



University
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Research Unit



FIFE WORKFORCE MODELLING REPORT

FINAL REPORT

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1. INTRODUCTION

Background

There is a growing acceptance across Scotland that the supply of appropriate skills and qualifications is an important driver of economic competitiveness through impacts on employee productivity and adaptability. Publicly funded education provision therefore needs to become more focussed on raising the long term employability of learners and meeting the employment and skills needs of employers. It is in this context that the Fife Economy Partnership and Opportunities Fife Partnership have commissioned this research, which sets out to deliver a ***bespoke workforce planning model for Fife***.

Workforce Planning

Workforce planning, as a concept, looks to the future and is dependent on the quality of information that is available. Notwithstanding the challenges involved with workforce planning, there is merit in carrying it out in Fife for the following reasons.

- Fife is a region of notable scale with 366,000 residents and 126,000 jobs. Furthermore, while a quarter of Fife's employed residents do commute to for example Edinburgh and Dundee, Fife's businesses are largely dependent on Fife's residents for its workforce. Understanding and responding to the skills needs of Fife's businesses will therefore enhance the employment opportunities for Fife's residents.
- Fife has a mixed economy in terms of key sectors and types of employers. These include a number of large employers which typically find it easier to communicate their future employment and skills needs. This is important for the Fife economy as a whole as these employers not only employ many Fife residents but also drive a local supply chain – thereby Fife's larger employers potentially also reflect the skills needs of other, smaller Fife employers.
- Fife is served by Fife-wide organisations such as Fife Council and Fife College (following the merger of Adam Smith College, Carnegie College and Elmwood College) and their Fife-wide coverage enables them to deliver more effectively the skills solutions that Fife's employers and residents require.
- Finally, the timing of the research is opportune as Fife College is in the process of reviewing its curriculum and structures following its merger and the workforce planning research can help ensure its changes best reflect the needs of Fife's employers and residents.

Research Aims

The workforce planning model aims to provide robust labour market intelligence around the demand for and supply of skills in Fife, which can then inform partners' decision-making on the most effective package of skills investment for promoting and supporting the long-term development of Fife's economy. Specifically the research aims to triangulate the key labour market trends and messages from a variety of sources to form a coherent and informed understanding of labour market demand and supply in Fife both now and looking forward to the next 3-5 years. These sources include:

- Nationally available demographics, skills, employment and business statistical data.
- Labour market research and projections at the national and sectoral levels.
- Focus groups with employers in Fife's key sectors.

The findings from the different research components have been drawn together to produce an analysis of the Fife labour market with clear statements of the key skills needs within Fife's key economic sectors.

Report Structure

The report is structured as follows:

- **Chapter 2** – Analysis of Fife Labour Market – Demand Side.
- **Chapter 3** – Analysis of Fife Labour Market – Supply Side.
- **Chapter 4** – Analysis of Fife’s Labour Market Entrants.
- **Chapter 5** – Fife’s Key Sectors.
- **Chapter 6** – Conclusions and Recommendations.

2. FIFE LABOUR MARKET – DEMAND SIDE

Introduction

This chapter sets out the employment and business base within Fife. This includes analysis over time by looking at recent trends and future projections to understand how Fife's economy is changing. In doing so, the chapter aims to identify which sectors are the priorities for future skills interventions in Fife.

Employment by Sector

Fife had 126,700 jobs in 2013 and Figure 2.1 provides the breakdown of total employment by sector. It shows that Fife's major sectors of employment were:

- Health – 22,600 jobs.
- Manufacturing – 15,200 jobs.
- Retail – 13,400 jobs.

In comparison to Scotland's sectoral profile, there are broad similarities between Fife and Scotland which mean that trends at the national level can justifiably be applied to the Fife level. However, there are also differences between the two profiles – most notably, Fife had proportionately:

- More manufacturing, retail (which includes online retailers such as Amazon), and public administration and defence jobs.
- Fewer jobs in professional, scientific and technical (which includes legal, accountancy, HQ, R&D, consultancy, advertising, and marketing activities) and business administration and support services (which includes office admin, rental activities, travel agents, and employment agencies activities).

Figure 2.1: Total Employment by Sector, 2013

	Fife		Scotland	
	Number	%	Number	%
Agriculture, forestry & fishing	100	0.1	35,400	1.5
Mining, quarrying & utilities	2,500	2.0	63,000	2.7
Manufacturing	15,200	12.0	173,100	7.3
Construction	7,000	5.5	128,100	5.4
Motor trades	2,600	2.1	45,000	1.9
Wholesale	3,900	3.1	69,800	3.0
Retail	13,400	10.6	228,600	9.7
Transport & storage	3,300	2.6	93,600	4.0
Accommodation & food services	8,400	6.6	182,300	7.7
Information & communication	4,100	3.2	62,000	2.6
Financial & insurance	3,300	2.6	84,900	3.6
Property	900	0.7	30,800	1.3
Professional, scientific & technical	5,800	4.6	159,800	6.8
Business administration & support services	5,800	4.6	180,200	7.6
Public administration & defence	10,500	8.3	143,300	6.1
Education	10,300	8.1	187,300	7.9
Health	22,600	17.8	378,200	16.0
Arts, entertainment, recreation & other services	7,000	5.5	112,200	4.8
Total (all industries)	126,700	100.0	2,357,800	100.0

Source: Business Register and Employment Survey

Over time, trend data for 2009 to 2013 shows that Fife has experienced a loss of 1,900 (or 2% of) jobs. This rate of decrease is the same as across Scotland. At the sectoral level, the Business Register and Employment Survey data presented in Figure 2.2 can be questioned – most notably around the 3,600 increase in Fife’s public administration and defence employment and also the 3,600 decrease in education employment¹. Notwithstanding this, the trends for Fife during this difficult economic period were for:

- Small employment growth in health; professional, scientific and technical; manufacturing; construction; and motor trades.
- Declines in many sectors but greatest in business administration and support services; information and communications (which includes publishing, broadcasting, ICT and software activities); retail; and accommodation and food services.

Figure 2.2: Change in Employment by Sector, 2009 to 2013

	Fife		Scotland	
	Change	% Change	Change	% Change
Agriculture, forestry & fishing	0	0.0	1,200	3.3
Mining, quarrying & utilities	100	2.7	1,400	2.3
Manufacturing	400	2.8	-14,900	-8.6
Construction	400	5.4	-9,400	-7.3
Motor trades	300	11.3	4,000	8.9
Wholesale	-200	-3.9	-5,200	-7.4
Retail	-600	-4.5	-10,600	-4.6
Transport & storage	-200	-5.8	-9,200	-9.9
Accommodation & food services	-400	-4.7	8,200	4.5
Information & communication	-1,200	-23.1	-2,800	-4.5
Financial & insurance	-900	-21.2	-8,700	-10.3
Property	-20	-2.3	1,700	5.6
Professional, scientific & technical	600	11.1	7,100	4.4
Business administration & support services	-1,400	-19.2	400	0.2
Public administration & defence	3,600	51.5	-9,400	-6.6
Education	-3,600	-25.8	-7,900	-4.2
Health	1,700	8.0	-3,600	-0.9
Arts, entertainment, recreation & other services	-300	-4.0	8,700	7.7
Total (all industries)	-1,900	-1.5	-49,000	-1.5

Source: Business Register and Employment Survey

Summarising Figures 2.1 and 2.2, the key points of difference between the Fife and Scotland employment profiles are:

- Fife has a strong manufacturing sector that has also bucked national trends in generating employment growth between 2009 and 2013.
- Fife has proportionately more public sector services jobs, which puts it at risk from further cuts to public sector expenditure.

¹ This appears to be the result of c.2,400 jobs in Fife being reassigned in the BRES return from education to public administration and defence between 2011 and 2012.

- In terms of private sector services, Fife has proportionately more retail jobs but fewer professional services jobs ranging from finance, business, ICT, legal and marketing jobs.
- The tourism and hospitality sector is hard to clearly identify from the sectoral splits provided but combining accommodation and food services with arts, entertainment, recreation and other services would suggest the sector makes an important employment contribution.

Employment by Occupation

Accurate employment data by occupation at local authority level is not readily available. Figure 2.3 uses the Annual Population Survey Workplace Analysis data to show the occupational breakdown of the jobs in Fife by sector. The data needs to be interpreted with caution due to statistical confidence issues but it gives an indication of where the occupations are predominantly found.

- 16% of Fife's jobs are in professional occupations.
- 15% are in elementary occupations.
- 13% are in skilled trades occupations.
- 12% are in associate professional and technical occupations.

Figure 2.3: Total Employment by Occupation and Sector in Fife, 2013

	Agriculture & Fishing	Energy & Water	Manufacturing	Construction	Retail, Distribution & Hospitality	Transport & Communications	Banking, Finance & Insurance	Public Sector Services	Other Services	Total
Managers and Senior Officials	-	-	1,200	900	3,400	-	1,700	2,400	-	10,600
Professional	-	1,000	1,300	-	-	1,200	2,100	16,900	600	24,000
Associate Professional and Technical	-	-	3,200	2,100	1,400	-	3,200	6,600	1,200	18,100
Administrative and Secretarial	-	-	1,400	800	2,000	-	3,700	4,700	-	13,900
Skilled Trades	-	1,000	6,700	6,100	2,000	-	-	1,400	1,100	19,500
Caring, Leisure and Other Service	-	-	-	-	-	-	700	13,600	3,600	17,900
Sales and Customer Service	-	-	-	-	10,400	1100	2,700	-	-	15,200
Plant, Process and Machine Operatives	-	-	2,800	1,400	1,900	1,400	-	700	-	9,300
Elementary	-	-	2,400	-	8,200	2,500	4,000	3,200	1,800	23,200

Source: Annual Population Survey (Workplace Analysis) Oct 2013-Sep 2014 data

Employment Projections

Projections by Sector

Looking forward, employment projections by sector are presented first. At the Scotland level, UK Commission for Employment and Skills (UKCES) Working Futures projections for 2012 to 2022 indicate that:

- Scotland will see net employment growth of 5% or 140,000 jobs.
- By sector, there is expected to be:

- Growth of over 10% employment in IT; health and social work; finance and insurance; real estate; professional services; electricity and gas; water and sewerage; and construction.
- Decreases in employment in agriculture; manufacturing; mining and quarrying; food and drink and tobacco, and public administration; and education.

