills is the Sector Skills Council for the Building Services Engineering Sector. Its core SIC<sup>1</sup> codes are shown in table 1 below:

<b>Table 1: SummitSkills' SIC03 defined footprint</b>	
45.31	Installation of electrical wiring and fittings
45.33	Plumbing
52.72	Repair of electrical household goods
74.2	Architectural and engineering activities and related technical consultancy

SummitSkills also has responsibility for the following SOC codes<sup>2</sup> in its core footprint, as shown in table 2:

<b>Table 2: SOC codes directly in SummitSkills' footprint</b>	
SOC5241	Electricians, electrical fitters
SOC5249	Electrical/electronic engineers nec*
SOC5242	Telecommunications engineers
SOC5243	Lines repairers and cable jointers
SOC5244	TV, video and audio engineers
SOC5245	Computer engineers, installation and maintenance
SOC5314	Plumbing and HVAC trades
SOC5216	Pipe fitters

Currently there are a number of SOC codes that subject to amendment in the NSO review, and which SummitSkills believes contain individuals working as Building Services Engineering Sector professionals, and thus in the SummitSkills footprint; and these are shown in table 3.

<b>Table 3: SOC codes subject to change post NSO Audit, which currently Experian believe contain BSE engineers</b>	
SOC2123	Electrical engineers
SOC3112	Electrical/electronic technicians
SOC2124	Electronics engineers
SOC2122	Mechanical engineers
SOC3119	Science and engineering technicians nec*

Due to consultation between SummitSkills and the NSO, in the next survey, Building Services Engineers, will have their own SOC codes for professionals and a separate one for technicians, taken from SOC codes that have become obsolete. In addition SOC5314 plumbing and HVCA trades is to be broken up, with Air Conditioning and Refrigeration receiving their own SOC codes. SummitSkills was very pleased with the outcome of the consultation.

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<sup>1</sup> Standard Industrial Classification

<sup>2</sup> Standard Occupational Classification

In addition to the SIC codes contained in table 1, SummitSkills believes that there may be other SIC codes where SummitSkills has a declared/undeclared interest, and these are shown in table 4 below:

<b>Table 4: SIC Codes where SummitSkills may have an interest declared/undeclared</b>	
25.21	Manufacture of central heating radiators and boilers
27.11	Manufacturers of electric motors generators and transformers
27.12	Manufacture of electricity distribution and control apparatus
27.31	Manufacturing of fibre optic cables
27.32	Manufacture of other electronic and electric wires and cables
27.33	Manufacture of wiring devices
27.4	Manufacture of electric lighting equipment
27.51	Manufacture of electric domestic appliances
27.90	Manufacture of other electrical equipment
28.13/1	Manufacture of pumps
28.14	Manufacture of other taps and valves
28.25	Manufacture of non-domestic cooling and ventilation equipment

In addition, there are a number of SOC Codes, where SummitSkills may have a declared or undeclared interest, and these are contained in table 5 below:

<b>Table 5: SOC Codes Where SummitSkills may have an interest declared/undeclared</b>	
3542	Adviser, service, home (gas supplier)
8131	Assembler, component (electrical, electronic)
8132	Assembler, components (mechanical)
3541	Buyer and estimator
2129	Environmental Engineer
3551	Environmentalist

## Impact of the recession

The recession in the Construction and Building Services Engineering Sector during 2009 has been extremely significant in terms of job losses and company closure and liquidation, and this recession has also impacted in Scotland too. SummitSkills in February 2009 based on the workloads of Building Services Engineering Sector Consultants estimated that the sector would contract between 18% and 42%, which has proved to be extremely accurate.

Table 6 shows the then projected job losses in the Building Services Engineering Sector in Scotland.

<b>Table 6: Total Indicative notional UK job losses from best case and worst case scenarios, by BSE industry<sup>3</sup> in Scotland</b>			
	<b>Employment 2008</b>	<b>Indicative notional job losses best case scenario</b>	<b>Indicative notional job losses worst case scenario</b>
Electrical Trades and installation	15,500	2,795	6,468
Plumbing	6,760	1,219	2,820
Heating and Ventilation	4,160	750	1,736
Air Conditioning and Refrigeration	2,080	383	868

There is a tradition in the BSE sector, of last in- first out in any economic downturn, and this impacts adversely on apprentices. This problem is also exacerbated by a belief in the BSE sector that apprentices are expensive to a business, and therefore require to be cut first in a recession.