Figure 2.4: Employment by Sector across Scotland, 2012 and 2022

	2012	2022	Change	% Change
Agriculture	53,000	45,000	-8,000	-17.8
Mining and quarrying	34,000	30,000	-3,000	-13.3
Food drink and tobacco	49,000	45,000	-4,000	-8.9
Engineering	30,000	31,000	1,000	3.2
Rest of manufacturing	124,000	109,000	-15,000	-13.8
Electricity and gas	20,000	23,000	3,000	13.0
Water and sewerage	17,000	19,000	2,000	10.5
Construction	171,000	193,000	21,000	11.4
Wholesale and retail trade	371,000	375,000	4,000	1.1
Transport and storage	120,000	126,000	6,000	4.8
Accommodation and food	198,000	209,000	11,000	5.3
Media	16,000	16,000	0	0.0
Information technology	55,000	73,000	18,000	24.7
Finance and insurance	90,000	102,000	12,000	11.8
Real estate	29,000	33,000	4,000	12.1
Professional services	199,000	223,000	23,000	10.8
Support services	190,000	208,000	18,000	8.7
Public admin. and defence	142,000	127,000	-15,000	-11.8
Education	203,000	193,000	-10,000	-5.2
Health and social work	392,000	457,000	65,000	14.2
Arts and entertainment	93,000	97,000	3,000	4.1
Other services	49,000	54,000	5,000	9.3
All industries	2,646,000	2,786,000	140,000	5.0

Source: UKCES Working Futures Projections 2012-2022

If these UKCES projections for Scotland are applied to Fife's employment profile in 2013 (see Figure 2.1), Fife would see its total number of jobs increase by approximately 6,300 jobs by 2022. By sector, Figure 2.5 shows:

- The greatest employment growth would be in:
 - Health (+3,200 jobs in Fife).
 - Information and communication (+1,000 jobs in Fife).
 - Construction (+800 jobs in Fife).
- The greatest employment reductions in:
 - Manufacturing (-1,400 jobs in Fife).
 - Public administration and defence (-1,200 jobs in Fife).
 - Education (-500 jobs in Fife).

Figure 2.5: UKCES Scotland Sector Projections Applied to Fife, 2013 to 2022

	2013	2022	Change	% Change
Agriculture, forestry & fishing	100	100	0	18
Mining, quarrying & utilities	2,500	2,500	0	1
Manufacturing	15,200	13,800	-1,400	-9
Construction	7,000	7,800	800	11
Wholesale & retail	17,300	17,500	200	1
Transport & storage	3,300	3,500	200	5
Accommodation & food services	8,400	8,800	400	5
Information & communication	4,100	5,100	1,000	25
Financial & insurance	3,300	3,700	400	11
Property	900	1,000	100	12
Professional, scientific & technical	5,800	6,400	600	11
Business administration & support services	5,800	6,300	500	9
Public administration & defence	10,500	9,300	-1,200	-12
Education	10,300	9,800	-500	-5
Health	22,600	25,800	3,200	14
Arts, entertainment, recreation & other services	7,000	7,400	400	6
Total (all industries)	126,700	133,000	6,300	5

Source: UKCES projections applied to Business Register and Employment Survey 2013 data

Below the national level projections, Figure 2.6 shows projections produced by Experian for Fife from 2013 to 2020. It projects more positive employment growth than the UKCES projections indicate with Fife seeing net growth of 7% or 10,400 jobs in the period to 2020.

By sector, the Experian projections indicate that:

- Greatest employment growth in Fife will be in accommodation, food services and recreation (i.e. tourism and hospitality); professional and other private services; wholesale and retail trade; and construction.
- Two sectors are projected to experience employment decline and these are public administration and defence; and a small decline in manufacturing.

Figure 2.6: Fife Employment Projections, 2013 to 2020

	2013	2020	Change	% Change
Agriculture, Forestry & Fishing	2,000	2,100	100	5.0
Extraction & Mining	200	200	0	0.0
Utilities	2,300	2,500	200	8.7
Manufacturing	15,600	15,400	-200	-1.3
Construction	8,400	9,600	1,200	14.3
Wholesale & Retail	21,300	22,700	1,400	6.6
Transport & Storage	4,100	4,700	600	14.6
Accommodation, Food Services & Recreation	14,400	17,000	2,600	18.1
Information & communication	5,400	6,300	900	16.7
Finance & Insurance	3,400	3,700	300	8.8
Professional & Other Private Services	18,800	21,500	2,700	14.4
Public Administration & Defence	6,800	4,900	-1,900	-27.9
Education	15,300	15,800	500	3.3
Health	11,800	12,800	1,000	8.5
Residential Care & Social Work	10,700	11,800	1,100	10.3
Total	140,500	150,900	10,400	7.4

Source: Experian Forecasts for Fife Council

The main point of contention with the UKCES and Experian projections is the projected employment reduction in manufacturing. As outlined earlier, Fife has a strong manufacturing sector and has experienced employment growth in recent years. This allied to this research's employer consultations would suggest that employment levels in Fife's manufacturing sector (if including advanced manufacturing and engineering) are likely to remain steady and potentially increase.

Projections by Occupation

Turning to employment projections by occupation, the UKCES Working Futures Scotland projections for 2012 to 2022 show that the number of jobs created through replacement demand (i.e. labour turnovers and retirements) will far exceed the number created through expansion demand.

- 1,176,000 jobs will be created through replacement demand.
- 140,000 jobs created by expansion demand.

By broad occupational grouping, the Scotland projections indicate that the number of job opportunities (expansion demand plus replacement demand) will be:

- Greatest in professional; associate professional and technical; caring, leisure and other service; and managers and senior officials occupations.
- Fewest in plant, process and machine operatives; and sales and customer service occupations. Nevertheless, these will still require 35,000 and 75,000 workers respectively.

Figure 2.7: Employment Demand by Occupation across Scotland, 2012 to 2022

	Expansion Demand	Replacement Demand	Net Demand
Managers and Senior Officials	41,000	99,000	141,000
Professional	107,000	210,000	317,000
Associate Professional and Technical	47,000	116,000	163,000
Administrative and Secretarial	-36,000	142,000	106,000
Skilled Trades	-31,000	108,000	77,000
Caring, Leisure and Other Service	55,000	92,000	147,000
Sales and Customer Service	-7,000	83,000	75,000
Plant, Process and Machine Operatives	-24,000	59,000	35,000
Elementary	-11,000	127,000	115,000
Total	140,000	1,036,000	1,176,000

Source: UKCES Working Futures Projections 2012-2022

Applying the Scotland projections to Fife's employment by occupation profile (see Figure 2.3), Figure 2.8 shows how national trends would impact on demand levels within Fife.

- In total, there is projected to be a 9,500 jobs growth in the top three occupational groupings. Combined with replacement demand, net demand would equate to 30,400 jobs.
- Caring, leisure and other service occupation jobs are projected to increase by 5,000 jobs. Combined with replacement demand, net demand would equate to 13,400 jobs.
- Despite reductions in administrative and secretarial, skilled trades and plant, process and machine operatives employment, each will require future workers.
- In total, net employment demand in Fife is projected to be 67,400 jobs.

Figure 2.8: Employment Demand by Occupation Projections Applied to Fife, 2012 to 2022

	Expansion Demand	Replacement Demand	Net Demand
Managers and Senior Officials	+1,800	4,400	6,300
Professional	+5,000	9,800	14,800
Associate Professional and Technical	+2,700	6,600	9,300
Administrative and Secretarial	-1,500	5,900	4,400
Skilled Trades	-1,900	6,700	4,800
Caring, Leisure and Other Service	+5,000	8,400	13,400
Sales and Customer Service	-500	5,500	4,900
Plant, Process and Machine Operatives	-1,300	3,300	2,000
Elementary	-800	8,800	7,900
Total	+8,000	59,400	67,400

Source: UKCES Working Futures Projections 2012-2022 applied to Annual Population Survey data

Implications for Fife Strategies

In October 2013, the *Fife Economic Strategy 2013-2023 'Growing a Vibrant Fife Economy'* was launched. Within the strategy, it sets out the need to invest in the following key sectors:

- Fife as a **Centre of Excellence for Energy and Renewables** – which refers to all forms of energy.
- **Tourism** – with the aspiration of making Fife a sustainable, first class tourism destination, with a year round economy, where businesses are growing and visitors return year after year.

Supporting the Fife Economic Strategy, the Opportunities Fife (2013) **STEM (Science, Technology, Engineering and Maths): Enriching Life in Fife Strategy** proposes a coherent strategic approach, driven by industry, to ensure that the education and skills delivered within Fife are able to drive forward growth and success within STEM-related industries. Within it, Fife's main employment sectors where STEM skills are required are set out as:

- **Construction and civil engineers.**
- Users of **data and data management.**
- **Energy** professionals.
- **Engineering** – including electrical, mechanical, systems and renewables.
- **Food and drink** industry.
- **Health sector** (therapists, nurses, doctors, pharmacists, midwives, theatre staff and paramedics).
- **ICT and technology.**
- **Leisure and tourism.**
- **Research and Development.**

This research provides a valuable opportunity to ratify these sectors based on the statistical data presented above and the views of the public and private sector stakeholders interviewed. From the data, Fife's key sectors would appear to be:

- **Health and care sector** is Fife's largest employing sector and NHS Fife is one of Fife's largest employers. Figure 2.1's definition of the health sector includes social care and residential care, which fits with stakeholders' wider interpretation of the health sector in Fife.
- **Energy (including renewables) and engineering/manufacturing.** Figure 2.1 shows that manufacturing is Fife's second largest employing sector but the stakeholder interviews made it clear that it is more appropriate to consider Fife's wider energy and engineering/manufacturing sector as they are all closely connected to one another. Fife is seen to have a very strong, diverse and growing sector with a number of high quality firms operating in, for example, electronics, defence, mechanical, and energy/renewables.
- **Retail** is Fife's third largest employing sector and Fife has many retail centres that predominantly serve the local population rather than attracting shoppers from beyond Fife. Stakeholders recognised the importance of retail in terms of providing a large number of entry level jobs for residents but did not view it as key sector for the purposes of this research due to the low skills requirements to enter a retail job. However, it is also important to note that Amazon and other online retailers also fall within the retail sector and account for approximately 5% of Fife's 13,400 retail jobs. These jobs require skills that align more with Fife's 4,100 wholesale jobs than shopfloor staff – for example, distribution, warehousing, logistics and forklift driving.

In addition to the sectors above, stakeholders identified the following sectors as particularly important for the Fife economy.

- **Construction and civil engineering.** Stakeholders understood that Fife has a good number of established construction firms, many of whom are part of the Fife Construction Forum. The sector is subject to cyclical trends but the prospects look favourable with the construction of the new Queensferry Crossing and an expected upturn in house building.

- **Food and drink.** The sector is seen as important to Fife as it includes Fife's strong agricultural sector and also its food and drink manufacturers, which range from large employers (e.g. Diageo, Quaker Oats, Kettles, Meridian Salmon Group and Carrs) to many smaller, award winning producers.
- **ICT and technology.** While Fife is not seen to have a significant ICT/software sector in its own right, stakeholders recognised the strong demand for ICT, telecoms and software skills across the Fife economy and from Edinburgh and Dundee.
- **Tourism and hospitality.** The tourism and hospitality sector is very important to St Andrews and North East Fife, but there are also tourism attractions across other parts of Fife. The support for cultural tourism also presents an opportunity as it embraces Fife's creative industries and small craft-based businesses.