Table 7, shows the projected apprenticeship redundancies in the sector in 2009 in Scotland. Regrettably, while in the projected parameters indicated by SummitSkills in the research, anecdotal evidence being returned to SummitSkills in the regions and nations of the UK (including Scotland) suggests that the percentage of apprentices being made redundant is larger than that for qualified/ adult operatives generally.

<b>Table 7: Total Indicative notional UK apprentice job losses from best case and worst case scenarios, by BSE industry<sup>4</sup> in Scotland</b>				
	<b>Indicative notional job losses best case scenario - all</b>	<b>Indicative notional job losses best case scenario - apprentices</b>	<b>Indicative notional job losses worst case scenario - all</b>	<b>Indicative notional job losses worst case scenario - apprentices</b>
Electrical Trades and installation	2,795	98	6,468	226
Plumbing	1,219	43	2,820	99
Heating and Ventilation	750	26	1,736	61
Air Conditioning and Refrigeration	383	13	868	30

<sup>3</sup> In the full report : 'Potential impact of the recession on the building services engineering sector in 2009' data is provided separately for the devolved nations and nine English regions.

<sup>4</sup>Ibid.

## Employer spend on training

Prior to the recession the Building Services Engineering Sector in the SummitSkills footprint were asked about their spend per employee per year on training.

Table 8 shows the percentage for England and the devolved nations.

<b>Table 8: Approximate training spend per employee per year in the BSE sector</b>					
	<b>England</b>	<b>Northern Ireland</b>	<b>Scotland</b>	<b>Wales</b>	<b>Average</b>
Up to £200 per employee	4%	7%	5%	1%	4%
£201-£500 per employee	17%	1%	27%	1%	11%
£501- £1000 per employee	20%	7%	7%	22%	14%
£1001-£2000 per employee	16%	32%	10%	33%	23%
£2001-£5000 per employee	12%	26%	13%	7%	15%
> £5000 per employee	13%	5%	5%	6%	7%
Nothing	12%	15%	10%	11%	12%
Don't know or refused to answer	6%	7%	23%	19%	14%

Base= 2000

As can be seen from table 8, Scottish employers are among the least generous in providing training for their employees in the sector in the UK.

Table 9 shows the indicative average spend per employee on training in the Building Services Engineering sector in 2008 in Scotland (a non-recession year). As can be seen from footnotes five and six, there are a number of assumptions that have to be made to arrive at this figure, and therefore the figures are indicative only.

<b>Table 9: Average spend on employee training by the BSE sector in 2008 in Scotland</b>			
	<b>Number of Employees</b>	<b>Percentage for Scotland</b>	<b>Total spend (assuming maximum unless otherwise stated)</b>
Up to £200 per employee	1,425	5%	£285,000
£201-£500 per employee	7,695	27%	£3,847,500
£501- £1000 per employee	1,995	7%	£1,995,000
£1001-£2000 per employee	2,850	10%	£5,700,000
£2001-£5000 per employee	3,705	13%	£18,525,000
> £5000 per employee <sup>5</sup>	1,425	5%	£7,126,425
Nothing	2,850	10%	£0
Don't know/refused to answer <sup>6</sup>	6,555	23%	£0
		<b>Total</b>	<b>£37,478,925</b>
		<b>Total average spend per employee</b>	<b>£1,315</b>

<sup>5</sup> Here, as it is not possible to work out exactly how much more over £5000 is being considered, the figure of £5001 is used, this therefore suggests that there may be an under calculation for training spend, and therefore the figure is indicative only.

<sup>6</sup> Here it is assumed that there is no spend on employee training, in the light of not other information. It is assumed that the interviewees did not want to admit to not investing in training and therefore refused to answer, with a similar assumption having to be made for those interviewees who claimed that they did not know.

Table 9 suggests that while some companies are investing heavily in their employees, at least 10% of employees are receiving no training in any given year (which in Scotland is less than the UK average of 12% at 11%), and if the refusals/don't knows are included, then the figure could be as high as 33%, which would equate to 9,405 employees in the sector not receiving any training whatsoever, and could potentially be very damaging for the sector in Scotland.

These employers offering no training whatsoever to their employees are special priorities for SummitSkills, to seek to increase the amount of training being undertaken in the sector by employers for their employees, and SummitSkills will seek to work with the Scottish Executive and other partners and stakeholders to seek to engage with these employers.

## Current and future skills priorities

SummitSkills have undertaken a number of research reports in 2008-2009, which have identified or confirmed previous research in the Sector Needs Analysis (undertaken in 2006, as part of the Sector Skills Agreement). The skills needs identified are:

- Management and Leadership training at all levels in the BSE Sector, but particularly at first line supervisor and middle management level.
- Environmental technologies and microgeneration. It is anticipated that a substantial part of the Government's renewables and environmental technologies policies at micro generation level, will be specified and installed by consultants, operatives and companies in the SummitSkills footprint. Currently, potential training needs in the event of an increase of demand are far in excess of the ability of the supply chain to meet that demand, and currently there are no formal qualifications available to facilitate demand. SummitSkills is working hard with a range of partners and stakeholders to address these issues.
- In relation to skills gaps, then there are a large number of companies who claim that their staff are fully competent.
- The recession and the decline in the value of £ sterling against particularly A8 countries means that many of the medium-large BSE companies may struggle to find appropriate numbers of workers, if migrant labour is not as freely available as it has been prior to the recession.

## Leadership and management

Table 10 below, indicates that on average across the core trade areas in the SummitSkills footprint, around 33% of individuals in management or supervisory positions hold management qualifications.

<b>Table 10: Percentage of BSE companies whose managers hold management qualifications by industry</b>					
	<b>Total</b>	<b>Air Conditioning and Refrigeration</b>	<b>Electrotechnical</b>	<b>Heating and Ventilation</b>	<b>Plumbing</b>
Yes	33%	53%	43%	11%	31%
No	66%	46%	57%	87%	67%
Don't Know	1%	1%	1%	2%	2%

Base= 2000

Although the levels of training are low, generally, the BSE sector does appear willing to train their managers and first line supervisors, as can be seen from table 11 below:

Table 11 shows the percentage of BSE companies whose managers hold management qualifications in the devolved nations. The impact of England is contained in the total section of this table.

<b>Table 11: Percentage of BSE companies whose managers hold management qualifications by devolved nation</b>				
	<b>Total</b>	<b>Northern Ireland</b>	<b>Wales</b>	<b>Scotland</b>
Yes	33%	30%	34%	27%
No	66%	65%	66%	71%
Don't Know	1%	5%	0%	3%

Base= 2000

Table 11 suggests that Scotland has the lowest percentage of managers in the BSE sector who hold some form of management qualification in the UK.

Table 12 below shows the percentages of companies in the BSE sector for the UK who would consider giving their managers and first line supervisors. Table 13 shows the same data for the sector in Scotland, and suggests that Scotland is the least enthusiastic to undertake management training of the four nations.

<b>Table 12: Percentage of BSE companies who would consider giving their managers management training to achieve a management qualification by industry</b>					
	<b>Total</b>	<b>Air Conditioning and Refrigeration</b>	<b>Electrotechnical</b>	<b>Heating and Ventilation</b>	<b>Plumbing</b>
Yes	53%	97%	40%	29%	36%
No	45%	2%	58%	69%	63%
Don't Know	2%	1%	2%	2%	1%

Base=2000

**Table 13: Percentage of BSE companies who would consider giving their managers management training to achieve a management qualification by devolved nation**

	Total	Northern Ireland	Wales	Scotland
Yes	53%	55%	38%	36%
No	45%	45%	62%	62%
Don't Know	2%	0%	0%	2%

Base= 2000

Currently, as can be seen from table 14 below, in the BSE sector, where operatives do hold management qualifications, these are extremely varied in type, and it is suggested suitability for the BSE sector.

**Table 14: Percentage of management qualifications held by managers in the BSE sector by qualification type, and by industry**

	Total	Air Conditioning and Refrigeration	Electro-technical	Heating and Ventilation	Plumbing
NVQ Level 3 Management	3%	8%	3%	16%	7%
NVQ Level 4 Management	4%	0%	5%	3%	4%
NVQ Level 5 Management	12%	0%	29%	3%	5%
NVQ Level 2 in Team Leading	2%	0%	2%	3%	1%
The Art of Leadership Programme	1%	0%	1%	2%	0%
CMI Level 3 Introductory Certificate in first line Management	1%	0%	1%	0%	0%
CMI Level 3 Certificate in Management	1%	0%	1%	0%	0%
CMI Level 4 Introductory Diploma In Management	1%	0%	1%	0%	0%
CMI Level 5 Diploma in Management	0%	0%	0%	0%	1%
NVQ in Business Administration	0%	0%	1%	0%	0%
Marketing Qualification	0%	0%	0%	0%	1%
Degree Level in Business Management	19%	0%	29%	1%	5%
Chartered Management Accountancy Qualification	0%	0%	0%	0%	0%
IOSH- Health and Safety Management Certificate	1%	0%	1%	0%	4%
HNC in Management	1%	0%	1%	0%	1%
JIB Managers Skills Card	1%	0%	1%	1%	0%
Other	23%	61%	16%	22%	20%
Don't Know	39%	30%	19%	51%	57%