In addition to the sectors outlined within the Fife strategies, stakeholders also felt that the importance to Fife of the following sectors should not be overlooked – although (like retail) they were not viewed as key sectors for the purposes of this research.

- **Financial and business services** – Fife has a notable financial and business services sector based mainly in the Dunfermline area that serves the Edinburgh financial services sector. Big employers include Lloyds and Nationwide, while there are also financial services contact centres.
- **Higher Education** – St Andrews University is one of the UK's leading universities and has a very strong international reputation.

However, two sectors set out in the Fife STEM strategy had limited stakeholder awareness and are hard to identify within the statistical data. These are:

- **Data and data management** – the sector identified in the STEM Strategy was not suggested by stakeholders as a key sector for Fife. This is likely to be because data and data management is a core function of other sectors and not a distinct sector in itself. It also proved difficult to generate a statistical definition of the sector – albeit it could relate to financial and business services.
- **Research and Development** – similar to the above, R&D was not suggested by stakeholders as a key sector for Fife but this is likely to be because R&D functions are considered part of other sectors, such as energy and renewables, engineering and manufacturing, and food and drink.

Finally, and in many cases underpinning the sectors outlined above, is **Fife's small business base**. A number of stakeholders highlighted the important role that the small business base within Fife plays and their importance is illustrated in Figure 2.9. It shows that:

- 80% of Fife's businesses are micro-businesses with up to 9 employees. A further 10% employ 10-19 employees.
- In terms of employment, Fife's micro-businesses provide 17% of Fife's employment. Small and medium enterprises (SMEs) of up to 250 employees provide 71% of Fife's jobs.

Figure 2.9: Fife's Business Base by Size of Business

	Number of Businesses, 2014	% of Total Businesses, 2014	Employment, 2012	% of Total Employment, 2012
0-4 employees	6,665	62.2	9,900	7.8
5-9 employees	1,920	17.9	11,200	8.9
10-19 employees	1,080	10.1	14,700	11.6
20-49 employees	690	6.4	23,100	18.3
50-99 employees	200	1.9	12,600	10.0
100-249 employees	115	1.1	18,600	14.7
250+ employees	50	0.5	36,200	28.7
Total	10,720	100	126,300	100

Source: Business data from ONS Business Activity, Size and Location 2014 – Local Units; Employment data from Business Register and Employment Survey (2012 data)

Chapter Summary

From the analysis of Fife's employment and business base, the key points are:

- Fife's main employment sectors are health (which includes social care and residential care), manufacturing and retail.
- Manufacturing as part of the wider sector 'Energy and engineering/manufacturing' is seen to be particularly important for Fife and appears to be bucking the national trend by sustaining and even increasing the number of jobs in the sector.
- Over time, Fife is expected to see growth in professional and business services, and retail and tourism. However, it is at risk of further cuts to public sector services employment.
- By occupation, there will be demand for all occupations due to replacement demand. However, net demand will be greatest at the professional, technical, care and leisure, and managerial levels.
- In consultation with stakeholders, it was decided that the key sectors that the workforce planning modelling should focus on are:
 - Construction and civil engineering.
 - Energy and engineering/manufacturing.
 - Food and drink.
 - Health and care.
 - ICT and technology.
 - Tourism and hospitality.

3. FIFE LABOUR MARKET – SUPPLY SIDE

Introduction

This chapter looks at the supply side of the labour market and specifically Fife's working age population to assess whether in broad terms Fife's population meets labour market demand.

Population

In 2013, Fife had a total population of 366,900 people and a working age population of 237,800 people. Comparing its age profile to that of the Scotland average, Figure 3.1 shows:

- Fife had proportionately more residents aged 0-15, 50-64 and 65 and above.
- Fife had proportionately fewer 25-39 year olds.

Between 2009 and 2013, Fife's population grew by 3,450 people or 0.9%, which is below the Scottish increase of 2.6%.

Figure 3.1: Fife Population by Age, 2013

	Fife		Scotland	
	Number	%	Number	%
0-15	60,118	16.4	852,005	16.0
16-24	46,603	12.7	684,541	12.8
25-39	62,934	17.2	1,006,087	18.9
40-49	54,140	14.8	782,053	14.7
50-64	74,099	20.2	1,056,152	19.8
65+	69,016	18.8	946,862	17.8
Working Age Population	237,776	64.8	3,528,833	66.2
Total Population	366,910	100.0	5,327,700	100.0

Source: National Records of Scotland Mid-Year Population Estimates

Migration is a key contributor to Fife's population growth and GROS migration statistics show that Fife has benefited from average net migration from other parts of Scotland and beyond of approximately 1,300 per annum between 2008-09 and 2012-13.

Figure 3.2: Net Scottish Migration to Fife

	2008-09	2009-10	2010-11	2011-12	2012-13
Net Population Migration to Fife	+1,550	+1,806	+2,076	+629	+304

Source: National Records of Scotland

By age group, Figure 3.3 shows that Fife has net in-migration across all age groups, except 20-29 year olds, who most likely moving away for higher education or other employment opportunities.

Figure 3.3: Net Migration to Fife by Age, 2012-13

	0-14	15-19	20-29	30-39	40-49	50-64	65+	Total
Net Migration	+190	+653	-802	+23	+54	+171	+15	+304

Source: National Records of Scotland

In addition to the net migration to and from other parts of Scotland, there is also the attraction of overseas economic migrants. Using National Insurance Number (NINo) registrations, Figure 3.4 shows that Fife has on average attracted approximately 1,830 NINo registrations per annum between 2008-09 and 2013-14 – although there are no statistics available on how many have since left Fife.

Figure 3.4: NINo Registrations in Fife

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
NINo Registrations in Fife	1,930	1,410	2,080	1,730	1,970	1,860

Source: DWP NINo registrations data

Looking forward, GROS 2012-based **population projections** expect Fife's total population to grow by 7% between 2012 and 2022 (which is above the Scotland increase of 4%) and also age.

- Fife's working age population is projected to decrease by 4,800 with the reduction predominantly coming in the 30-49 year old population.
- Significant increases in the 65-74 and 75+ populations will see a 15,500 increase in the 65+ population.

Some caution is, however, needed when interpreting the 65+ population increase because many of these people will continue to be economically active.

Figure 3.5: Population Projections, 2012 to 2022

	Fife		Scotland	
	Change	% Change	Change	% Change
0-15	3,500	1.7	39,800	4.2
16-29	-800	-0.4	-65,700	-7.2
30-49	-10,000	-4.8	-61,800	-4.4
50-64	6,000	2.9	95,200	8.3
65-74	5,600	2.7	82,300	14.0
75+	9,900	4.8	116,200	21.7
Total	14,200	6.9	206,000	3.7

Source: General Register Office for Scotland 2012-Based Population Projections

Travel to Work Flows

Along with migration levels, travel to work patterns influence labour supply. Figure 3.6 shows the travel to work data for Fife from the 2011 Census. It shows:

- 76% of Fife's employed residents work in Fife, with the remainder commuting elsewhere for work.
- Of the jobs in Fife, 88% are held by Fife residents. This shows how important Fife's indigenous workforce is to Fife's employers.
- In total, Fife has a net commuting outflow of 18,300 people. By local authority area, the main areas that Fife residents commute to are:
 - Edinburgh – net commuting outflow of 11,600 Fife residents.
 - Dundee – net commuting outflow of 3,700 Fife residents.
 - Perth and Kinross – net commuting outflow of 900 Fife residents.
 - West Lothian – net commuting outflow of 900 Fife residents.
 - Glasgow – net commuting outflow of 500 Fife residents.

Figure 3.6: Fife Travel to Work Flows, 2011

	Number	%
Fife Employed Residents		
- Working in Fife	102,139	76
- Working outside Fife	31,823	24
Fife Jobs		
- Held by Fife residents	102,139	88
- Held by non-Fife residents	13,496	12

Source: 2011 Census data

Characteristics of Working Age Population

Turning to the characteristics of Fife's working age population, Figure 3.7 begins by showing the **employment status** of Fife's working age population compared to Scotland's. It shows that the two profiles are close but Fife has a higher employment rate and lower economically inactive and do not want a job rate than Scotland.

Figure 3.7: Employment Status of Working Age Population, 2014

	Fife		Scotland	
	Number	Percentage	Number	Percentage
In Employment	171,800	73.4	2,477,900	72.5
Unemployed	11,800	5.0	175,800	5.1
Economically Inactive – Want a Job	14,100	6.0	195,200	5.7
Economically Inactive – Not Want a Job	36,400	15.5	570,900	16.7
Working Age Population	234,100	100	3,419,800	100

Source: Annual Population Survey October-September

In terms of **qualification profile**, Figure 3.8 shows that there are few differences between the highest level of qualification held by Fife's working age population and the Scottish average. Where there are differences, it would appear that Fife is able to progress its unqualified residents into lower level qualifications. For example, 12% of Fife's working age population are qualified at NVQ Level 1, compared with 10% for Scotland as a whole. A further difference is that Fife has a higher proportion qualified at NVQ Level 3 than the Scotland average.

Figure 3.8: Qualification Profile of Working Age Population, 2013

	Fife		Scotland	
	Number	Percentage	Number	Percentage
NVQ 4+	90,900	39.0	1,332,200	39.4
NVQ 3	41,100	17.6	505,400	14.9
Trade Apprenticeships	13,200	5.6	167,400	5.0
NVQ 2	31,100	13.4	486,900	14.4
NVQ 1	27,400	11.8	330,400	9.8
Other Qualifications	14,400	6.2	210,800	6.2
No Qualifications	14,900	6.4	349,200	10.3
Working Age Population	233,100	100.0	3,382,300	100.0

Source: Annual Population Survey January-December 2013

Finally, Figure 3.9 sets out the **occupations** that Fife residents are employed in – as opposed to the jobs that are located in Fife (see Figure 2.3).

- The main occupations that Fife residents work in are professional; elementary; associate professional and technical; and skilled trades occupations.
- Compared to the Scottish profile, Fife has:
 - More residents working in caring, leisure and other service; sales and customer service; and elementary occupations.
 - Fewer residents working in professional; and administrative and secretarial occupations.

Figure 3.9: Total Employment by Occupation, 2014

	Fife		Scotland	
	Number	%	Number	%
Managers and Senior Officials	15,000	8.5	221,800	8.7
Professional	31,200	17.8	505,300	19.9
Associate Professional and Technical	22,300	12.7	332,100	13.1
Administrative and Secretarial	15,000	8.5	272,300	10.7
Skilled Trades	20,800	11.8	293,400	11.5
Caring, Leisure and Other Service	17,900	10.2	239,900	9.4
Sales and Customer Service	16,800	9.6	225,600	8.9
Plant, Process and Machine Operatives	11,700	6.7	162,300	6.4
Elementary	24,900	14.2	291,100	11.4
Total	175,600	100	2,543,800	100

Source: Annual Population Survey October-September

Chapter Summary

The analysis of Fife's population suggests that Fife is in a relatively strong position in terms of responding to future labour market changes.

- It has consistently had net in-migration from other parts of Scotland and beyond.
- Fife's population is expected to continue to grow.
- Fife has the ability to attract some of its net 18,300 out commuters to work in Fife – and many of these will be highly skilled.

- Fife's working age population compares favourably with the wider Scottish population in terms of qualifications held and occupations worked in.

4. FIFE LABOUR MARKET ENTRANTS

Introduction

To be considered alongside Chapter 3, this chapter provides analysis of Fife's labour market entrants in terms of its school leavers, college leavers and Modern Apprentices to assess how well the current and future supply of skills matches labour market demand.

Fife's Schools

Looking first at Fife's schools, Figure 4.1 shows S4 pupil attainment against Scotland as a whole.

- Fife has a higher proportion achieving English and Maths at SCQF Level 3 than the Scottish average.
- However, for the other/higher level indicators, Fife's schools perform below the Scottish average – with the gap widening the higher the attainment level.

Figure 4.1: S4 School Pupil Attainment, 2012-13

	Fife		Scotland	
	Number	%	Number	%
English and Maths at SCQF Level 3	3,669	95.4	51,978	94.7
5 Awards at SCQF Level 3 or above	3,610	93.8	51,932	94.6
5 Awards at SCQF Level 4 or above	3,131	81.4	45,047	82.1
5 Awards at SCQF Level 5 or above	1,348	35.0	21,623	39.4
Total	3,847	100.0	54,895	100.0

Source: Scottish Government Attainment and Leaver Destinations Supplementary Data

On leaving school, 92.4% of Fife's school leavers entered a positive destination in 2013/14, which was marginally above the Scotland rate of 92.3% and a big increase from the 89.7% rate in 2012/13. By destination type, Figure 4.2 shows that Fife had:

- A higher proportion entering FE (35%) than across Scotland (26%).
- A smaller proportion entered employment (16%) than across Scotland (22%).

The only other difference of note is the smaller proportion of Fife school leavers entering higher education.

Figure 4.2: School Leaver Destinations (Initial Destination Figures), 2013/14

	Fife		Scotland	
	Number	%	Number	%
Higher Education	1,343	36.5	20,038	38.6
Further Education	1,272	34.6	13,655	26.3
Training	138	3.8	2,138	4.1
Employment	593	16.1	11,263	21.7
Voluntary Work	4	0.1	229	0.4
Activity Agreements	48	1.3	577	1.1
Unemployed Seeking	221	6.0	3,256	6.3
Unemployed Not Seeking	53	1.4	571	1.1
Unknown	7	0.2	149	0.3
Total	3,679	100.0	51,876	100.0

Source: Skills Development Scotland

Looking in more depth at the HE and FE starters, of the 37% or 1,343 Fife school leavers who entered HE in 2013/14:

- 60% progressed on to an HE institution – and the main universities entered were:
 - University of Edinburgh – 15%.
 - University of Dundee – 12%.
 - Edinburgh Napier University – 10%.
 - University of Aberdeen – 9%.
- 6% started at the University of St Andrews.
- 38% progressed on to an FE college – and the main colleges entered were:
 - Fife College – 85%.
 - Dundee and Angus College – 9%.

Of the 35% or 1,272 Fife school leavers who entered FE in 2013/14, 87% progressed on to Fife College. Indeed, by combining the HE and FE starts at Fife College, 58% of Fife's school leavers who enter HE or FE enrol with Fife College – thereby showing how central Fife College is to developing Fife's future workforce.

Fife College

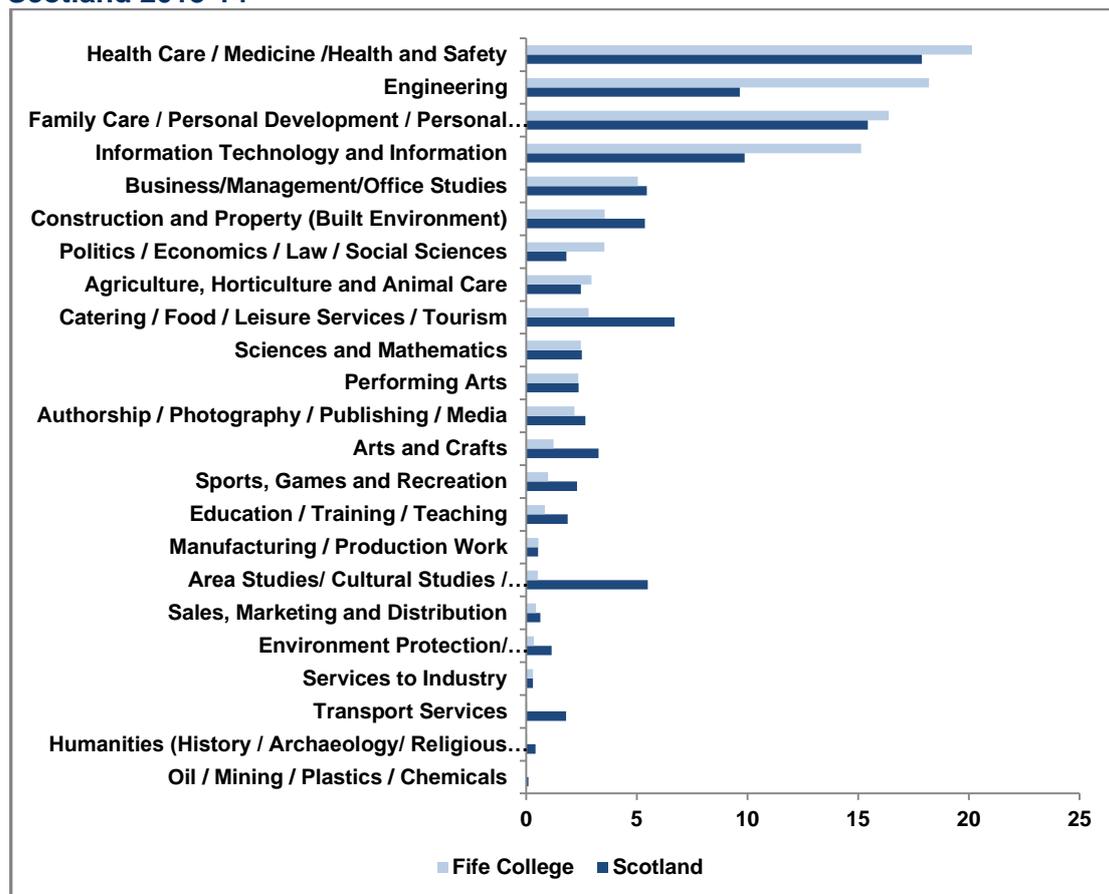
Having outlined the important role played by Fife College, Figure 4.4 shows the SFC-funded enrolments by subject superclass area in the 2013-14 academic year. It shows that the highest numbers of enrolments in Fife College were in:

- Health Care, Medicine, Health and Safety – 5,170 enrolments.
- Engineering – 4,669 enrolments.
- Family Care, Personal Development, Personal Care and Appearance – 4,203 enrolments.
- IT and Information – 3,883 enrolments.

Benchmarking the distribution of enrolments in Fife College against Scotland's colleges as a whole provides an indication of whether Fife College has an appropriate balance in terms of supporting Fife's key sectors. Figure 4.4's snapshot picture of enrolments in 2013/14 (Figure 4.7 later provides change over time data to analyse trends in enrolment numbers), Fife College had proportionately:

- More enrolments in health care/medicine/health and safety; engineering; and IT and information – thereby aligning with the health and care; energy and engineering/manufacturing, and ICT and technology sectors.
- Fewer enrolments in construction and property; catering, food, leisure services and tourism; and area studies, cultural studies, languages and literature – which potentially has implications for the construction and civil engineering, and tourism and hospitality sectors.

Figure 4.4: SFC-Funded Enrolments by Subject Superclass, Fife College and Scotland 2013-14

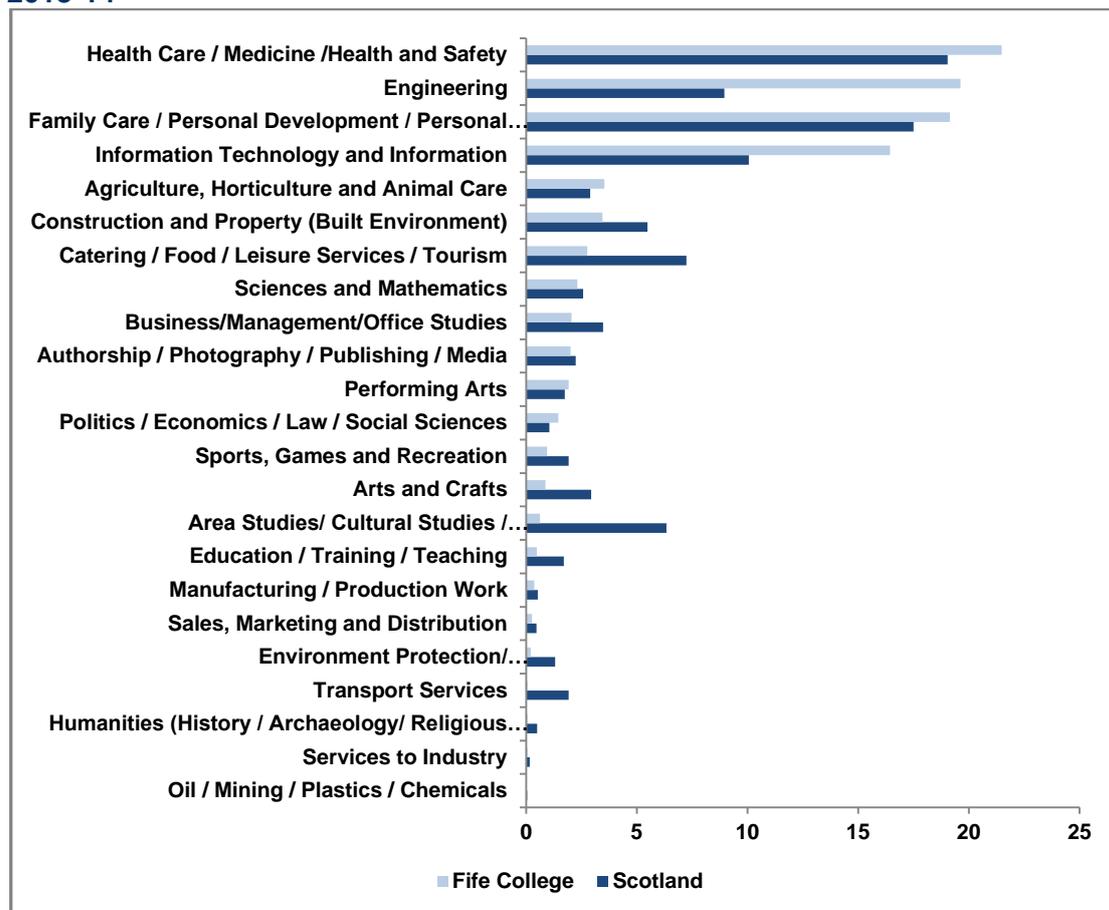


Source: Skills Funding Council Infact Database

Figures 4.5 and 4.6 build on the analysis above by breaking down total enrolments in Figure 4.4 to enrolments in FE courses and HE courses. Beginning with FE enrolments, FE enrolments account for 83% of Fife College's total enrolments, compared with 84% across Scotland's colleges. By subject superclass, Figure 4.5 shows:

- Fife College's four main subject superclasses from Figure 4.4 are again clearly shown and account for 77% of all FE enrolments.
- Compared to all of Scotland's colleges, Fife College has proportionately:
 - More health care/medicine/health and safety; engineering; and IT and information FE enrolments.
 - Fewer construction and property; catering, food, leisure services and tourism; and area studies, cultural studies, languages and literature enrolments.