Base= 2000

As can be seen from table 14 above, the other category in table 14 shows the highest percentages recorded against it. Table 15 shows how these percentages were derived, and

the considerable variation of qualifications that the BSE sector considers to be management qualifications.

<b>Table 15: Breakdown of other category for BSE sector contained in table 12 above</b>	
<b>Qualification</b>	<b>Responses</b>
City and Guilds Unspecified	9
Degree Unspecified	7
HND	6
Business Management Course	4
Masters Degree	3
Diploma in Management Studies	3
BTEC HNC (not stated assume Building Studies)	3
Technical Level Qualification	3
Diploma in Management	3
CDM Management Qualification	2
Degree Level Qualification	2
Health and Safety Certificates	2
They have all the skills they need or we would not take them on	1
BA degree	1
BSC Degree	1
BIN	1
BTEC Certificate	1
BTEC and Diplomas in Management	1
Business Management Certificate	1
HND in Electrical and Technical Engineering	1
Business Management Certificate	1
Certificate in Management	1
Certified Contract Manager	1
City and Guilds in Management	1
City and Guilds Level 1 &2	1
City and Guilds in Design Management	1
City and Guilds in Building Management	1
City and Guilds	1
Institute of Industrial Managers	1
City and Guilds in Retail Management level s	1
CNS Management Certificate	1
Commercial Management Training Certificate	1
Construction Manager Skills	1
Construction Management Degree	1
Contract Management and Design Course	1
Dutch Diploma	1
Electrical Engineer Management Certificate	1
Electrical Management	1
Management Qualification in Electrical Contracting	1
HNC in Building Management	1
HVCA in Management Skills	1
LIM Level 3 in Industrial Management	1
The Institute of Management	1
KNEBS in Management Training	1

Leadership in Management Programme Certificate	1
Level 1 in Business Management	1
Management Skills Basic	1
Managerial Qualifications	1
MBA in Electrical Engineering and Management	1
Master of Business Administration	1
Mechanical Engineering Services LNC and HNC	1
MCMI (Member of the Chartered Management Institute)	1
MIET in Corporate Engineering Level	1
Modules of management courses like 'Manage and Men'	1
Most of them are Members of the Institute and have diplomas in management and finance	1
NEBBS Qualification from Management Course	1
NEDRS- the Certificate for Health and Safety	1
Organisation Executive Course	1
Qualifications from the Institute of Electrical Engineers	1
Scottish VEC Qualifications	1
Supervisor in Management Certificates	1
The managers have all got past experience from different trades and they have all used those management skills to try and enhance their position in the company. Although of course, learning about the various aspects of plumbing, is something they all needed to do	1
They have all sorts of qualifications, but I couldn't tell you what they are	1

Base= 2000

Table 16 shows the percentage and type of qualifications held by managers in the devolved nations including Scotland, and suggests that predominantly in the sector in Scotland, the NVQs in Management and Degrees in Business Studies feature, but it is predominantly, the other qualifications that were the most cited by the Scottish companies interviewed in the primary research.

<b>Table 16: Percentage of management qualifications held by managers in the BSE sector, by qualification type, and by devolved nation</b>					
	<b>Total</b>	<b>Northern Ireland</b>	<b>Wales</b>	<b>Scotland</b>	
NVQ Level 3 Management	3%	24%	3%	5%	
NVQ Level 4 Management	4%	0%	22%	6%	
NVQ Level 5 Management	12%	0%	9%	5%	
NVQ Level 2 in Team Leading	2%	0%	6%	5%	
The Art of Leadership Programme	1%	0%	0%	0%	
CMI Level 3 Introductory Certificate in first Line Management	1%	0%	0%	0%	
CMI Level 3 Certificate in Management	1%	0%	6%	0%	
CMI Level 4 Introductory Diploma in Management	1%	0%	0%	0%	
CMI Level 5 Diploma in Management	0%	0%	0%	0%	
NVQ in Business Administration	0%	0%	0%	5%	