Figure 4.5: FE Enrolments by Subject Superclass, Fife College and Scotland 2013-14

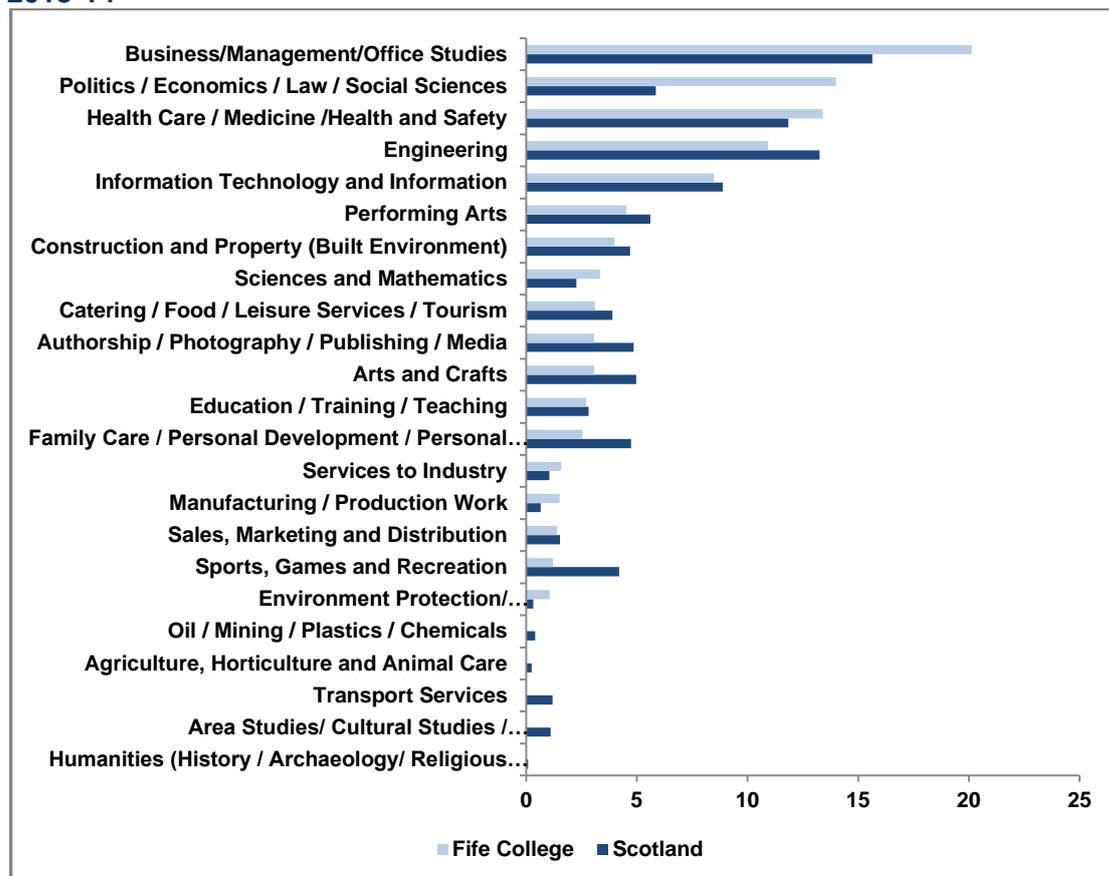


Source: Skills Funding Council Infact Database

In terms of HE enrolments, which account for 17% of Fife College's total enrolments, Figure 4.6 shows:

- Fife College's main HE courses by number of enrolments are in:
 - Business, management and office studies.
 - Politics, economics, law and social sciences.
 - Health care, medicine, and health and safety.
 - Engineering.
 - IT and information.
- Compared to all of Scotland's colleges, Fife College has proportionately:
 - More business, management and office studies; and politics, economics, law and social sciences HE enrolments.
 - Fewer engineering HE enrolments.

Figure 4.6: HE Enrolments by Subject Superclass, Fife College and Scotland 2013-14

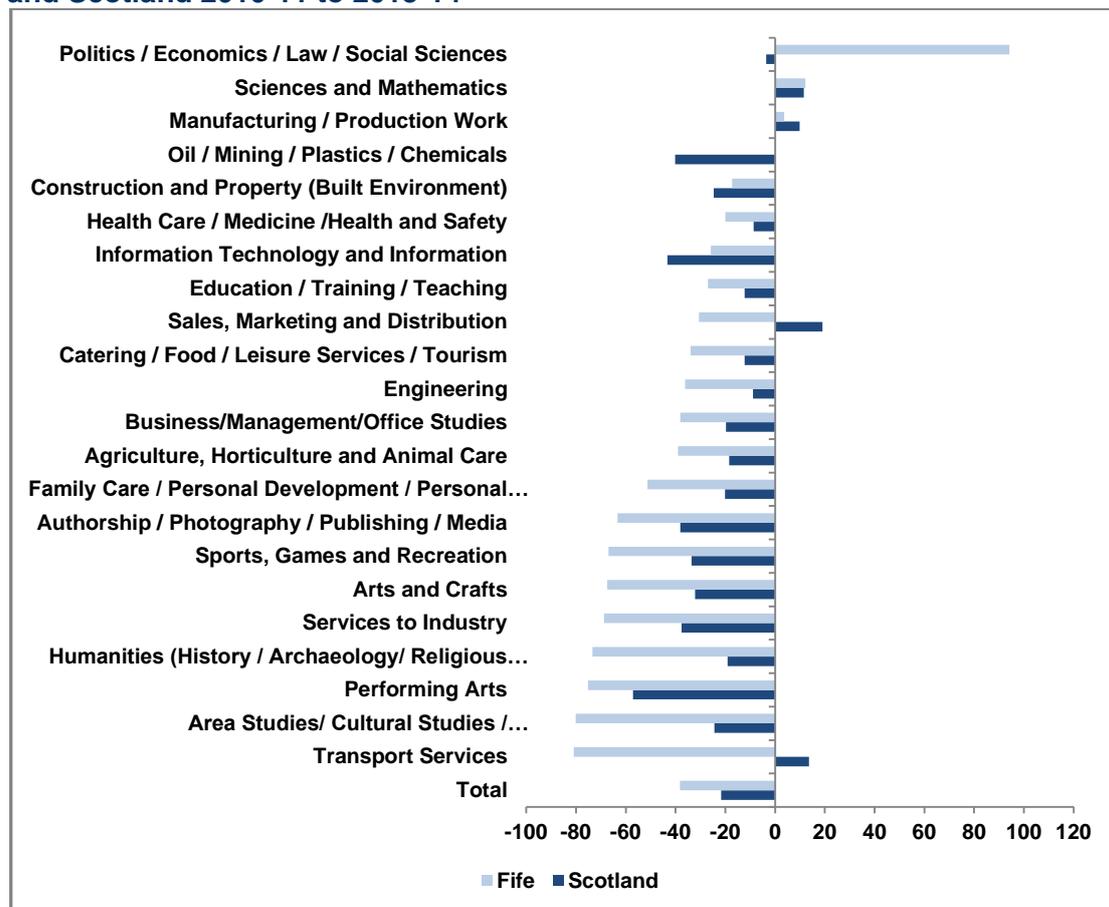


Source: Skills Funding Council Infact Database

The final chart shows how the number of total enrolments has changed from 2010/11 to 2013/14 in Fife College and Scotland's colleges as a whole. This is important to understand as it provides an indication of whether Fife College is increasingly aligning its curriculum to Fife's key sectors. Figure 4.7 charts percentage change and shows:

- Overall, there has been a 38% reduction in the number of total enrolments in Fife College. Across Scotland's colleges the reduction was 22%.
- By subject superclass there have been reductions across almost all categories. The exceptions for Fife College have been social sciences; sciences and mathematics; and manufacturing and production work.
- The subject superclasses where Fife College has seen a proportionately smaller reduction in enrolments than across Scotland (and allowing for the 38% to 22% difference overall) are:
 - Performing arts.
 - IT and information.
 - Construction and property.
- The subject superclasses where Fife College has seen a proportionately greater reduction in enrolments than across Scotland (again allowing for the 39% to 22% difference overall) are:
 - Family care, personal development, personal care and appearance.
 - Engineering.
 - Humanities
 - Area and cultural studies.

Figure 4.7: % Change in Total Enrolments by Subject Superclass, Fife College and Scotland 2010-11 to 2013-14



Source: Skills Funding Council Infact Database

Modern Apprenticeships

Figure 4.8 presents the Modern Apprenticeship data for Fife and Scotland by occupational grouping. It shows that:

- The greatest number of MA starts in Fife were in construction and related; hospitality and tourism; retail and customer services; and transport and logistics. Collectively these accounted for 57% of MA starts in Fife.
- Comparing Fife's 1,945 MA starts to Scotland's 26,175 MA starts in 2013-14, by occupational grouping:
 - Fife had proportionately more MA starts in construction and related; transport and logistics; and energy and engineering.
 - Fife had proportionately fewer MA starts in hospitality and tourism; sport, health and social care; and admin and related.