Marketing Qualification	0%	0%	0%	4%
Degree Level in Business Management	19%	0%	6%	4%
Chartered Management Accountancy Qualification	0%	0%	0%	0%
IOSH- Health and Safety Management Certificate	1%	0%	0%	10%
HNC in Management	1%	0%	0%	0%
JIB Managers Skills Card	0%	0%	0%	0%
Other	23%	36%	32%	52%
Don't know	39%	40%	40%	30%

Base= 2000

What tables 11-16 show, is that predominantly the BSE sector does not invest in leadership and management training, and where it does, investment appears to be across a wide range of courses, with many of the courses having little relevance to the BSE industry.

To address the general issue, and improve management skills in the Sector, SummitSkills has been working to develop management NOS for the sector, and working with Universities and other providers to develop appropriate management qualifications for the sector. This work remains ongoing.

In Scotland specifically, SummitSkills has engaged with stakeholder trade associations and other partners to develop guidance on management qualifications via the internet.

## Environmental technologies

In the SummitSkills footprint, there are a range of environmental technologies that are vital to the achievement of the government's carbon reduction and renewable energy generation targets. Currently, engagement by the BSE sector in the installation of these technologies remains low.

Table 17 shows an indicative<sup>7</sup> analysis of the potential training needs for the BSE sector core footprint, based on the number of operatives currently working in the technologies who have not received any kind of formal training, and the potential influx of operatives who may engage in the technology in the event that the market is stimulated by Government, either through a grant system, or through legislation.

<b>Table 17: Scotland BSE Sector in environmental technologies</b>	
<b>Solar Water and Heating</b>	
Electrical Trades and Installation	5,259
Plumbing	2,304
Heating and Ventilation	1,418
Air Conditioning and Refrigeration	709
<b>Photovoltaic</b>	
Electrical Trades and Installation	3,397
Plumbing	1,488
Heating and Ventilation	916
Air Conditioning and Refrigeration	458
<b>Combined Heating and Power Units</b>	
Electrical Trades and Installation	6,253
Plumbing	2,740
Heating and Ventilation	1,686
Air Conditioning and Refrigeration	843
<b>Micro Wind Energy</b>	
Electrical Trades and Installation	3,691
Plumbing	1,617
Heating and Ventilation	995
Air Conditioning and Refrigeration	497
<b>Ground Source Heat Pumps</b>	
Electrical Trades and Installation	6,084
Plumbing	2,666
Heating and Ventilation	1,641
Air Conditioning and Refrigeration	729
<b>Air Source Heat Pumps</b>	
Electrical Trades and Installation	4,555
Plumbing	1,996

<sup>7</sup> The term indicative is used deliberately here, as currently, the numbers are believed to be 'slightly high' in some environmental technologies against some trades, as an average percentage methodology was used to assess engagement. In addition, these figures only identify those operatives who are working in the technologies, but have received no training, or may do so in the event that the market is stimulated. What they do not take account of, is the potential for the market being heavily stimulated, such that many more/ all companies enter the market. In this event, the figures would be much larger. SummitSkills is currently working to improve the methodology to take account of industry differences at regional level, and it is hoped to publish these revised numbers in the February report.

Heating and Ventilation	1,229
Air Conditioning and Refrigeration	614
<b>Biomass</b>	
Electrical Trades and Installation	3,042
Plumbing	1,333
Heating and Ventilation	820
Air Conditioning and Refrigeration	410
<b>Bio-Fuel (Liquid)</b>	
Electrical Trades and Installation	2,751
Plumbing	1,206
Heating and Ventilation	742
Air Conditioning and Refrigeration	371
<b>Micro Hydro Generation Systems</b>	
Electrical Trades and Installation	2,197
Plumbing	963
Heating and Ventilation	592
Air Conditioning and Refrigeration	296
<b>Fuel Cell Technology</b>	
Electrical Trades and Installation	2,197
Plumbing	963
Heating and Ventilation	592
Air Conditioning and Refrigeration	296
<b>Rainwater Harvesting</b>	
Electrical Trades and Installation	3,299
Plumbing	1,446
Heating and Ventilation	890
Air Conditioning and Refrigeration	445

SummitSkills believes that if the environmental technologies in the industries in the SummitSkills footprint across the UK were to be stimulated, then the potential training needs identified in table 17 would make it difficult for the supply network to respond effectively to perceived demand.