Figure 4.8: Modern Apprenticeship Starts by Occupational Grouping, 2013/14

	Fife		Scotland	
	Number	% of Starts	Number	% of Starts
Admin and Related	105	5.4	2,245	8.6
Animal Care, Land and Water-Based	10	0.5	520	2.0
Automotive	65	3.3	1,135	4.3
Chemicals and Biotechnology Related	5	0.3	75	0.3
Construction and Related	480	24.7	4,505	17.2
Creative and Cultural Skills	5	0.3	330	1.3
Energy and Engineering	160	8.2	1,880	7.2
Financial Services	45	2.3	495	1.9
Food and Drink	50	2.6	1,085	4.1
Hospitality and Tourism	220	11.3	3,355	12.8
Management	105	5.4	1,090	4.2
Other Manufacture (including ICT professional)	10	0.5	80	0.3
Other Services	30	1.5	670	2.6
Personal Services	75	3.9	1,055	4.0
Retail and Customer Services	220	11.3	3,140	12.0
Sport, Health and Social Care	165	8.5	2,935	11.2
Transport and Logistics	195	10.0	1,580	6.0
Total	1,945	100.0	26,175	100.0

Source: Skills Development Scotland

Figure 4.9 shows how the number of MA starts has changed from 2010-11 to 2013-14. This is again important to understand as it provides an indication of whether MAs in Fife are increasingly aligning to Fife's key sectors. Overall Figure 4.9 shows that there has been an increase of 626 MA starts and by occupational grouping:

- The main increases can be seen in construction and related; transport and logistics; and retail and customer services.
- There have also been decreases and these have mainly been in food and drink; personal services; and automotive.

Figure 4.9: Modern Apprenticeship Starts in Fife by Occupational Grouping, 2010-11 to 2013-14

	2010-11	2013-14	Change
Admin and Related	77	105	+28
Animal Care, Land and Water-Based	8	10	+2
Automotive	82	65	-17
Chemicals and Biotechnology Related	3	5	+2
Construction and Related	157	480	+323
Creative and Cultural Skills	9	5	-4
Energy and Engineering	165	160	-5
Financial Services	11	45	+34
Food and Drink	102	50	-52
Hospitality and Tourism	186	220	+34
Management	102	105	+3
Other Manufacture	0	10	+10
Other Services	9	30	+21
Personal Services	96	75	-21
Retail and Customer Services	174	220	+46
Sport, Health and Social Care	123	165	+42
Transport and Logistics	15	195	+180
Total	1,319	1,945	+626

Source: Skills Development Scotland

Chapter Summary

The analysis of Fife's labour market entrants in terms of its school leavers, college leavers and Modern Apprenticeships indicate that:

- Fife's schools could do better in terms of attainment and in preparing pupils for the transition into employment, further and higher education or training.
- Fife College has a central role to play in developing Fife's future workforce with 57% of Fife's school leavers who enter HE or FE enrolling with Fife College.
- Fife College's curriculum in terms of number of enrolments largely aligns with Fife's key sectors – particularly in engineering. However, there are notably low numbers enrolling in catering, food, leisure services and tourism courses.
- Modern Apprenticeship numbers also align well with Fife's key sectors with construction MAs particularly well represented.

5. FIFE'S KEY SECTORS

Introduction

This chapter looks at the six key sectors identified as most important to Fife's economy in Chapter 1 – namely:

- Construction and civil engineering.
- Energy and engineering/manufacturing.
- Food and drink.
- Health and care.
- ICT and technology.
- Tourism and hospitality.

For each sector, a standardised profile has been produced that brings together key labour market information from published statistics and research reports (e.g. by Sector Skills Councils), along with consultations with Fife employers in these sectors. The profiles are then followed by a Fife workforce planning matrix that attempts to present the occupations in demand by key sector.

To set the context to the Fife analysis, the chapter begins by setting out the 40 top jobs across 10 different sectors that UKCES analysis² of the UK job market suggests will be crucial over the next decade. These are seen as strategically important jobs and range from those with high expected job openings between 2012 and 2022 and others which have fewer job openings but are vital to the UK economy.

The national picture is important to understand as it will influence the demand for labour in Fife – particularly as many of the 40 occupations listed fall within Fife's sectors. For example, Figure 5.1 below shows that across the UK there are projected to be between 2012 and 2022:

- **Construction and civil engineering.**
 - 94,000 job openings for carpenters and joiners.
 - 73,000 job openings for plumbers and heating and ventilating engineers.
 - 45,000 job openings for chartered surveyors.
 - 41,000 job openings for construction project managers.
 - 36,000 job openings for architects.
- **Energy and engineering/manufacturing.**
 - 70,000 job openings for electricians and electrical fitters.
 - 50,000 job openings for mechanical engineers.
 - 50,000 job openings for metal working production and maintenance fitters.
- **Food and drink.**
 - 66,000 job openings for farmers
- **Health and care.**
 - 530,000 job openings for care workers and home carers.
 - 427,000 job openings for nurses.
 - 228,000 job openings for nursing auxiliaries and assistants.
 - 172,000 job openings for doctors.
- **ICT and technology.**
 - 146,000 job openings for programmers and software developers.
 - 111,000 job openings for IT specialist managers.
 - 60,000 job openings for IT business analysts, architects and systems designers.
 - 38,000 job openings for IT project and programme managers.

² UKCES (2014) Careers of the Future.

- 37,000 job openings for web designers and developers.

Figure 5.1: UKCES Top 40 Jobs in UK Economy in 2012-2022

Agriculture <ul style="list-style-type: none"> • Farmers – 66,000 job openings
Business and Finance <ul style="list-style-type: none"> • Sales account and business development managers – 241,000 job openings • Business and financial project managers – 137,000 job openings • Finance and investment analysts and advisers – 104,000 job openings • Chartered and certified accountants – 140,000 job openings • Management consultants and business analysts – 110,000 job openings
Construction <ul style="list-style-type: none"> • Carpenters and joiners – 94,000 job openings • Architects – 36,000 job openings • Construction project managers – 41,000 job openings • Plumbers and heating and ventilating engineers – 73,000 job openings • Chartered surveyors – 45,000 job openings
Education <ul style="list-style-type: none"> • Secondary education teachers – 228,000 job openings • Teaching assistants – 265,000 job openings • Primary and nursery education teachers – 222,000 job openings • Senior education professionals – 56,000 job openings
Health and Care <ul style="list-style-type: none"> • Doctors – 172,000 job openings • Nurses – 427,000 job openings • Nursing auxiliaries and assistants – 228,000 job openings • Care workers and home carers – 530,000 job openings • Dentists – 27,000 job openings
Information Technology <ul style="list-style-type: none"> • Programmers and software developers – 146,000 job openings • IT specialist managers – 111,000 job openings • IT business analysts, architects and systems designers – 60,000 job openings • IT project and programme managers – 38,000 job openings • Web designers and developers – 37,000 job openings
Manufacturing, Installation and Maintenance <ul style="list-style-type: none"> • Electricians and electrical fitters – 70,000 job openings • Metal working production and maintenance fitters – 50,000 job openings • Pipe fitters – 3,000 job openings • Aircraft maintenance and related trades – 8,000 job openings • Telecommunications engineers – 16,000 job openings
Protective Services <ul style="list-style-type: none"> • Police officers – 31,000 job openings
Science, Engineering and Technology <ul style="list-style-type: none"> • Mechanical engineers – 50,000 job openings • Research and development managers – 22,000 job openings • Physical scientists – 13,000 job openings • Design and development engineers – 40,000 job openings • Biological scientists and biochemists – 46,000 job openings
Transport and Logistics <ul style="list-style-type: none"> • Aircraft pilots – 10,000 job openings • Large goods vehicle drivers – 136,000 job openings • Ship officers – 9,000 job openings • Train and tram drivers – 12,000 job openings

Source: UKCES (2014) Careers of the Future.

CONSTRUCTION AND CIVIL ENGINEERING	
Jobs in Fife	<ul style="list-style-type: none"> In 2013, c.7,000 jobs in Fife = 6% of all jobs Between 2009-2013, Fife jobs increased by 6%
Projections	<ul style="list-style-type: none"> 0.6% or 1,310 jobs employment growth across Scotland in 2014-2019³ Equates to c.70 additional jobs and annual recruitment requirement of c.310 jobs in Fife
Fife Entrants	<ul style="list-style-type: none"> 4% Fife College enrolments versus 5% across Scotland's colleges 480 Construction and Related MA starts (2013-14)
Evidence from National Studies	<ul style="list-style-type: none"> Extremely competitive business environment – with clients also more demanding in terms of a more professional, 'end to end' service⁴ Largely male workforce accounting for 87% of the Scottish workforce⁵ Employers in Scotland are more likely than the UK average to have reported an increase in the number of staff employed in last 12 months (at 29% of employers)⁶ Most frequent recruitment difficulties across UK reported as being for labourers and general operatives; wood trades; and other skilled trades. At the professional services level, difficulties are greatest for civil engineers and 'other engineers'⁷ In Scotland, seen to be an increasing demand for professional occupations (e.g. managerial, business marketing) and management skills (e.g. planning, business development, HR, financial management)⁸ Also seen to be a deficit in skills in information and communications technology (ICT), particularly in the case of sole traders/micro businesses that are yet to digitise their operations⁹ By size of operation across UK, smaller businesses more likely to face difficulties recruiting at semi-skilled or craft level (e.g. plasterers, cladding installers, bricklayers and joiners/carpenters). Larger businesses face greater difficulties attracting technical and professional staff (e.g. project managers, engineers, and designers)¹⁰ Main skills gaps amongst existing staff across UK are reported as personal skills; experience/knowledge; job specific/trade skills; and IT skills. Looking forward to next 12 months, main skills areas for improving or updating are technical/trade specific skills; health and safety; understanding of legislation and regulations¹¹ Between 2014 and 2019 in Scotland, employment growth forecast to be strongest for construction project managers (9% increase), civil engineers (8% increase), plant operatives (7% increase), surveyors (7% increase), and scaffolders (5% increase)¹² In terms of employment decreases, these are projected to be in plumbing and HVAC trades (12% decrease), plasterers (8% decrease), painters and decorators (5% decrease), and electrical trades and installation (4% decrease)¹³ Accounting for workforce churn, projected demand is greatest for non-construction professional, technical, IT and other office-based staff; painters and decorators; labourers; and civil engineers¹⁴

³ CITB (2015) *Industry Insights: Construction Skills Network Scotland 2015-2019*

⁴ CITB (2014) *Skills and Training in the Construction Industry 2014*

⁵ SDS (2015) *Skills Investment Plan for Scotland's Construction Sector*

⁶ CITB (2014) *Skills and Training in the Construction Industry 2014*

⁷ CITB (2014) *Skills and Training in the Construction Industry 2014*

⁸ SDS (2015) *Skills Investment Plan for Scotland's Construction Sector*

⁹ SDS (2015) *Skills Investment Plan for Scotland's Construction Sector*

¹⁰ CITB (2014) *Skills and Training in the Construction Industry 2014*

¹¹ CITB (2014) *Skills and Training in the Construction Industry 2014*

¹² CITB (2015) *Industry Insights: Construction Skills Network Scotland 2015-2019*

¹³ CITB (2015) *Industry Insights: Construction Skills Network Scotland 2015-2019*