SummitSkills is currently working with a number of partners and stakeholders to address, this problem, as well as undertaking further research to accurately identify as the UK including Scotland comes out of recession, the number of operatives requiring training in each environmental technology in each English region and devolved nation, and then (in consultation with partners and stakeholders) produce a plan by region/nation to develop training to meet potential demand. It is anticipated that this research work will be completed by the end of April/May.

## Skills gaps among SummitSkills' employers

Table 18 shows the percentage of BSE companies who consider that their staff have all the skills required for the work that they have by industry. The research contained in this table suggests that the majority of employers think that their staff are adequately skilled for the work that they do.

<b>Table 18: Percentage of BSE companies interviewed, who consider that their staff have all the skills required for the work that they have by industry</b>					
	<b>Total</b>	<b>Air Conditioning and Refrigeration</b>	<b>Electrotechnical</b>	<b>Heating and Ventilation</b>	<b>Plumbing</b>
Yes	81%	81%	78%	92%	83%
No	17%	17%	21%	8%	17%
Don't Know	2%	2%	1%	0%	0%

Base= 2000

Table 19 below shows for the UK, where employers believe that they have skills gaps, what these skills gaps are.

<b>Table 19: BSE companies surveyed company skills needs by industry</b>					
	<b>Total</b>	<b>Air Conditioning &amp; Refrigeration</b>	<b>Electro-technical</b>	<b>Heating and Ventilation</b>	<b>Plumbing</b>
Electrical	21%	9%	33%	11%	9%
Regulations/ Legislations	5%	0%	8%	0%	5%
Boiler Maintenance	1%	0%	0%	0%	9%
Gas	11%	9%	1%	7%	18%
Welding	1%	0%	0%	5%	0%
Mechanical	1%	0%	1%	0%	0%
Health and Safety	4%	0%	4%	22%	4%
Business Skills	1%	0%	2%	2%	1%
Product Training	15%	17%	0%	2%	5%
IT Skills	9%	0%	23%	3%	4%
Plumbing	2%	0%	1%	5%	10%
Literacy and Numeracy	1%	0%	0%	2%	5%
Management Skills	1%	0%	1%	11%	0%
Solar Heating	1%	0%	0%	0%	3%
First Aid	1%	0%	1%	2%	0%
Technical Skills	6%	1%	13%	0%	3%
Scaffolding	0%	0%	0%	2%	0%
More Common Sense	1%	0%	0%	0%	3%
Experience	9%	9%	2%	7%	5%
Testing	2%	0%	4%	0%	1%
Keeping Qualifications/ Skills up to date	6%	3%	4%	6%	11%
Obtaining Required Qualifications	11%	9%	6%	5%	5%

General Increasing the number/ level of skills	1%	0%	1%	1%	3%
Apprentices are still learning	2%	0%	2%	0%	4%
Depends on requirements	8%	0%	18%	4%	3%
Training Costs are too high	1%	0%	1%	0%	3%
They should be trained more	10%	9%	3%	8%	9%
Inspection Techniques	1%	0%	2%	1%	1%
Become registered in the required trade	1%	0%	0%	2%	4%
Better communication skills	0%	0%	0%	1%	1%
Improved standards of training course	1%	0%	1%	0%	0%
Paperwork/ administration (including form filling	8%	0%	18%	0%	1%
Knowledge of renewable energy	1%	0%	0%	1%	3%
General trade skills	1%	50%	2%	1%	1%
Customer service skills	0%	0%	0%	1%	1%
Engineering Skills (unspecified)	5%	0%	13%	0%	0%
Finance	0%	0%	0%	0%	0%
Improvement to work attitude/ work ethics	1%	0%	0%	0%	3%
Other	10%	2%	15%	3%	16%
None	0%	0%	0%	0%	1%
Don't Know	1%	0%	1%	17%	1%

Base= 2000

Table 20 shows the same data by devolved nation, and suggests that in Scotland, BSE companies are concerned about health and safety, gas and plumbing issues generally.