¹⁴ CITB (2015) *Industry Insights: Construction Skills Network Scotland 2015-2019*

Fife Employer Survey	<ul style="list-style-type: none"> • Limited construction responses but hard to fill vacancies in project managers and draughtspeople • Uncertainty on future business prospects but likely to remain stable • Vacancies expected for managers (including project managers), skilled tradesmen, semi-skilled construction workers and trainees
Stakeholder Views	<ul style="list-style-type: none"> • Some jobs growth expected in Fife with new Queensferry Crossing and expected upturn in housing construction sector. May also be opportunities around construction of new residential care homes • Fife seen to have good number of established construction firms which can serve a wide market place • Shortages in skilled tradesmen – partly due to tradesman leaving construction during the downturn and not returning to the sector • Important not to overlook the off-site jobs that range from HR, accountancy and IT that construction businesses need
Action Required	<ul style="list-style-type: none"> • Maintain construction MA numbers • Increase college enrolments if construction industry picks up as projected • Employability providers to help re-engage unemployed skilled tradesmen • Develop mechanisms for skills providers to consult with Fife's construction employers on regular basis following the end of the Fife Construction Forum

ENERGY AND ENGINEERING/ MANUFACTURING	
Jobs in Fife	<ul style="list-style-type: none"> • In 2013, c.17,700 jobs in Fife = 14% of all jobs • Between 2009-2013, Fife jobs increased by 3%
Projections	<ul style="list-style-type: none"> • At UK level, Working Futures 2012-2022 projections find that UK will need 1.82 million people with engineering skills. This includes 107,000 per year at Level 4+ (but shortfall of 25,000 per year) and 56,000 per year at Level 3 (but shortfall of 30,000 per year)¹⁵ • O’Herlihy & Co’s Scotland employer survey¹⁶ finds that employment in renewables could increase by 20% in next 12 months • Demand greatest for professionals (i.e. skilled engineers), managerial and associate professional/technical roles – i.e. SVQ Level 3 and above
Fife Entrants	<ul style="list-style-type: none"> • 18% Fife College enrolments versus 10% across Scotland’s colleges • 160 Energy and Engineering MA starts (2013-14)
Evidence from National Studies	<ul style="list-style-type: none"> • 79% of workforce is male and this increases to 91% in technical roles (e.g. engineers, scientists and technologists)¹⁷ • Higher age profile distribution than wider economy. 12% of workforce is aged over 60 (average is 10%); and 6% are aged 16-24 (average 10%)¹⁸ • Cogent employers report highest recruitment demand is for operators and craft personnel; and technicians. Skills needs are greatest in ‘leadership and management’, ‘competence based’ skills’, and technical skills¹⁹ • Recruitment difficulties reported for technically skilled staff including those with engineering, manufacturing, ICT and physics expertise, technicians and science assessors, and more recently, mathematics²⁰ • Highly skilled and qualified engineers continue to remain in high demand. Design, Quality and Project Engineers are among the most sought after roles for both permanent and contract markets²¹ • Wider challenge of updating the knowledge and skills of staff due to lack of time and resources in engaging employers and fast pace of technologies²² • In Scotland, skills shortages are reported for: project engineers; design engineers; IT specialists; technicians; welders; composite engineers; CNC machinists; fabricators and for specialist/niche positions (e.g. combustion engineering)²³

¹⁵ Engineering UK (2015) *Engineering UK 2015 The State of Engineering*

¹⁶ O’Herlihy & Co Ltd (2013) *Employment in Renewable Energy in Scotland 2013*

¹⁷ SEMTA (2014) *Summary Analysis of SEMTA’s Footprint*

¹⁸ SEMTA (2014) *Summary Analysis of SEMTA’s Footprint*

¹⁹ Cogent (2013) *2013 Skills Oracle Bulletin Report for the Cogent Sector*

²⁰ Engineering UK (2015) *Engineering UK 2015 The State of Engineering*

²¹ Engineering UK (2015) *Engineering UK 2015 The State of Engineering*

²² Engineering UK (2015) *Engineering UK 2015 The State of Engineering*

²³ SDS (2014) *Skills Investment Plan for Scotland’s Engineering and Advanced Manufacturing Sector*

Fife Employer Survey	<ul style="list-style-type: none"> • Hard to fill vacancies in wide range of occupations: engineers (electrical, equipment, facilities, industrial, instrumentation, process, product development, production, project, quality, structural integrity, survivability); logistics manager and supervisor; managers, team leaders and supervisors; engineering analysts; chemists; CAD draughtsmen; quality inspectors and technicians; planners; schedulers; CNC machine operators and setters; technicians; slingers; welders; and turners • Employers project future jobs growth with vacancies expected in: engineers (acoustics; application development; civil/structural; electrical and electrical design; maintenance; mechanical; planning; process; production; project; proposals; quality; structural integrity; survivability); managers (account; engineering; implementation; manufacturing; production; project; and workshop); planners; buyers, inventory analyst; administration; marketing; sales and buyers; safety advisor; technicians (maintenance; mechanical; quality); supervisors and team leaders; CNC machinists, programmers and setters; blaster; fabricators; furnaceman; grinder; millers; platers; pipe fitters; turners; welders; and apprentices (including electrical technician, engineer, instrument technician, mechanical technician, and equipment engineer)
Stakeholder Views	<ul style="list-style-type: none"> • National shortages reported at all levels – experienced, technical staff in particular – and this is impacting on Fife. This is reinforced by increasing competition for labour from NE Scotland • Some employers having to recruit from abroad to fill skilled/technical positions – e.g. welders and fabricators • Some employers recruiting from global marketplace to fill high skilled/niche engineers • Ageing workforce not currently an issue but likely to grow in importance • Need to maintain work with schools to build STEM skills and attract new entrants. Difficulties reported attracting new entrants to electronics manufacturing sector • Fabrication and engineering sector now requires workers to be certified to EN1090 (i.e. CE marked). This has meant more rigorous inspections of workmanship and more documentation. Skills providers need to be aware of this and inform their learners/students • Challenging for Fife College to keep up to date with new technologies and recruit lecturers
Action Required	<ul style="list-style-type: none"> • Requires continued investment in engineering and related subject areas • Significant increase in MAs • Pathways in place to upskill existing workforce to higher skilled positions • Continue to develop links between industry and education to raise awareness of and interest in sector, while also ensuring future supply of hand and technical skills

FOOD AND DRINK	
Jobs in Fife	<ul style="list-style-type: none"> In 2013, c.2,100 jobs in Fife = 2% of all jobs – but likely to be higher as does not include agricultural employment Between 2009-2013, Fife jobs increased by 6%
Projections	<ul style="list-style-type: none"> No sectoral projections available
Fife Entrants	<ul style="list-style-type: none"> 3% Fife College enrolments in agriculture, horticulture and animal care versus 2% across Scotland's colleges Also 3% Fife College enrolments in catering, food, leisure and tourism versus 6% across Scotland's colleges 50 Food and Drink MA starts (2013-14)
Evidence from National Studies	<ul style="list-style-type: none"> The Skills Investment Plan for Scotland's Food and Drinks Sector²⁴ (SDS, 2013) finds that the characteristics of the food and drink workforce are: an ageing workforce; employment is concentrated in relatively lower skilled occupations; low levels of qualifications. Agricultural and fishing employers are more likely to experience hard-to-fill vacancies and skills gaps Food and drink manufacturers more likely to report a skills gap – which are most evident in machine operative and elementary staff The strategic skills priorities for the food and drink sector in Scotland are²⁵: raising the attractiveness of the sector to new entrants and retaining talent; supporting company capacity to innovate; driving leadership and management excellence in the sector; and supporting the development of skills for growth in the workplace
Fife Employer Survey	<ul style="list-style-type: none"> In food and drink manufacture, hard to fill vacancies in account manager, operatives, engineers (e.g. electrical), engineering team leaders, and production managers, supervisors and team leaders Some growth expected with opportunities for production and account managers, engineers (mechanical and electrical), engineering team leaders, finance team, supply chain and logistics, food production line operatives, quality control, and warehousing
Stakeholder Views	<ul style="list-style-type: none"> Food and drink sector in Fife very diverse ranging from large manufacturers to small artisan producers; and from agriculture and fishing businesses to tourism, hospitality and retail operations – i.e. there are overlaps with the Tourism and Hospitality sector Food and drink manufacture important in Fife with large employers to small, micro businesses Attractiveness of the sector can be an issue In some skilled occupations (e.g. farmers and butchers), the ageing of the workforce is presenting some problems In agriculture, mainly seasonal work. Examples of hard-to-fill vacancies in North and East Fife, with migrant labour employed
Action Required	<ul style="list-style-type: none"> Raise awareness of diversity of opportunities in food and drink sector Ensure flow of engineers into food and drink manufacturing For lower-skilled positions (e.g. food production line operatives), need core skills along with food hygiene and basic machinery skills

²⁴ SDS (2013) *Skills Investment Plan for Scotland's Food and Drink Sector*

²⁵ SDS (2013) *Skills Investment Plan for Scotland's Food and Drink Sector*

HEALTH AND CARE SECTOR	
Jobs in Fife	<ul style="list-style-type: none"> In 2013, c.22,600 jobs in Fife = 18% of all jobs By sub-sector, this is made up of 10,700 human health activities jobs (e.g. NHS Fife), 7,400 social work without accommodation jobs, and 4,500 residential care jobs Between 2009-2013, Fife jobs increased by 8% As of December 2014, NHS Fife employed 8,780 staff. From December 2013, there was an increase of 147 staff or 2%²⁶
Projections	<ul style="list-style-type: none"> No sectoral projections available
Fife Entrants	<ul style="list-style-type: none"> 20% Fife College enrolments versus 18% across Scotland's colleges 165 Health and Social Care MA starts (2013-14)
Evidence from National Studies	<ul style="list-style-type: none"> Skills for Health find that few health employers are reporting hard-to-fill vacancies and not viewed as an issue for the sector²⁷ 14% of employers report a skills gap. Main skills gaps in planning and organising, problem solving and customer handling skills Skills and employment priorities facing health sector employers include²⁸ <ul style="list-style-type: none"> Reducing sector's reliance on non-EU migration Continuing focus on employability and functional skills Development of roles at NHS Career Framework Levels 3-4 (e.g. Assistant Practitioner roles) and Level 7 (e.g. Advanced Practitioner roles) Dealing with the impact on ICT on roles and skills Development of management and leadership Skills development in small and medium sized healthcare providers
Fife Employer Survey	<ul style="list-style-type: none"> NHS Fife report that aside from certain medical specialities, no particular posts in NHS Fife considered to be hard to fill²⁹ Staff turnover levels have been steady and were at 8.0% in NHS Fife in 2012/13³⁰ 38% of NHS Fife workforce aged 50 or above – mainly in support services (52% of workforce) and admin roles (42% of workforce)³¹ 84% of NHS Fife workforce is female³²
Stakeholder Views	<ul style="list-style-type: none"> In care sector: <ul style="list-style-type: none"> Examples of hard-to-fill vacancies due to attractiveness of sector Issue of ensuring care workforce qualified to SVQ Level 2 Also travel to work difficulties due to location of residential care homes and shift patterns.
Action Required	<ul style="list-style-type: none"> Maintain health and social care MAs and college provision Build relationship with NHS Fife to help support workforce planning process Gain stronger understanding of residential care sector within Fife and its employment and skills demands