<b>Table 20: BSE Companies surveyed companies skills needs</b>				
	<b>Total</b>	<b>Northern Ireland</b>	<b>Wales</b>	<b>Scotland</b>
Electrical	21%	0%	14%	11%
Regulations/ Legislations	5%	16%	12%	8%
Boiler Maintenance	1%	0%	0%	11%
Gas	11%	0%	12%	0%
Welding	1%	0%	0%	3%
Mechanical	1%	0%	0%	0%
Health and Safety	4%	16%	14%	8%
Business Skills	1%	0%	12%	0%
Product Training	15%	0%	0%	0%
IT Skills	9%	0%	0%	5%
Plumbing	2%	16%	24%	0%
Literacy and Numeracy	1%	0%	0%	0%
Management Skills	1%	19%	0%	6%
Solar Heating	1%	0%	0%	4%
First Aid	1%	0%	12%	0%
Technical Skills	6%	0%	8%	1%

Scaffolding	1%	0%	0%	0%
More Common Sense	1%	0%	8%	0%
Experience	9%	3%	11%	0%
Testing	2%	19%	0%	0%
Keeping Qualifications/ Skills up to date	6%	35%	0%	17%
Obtaining Required Qualifications	11%	0%	0%	13%
General Increasing the number/ level of skills	1%	0%	0%	0%
Apprentices are still learning	2%	0%	0%	13%
Depends on requirements	8%	0%	0%	0%
Training Costs are too high	1%	0%	0%	0%
They should be trained more	10%	0%	8%	7%
Inspection Techniques	1%	19%	0%	0%
Become registered in the required trade	1%	0%	3%	0%
Better communication skills	0%	0%	0%	1%
Improved standards of training course	1%	0%	0%	2%
Paperwork/ administration (including form filling)	8%	16%	0%	0%
Knowledge of renewable energy	1%	0%	0%	0%
General trade skills	1%	0%	0%	1%
Customer service skills	0%	0%	0%	0%
Engineering Skills (unspecified)	5%	0%	0%	0%
Finance	0%	0%	0%	0%
Improvement to work attitude/ work ethics	1%	0%	0%	0%

Base= 2000

SummitSkills is currently working with partners and stakeholders to specifically identify skills needs more effectively in the sector, and will continue to do so to meet the sectors perceived training needs.

## Labour requirements

Although the BSE sector has been affected by the recession, and labour in the sector is likely to reduce overall in the UK to 2014, and this is replicated in the Scottish BSE sector, particularly in the mechanical industries of plumbing, heating and ventilation, air conditioning and refrigeration.

Table 21 shows the labour requirement projects for the BSE sector to 2014 for Scotland.

<b>Table 21: Proposed numbers of operatives in core trade areas of SummitSkills footprint by trade and year; 2009-2014 in Scotland</b>							
	2008	2009	2010	2011	2012	2013	2014
Electricians	13,926	14,437	14,947	15,105	15,263	15,421	15,577
Plumbing	9,283	8,643	8,003	7,949	7,895	7,841	7,786
Heating and Ventilation Engineers	5,713	5,319	4,924	4,891	4,858	4,825	4,792
Refrigeration Trades	1,856	1,728	1,600	1,589	1,578	1,567	1,557
Air Conditioning Trades	999	931	862	856	850	844	839

Experian/ SummitSkills 2009

If one looks at the inflows and outflows for the sector, then allowing for an average of 5% outflow per year, due to retirements, deaths, transfers to other sectors, then the inflow requirements are still considerable to replace outflows.

<b>Table 22: Scotland inflow requirement for BSE sector 2009-2014</b>		
	Total Labour Requirement	Total inflow requirement at assumption 5% outflow
<b>2009</b>		
Electricians	14,437	722
Plumbing	8,643	432
Heating and Ventilation Engineers	5,319	266
Refrigeration Trades	1,728	86
Air Conditioning Trades	931	47
<b>2010</b>		
Electricians	14,947	747
Plumbing	8,003	400
Heating and Ventilation Engineers	4,924	246
Refrigeration Trades	1,600	80
Air Conditioning Trades	862	43
<b>2011</b>		
Electricians	15,105	755
Plumbing	7,949	397
Heating and Ventilation Engineers	4,891	245
Refrigeration Trades	1,589	79
Air Conditioning Trades	856	43
<b>2012</b>		
Electricians	15,263	763
Plumbing	7,895	395
Heating and Ventilation Engineers	4,858	243
Refrigeration Trades	1,578	79
Air Conditioning Trades	850	43

<b>2013</b>		
Electricians	15,421	771
Plumbing	7,841	392
Heating and Ventilation Engineers	4,825	241
Refrigeration Trades	1,567	78
Air Conditioning Trades	844	42
<b>2014</b>		
Electricians	15,577	779
Plumbing	7,786	389
Heating and Ventilation Engineers	4,792	240
Refrigeration Trades	1,557	78
Air Conditioning Trades	839	42

SummitSkills (2009)

SummitSkills recognises that there is a need to continue to recruit labour to meet the needs of the sector coming out of recession, particularly given the use made of migrant labour by the sector in the previous building boom.

## Migrant labour

Although from SummitSkills research, only 9% of the sample companies across the UK employed migrant labour, it should be remembered that 85% of the total SummitSkills footprint is micro businesses of less than five people, with the majority being sole traders.

Table 23 below shows however that the percentage of companies employing migrant labour rises as company size increases, with the largest recruiters of migrant labour being the largest companies, suggesting that the BSE sector may have a significant exposure to migrant labour, which may lead to skills shortages when the economy improves for those companies if the migrant labour does not return.

**Table 23: Percentage of BSE companies employing migrant labour in the last 3 years by company size**

	Total	Single Sites	Multi-Sites	2-15	16-25	26-49	50-250	251+
Yes	9%	8%	15%	7%	10%	29%	19%	81%
No	91%	92%	85%	93%	90%	71%	81%	19%
Don't Know	0%	0%	0%	0%	0%	0%	0%	0%

Base=2000

Table 24 shows the percentage of BSE companies employing migrant labour in the last three years by devolved nation including Scotland.

**Table 24: Percentage of BSE companies employing migrant labour in the last 3 years by devolved nation**

	Total	Northern Ireland	Wales	Scotland
Yes	9%	9%	3%	9%
No	91%	89%	97%	91%
Don't Know	0%	2%	0%	0%

Base= 2000

Table 25 below, shows the country of origin where the migrant labour emanated from, and suggests that in Scotland, Lithuania, Poland, Ireland and New Zealand were the only recorded countries of origin from which migrant labour came. It is likely that there were other nations represented in Scotland, that were not picked up in this sample, but these are probably in the minority.

**Table 25: Countries of origin/domicile of BSE migrant workers by company size in devolved nations**

	Total	Northern Ireland	Wales	Scotland
Afghanistan	5%	0%	0%	0%
Albania	1%	0%	0%	0%
Algeria	1%	0%	0%	8%
Australia	11%	0%	0%	10%
Bahamas	1%	0%	0%	0%
Bulgaria	1%	0%	0%	0%
Cameroon	1%	0%	0	0%

Central Africa	0%	0%	0%	0%
Croatia	0%	0	0%	0%
Cyprus	1%	0%	0%	0%
Czech Republic	2%	0%	0%	0%
France	2%	0%	0%	0%
Germany	5%	0%	0%	0%
Ghana	0%	0%	0%	0%
Hungary	0%	0%	0%	0%
India	2%	0%	0%	0%
Iraq	1%	0%	0%	0%
Ireland	1%	0%	24%	0%
Italy	5%	0%	0%	4%
Jamaica	2%	0%	0%	0%
Laos	3%	0%	0%	0%
Latvia	1%	0%	0%	0%
Lebanon	1%	0%	0%	0%
Lithuania	1%	0%	0%	17%
Malaysia	5%	0%	0%	0%
Malta	0%	0%	0%	0%
Mauritius	1%	0%	0%	0%
New Zealand	1%	0%	0%	10%
Nigeria	13%	0%	0%	0%
Pakistan	0%	0%	0%	0%
Philippines	1%	0%	0%	0%
Poland	44%	100%	76%	73%
Portugal	4%	0%	0%	0%
Romania	1%	0%	0%	0%
Russia	4%	0%	0%	0%
Slovakia	3%	0%	0%	0%
South Africa	31%	0%	0%	0%
Spain	9%	0%	0%	0%
Sweden	0%	0%	0%	0%
Switzerland	0%	0%	0%	0%
Turkey	0%	0%	0%	0%
United States	1%	0%	0%	0%
Uzbekistan	1%	0%	0%	0%
Zimbabwe	1%	0%	0%	0%

Base= 2000

SummitSkills continues to work with the MAC, partners and stakeholders on issues related to migrant workers, while continuing to support the development of apprenticeships in the sector to increase the amount of skilled indigenous labour.

## References

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