²⁶ NHS (2015) *NHSScotland Workforce Statistics*

²⁷ Skills for Health (2011) *Scottish Skills and Labour Market Intelligence Assessment 2011*

²⁸ Skills for Health (2011) *Scottish Skills and Labour Market Intelligence Assessment 2011*

²⁹ NHS Fife (2012) *Workforce Modernisation and Development Strategic Plan 2012/13*

³⁰ NHS Fife (2012) *Workforce Modernisation and Development Strategic Plan 2012/13*

³¹ NHS (2015) *NHSScotland Workforce Statistics*

³² NHS (2015) *NHSScotland Workforce Statistics*

ICT AND TECHNOLOGY	
Jobs in Fife	<ul style="list-style-type: none"> In 2013, c.3,900 jobs in Fife = 3% of all jobs. However, this does not reflect the number of jobs in other sectors that rely to varying degrees on good quality ICT skills Between 2009-2013, Fife jobs decreased by 22%
Projections	<ul style="list-style-type: none"> 15% employment growth across Scotland in 2011-2020³³ Equates to c.600 additional jobs in 2011-2020 and c.600 annual replacement demand in Fife
Fife Entrants	<ul style="list-style-type: none"> Excluding 'IT: Computer Use', 4% Fife College enrolments versus 5% across Scotland's colleges 20 ICT MA starts (2013-14)
Evidence from National Studies	<ul style="list-style-type: none"> 78% of tech sector workers are male; 91% work full-time; and 63% have Degree/HE qualifications³⁴ Main areas of UK employment growth in the tech sector between 2009 and 2013 have been in IT consultancy (+59,000 jobs) and IT programming (+53,000 jobs)³⁵ Big Data projected to be significant growth area and already 77% of employers are reporting recruitment difficulties. 86% increase in Big Data jobs in Scotland between 2012 and 2013. Across UK, projected 160% increase in Big Data jobs between 2013 and 2020. Main skills sought for a Big Data analyst are data and technical skills; maths and statistics knowledge; subject-matter expertise; problem solving; collaboration; story telling; curiosity; communication and creativity³⁶ Other emerging trends are cloud computing; green IT; social and mobile computing; smart computing, security/data protection³⁷ E-skills UK (now the Tech Partnership) find that 14% of IT & Telecoms employers across the UK reported hard-to-fill vacancies³⁸ Technical skills most often sought by employers (in order of demand volume) were: SQL, .NET, Java, C#, SQL Server, Oracle, ASP, JavaScript, Unix and Linux³⁹ Skills shortages at professional level – e.g. programmers/software developers; web design/development professionals⁴⁰ Job-related technical skills most commonly cited by employers as hard to find amongst applicants were: .NET, ASP.NET, Dynamics, SharePoint, Visual Basic/Visual Studio, C# with PHP and VMWare⁴¹ Amongst existing Scottish workforce, main skills gaps were: sales/related, interpersonal and business/related skills; Microsoft (particularly ASP.NET, C and .NET), PHP and Linux skills⁴²
Fife Employer Survey	<ul style="list-style-type: none"> Limited ICT responses but hard to fill vacancies in software developers, test engineers and managers Growth expected and in next 12 months vacancies for software developers, project managers, managed services support engineers, test engineers, directors

³³ E-Skills (2012) *Technology Insights 2012 - Scotland*

³⁴ The Tech Partnership (2015) *Tech Insights: The Digital Economy*

³⁵ The Tech Partnership (2015) *Tech Insights: The Digital Economy*

³⁶ The Tech Partnership / SAS (2014) *Big Data Analytics: Assessment of Demand for Labour and Skills 2013-2020*

³⁷ E-Skills (2012) *Technology Insights 2012 - Scotland*

³⁸ E-Skills (2012) *Technology Insights 2012 - Scotland*

³⁹ E-Skills (2012) *Technology Insights 2012 - Scotland*

⁴⁰ E-Skills (2012) *Technology Insights 2012 - Scotland*

⁴¹ E-Skills (2012) *Technology Insights 2012 - Scotland*

⁴² E-Skills (2012) *Technology Insights 2012 - Scotland*

Stakeholder Views	<ul style="list-style-type: none">• National shortage in IT and software skills made worse in Fife due to demand from Edinburgh and Dundee – e.g. from financial sector• Demand expected to increase – and skills needed across all sectors• Challenging for lecturers to keep up to date with new technologies and software
Action Required	<ul style="list-style-type: none">• Increase Fife College places to help train future programme/software designers• Ensure college provision responds to future ICT trends – including demand for Big Data analysts• Consider whether Fife should aim to become ‘Centre of Excellence’ for ICT and software skills

TOURISM AND HOSPITALITY	
Jobs in Fife	<ul style="list-style-type: none"> In 2013, c.12,100 jobs in Fife = 10% of all jobs Between 2009-2013, Fife jobs decreased by 8%
Projections	<ul style="list-style-type: none"> 8% employment growth across Scotland in 2013-2020⁴³ Equates to c.1,000 additional jobs and 3,600 replacement demand jobs in Fife
Fife Entrants	<ul style="list-style-type: none"> 3% Fife College enrolments versus 6% across Scotland's colleges 220 Tourism and Hospitality MA starts (2013-14)
Evidence from National Studies	<ul style="list-style-type: none"> Scotland's tourism and hospitality jobs are mainly in kitchen and catering assistants (26% of jobs), bar staff (15%), waiting staff (14%), chefs (11%) and restaurant/catering managers (6%)⁴⁴ Other characteristics are: 48% of jobs are part-time; sector has a young workforce with 46% aged under 30; 14% of sector's workforce born overseas, compared with 8% across Scotland's total workforce⁴⁵ The sector has high labour turnover at 17%⁴⁶ 18% of Scotland's employers have a vacancy; 8% hard-to-fill vacancies⁴⁷ 26% of employers report a skills gap. Main skills lacking were planning and organisation, customer handling, and problem solving skills⁴⁸ Main skills that employers report they will need in the future are customer service skills (88% of employers), management and leadership (69%), sustainability (58%), effective use of social media in a business environment (48%) and e-marketing skills (42%)⁴⁹ The Skills Investment Plan for the Tourism Sector⁵⁰ states that the priorities are: improving management, leadership and enterprise in the sector; ensuring staff have the skills to deliver high quality customer experience; raising the attractiveness of the sector to new entrants; and ensuring appropriate and high quality training is available
Fife Employer Survey	<ul style="list-style-type: none"> Main hard to fill vacancies are managerial and supervisory role and chefs Other hard to fill vacancies reported were – accounts assistant, waiting staff, greenkeepers, (golf) players' assistants, housekeeping staff (with good English language skills), reception staff, retail staff Many are seasonal vacancies Looking forward, expect stability in next 12 months followed by growth Expected vacancies in next 12 months – chefs, managers, team leaders, retail assistants, food service/catering assistants, maintenance staff, and seasonal positions (e.g. waiting staff, greenkeepers and players' assistants)

⁴³ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁴⁴ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁴⁵ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁴⁶ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁴⁷ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁴⁸ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁴⁹ People 1st (2013) *State of the Nation Report 2013 – Scotland*

⁵⁰ SDS (2013) *Skills Investment Plan for the Tourism Sector*

Stakeholder Views	<ul style="list-style-type: none"> • Fife's tourism businesses are facing some recruitment and retention difficulties (as outlined below), but these have not yet reached crisis point and businesses have largely been able to fill posts, though chefs, supervisory and managerial posts are harder to fill. Migrant labour provides a valuable safety net for some businesses, while businesses in East Fife seen to have greatest difficulties • Difficulties reported include: <ul style="list-style-type: none"> • Tourism sector not being seen as attractive due to perceived poor levels of pay, long/ unsociable hours, and poor career prospects. These perceptions are found amongst young people and their influencers (e.g. teachers and parents) • Young people (who are a key workforce pool for the sector) are often not work ready in terms of having proficient core skills, such as time keeping, reliability, and motivation to work • Beyond the young workforce, tourism is not seen as a career of choice. Recruitment is more difficult when economy and other sectors are performing well and recruiting; but is less difficult when there are redundancies in other sectors • Travel to work and cost of living for workforce difficulties as main tourism employment found in East Fife and away from Fife's main population centres • Looking forward, the sector has real potential for growth in Fife – and is likely to benefit from Dundee's (future) emergence as a major tourist destination following the opening of the V&A. For example, tourists may visit Fife as they travel between Edinburgh and Dundee • The challenge comes in how to ensure Fife has the labour supply to meet future growth – particularly if some of Fife's existing and future tourism workforce is attracted to Dundee to work • Scope to upskill existing workforce to provide higher standard of service
Action Required	<ul style="list-style-type: none"> • Fife skills partners to work more closely with Dundee partners to understand and plan for future demands for tourism workforce • Build awareness of tourism sector and its career opportunities within schools and with young people's influencers. This in turn will hopefully attract more enrolments onto Fife College (and Dundee and Angus College) catering, food, leisure services and tourism courses • Develop skills pathways to enable tourism workforce to progress into higher skilled jobs in sector (e.g. supervisory, managerial and chef positions). This will support workforce retention ambitions • Align employability activities to help meet lower skilled tourism vacancies

Chapter 5 concludes with a summary of the occupations in demand by key sector as evidenced by labour market projections, national studies, the Fife employer survey and stakeholder views. This has been presented as a Fife workforce planning matrix.

Figure 5.2: Fife Workforce Planning Matrix

	Managerial	Professional	Skilled / Technical	Semi-Skilled	Unskilled
Construction and Civil Engineering	<ul style="list-style-type: none"> Project managers 	<ul style="list-style-type: none"> Office-based professional, technical and IT staff 	<ul style="list-style-type: none"> Skilled tradesmen – painters and decorators Welders 		<ul style="list-style-type: none"> Trainees
Energy and Engineering / Manufacturing	<ul style="list-style-type: none"> Managers (account; engineering; implementation; manufacturing; production; project; and workshop) 	<ul style="list-style-type: none"> Engineers (electrical, equipment, facilities, industrial, instrumentation, process, product development, production, project, quality) Planners/schedulers 	<ul style="list-style-type: none"> Team leaders and supervisors Technicians (maintenance; mechanical; quality) 	<ul style="list-style-type: none"> CNC operatives and setters Turners Welders 	
Food and Drink	<ul style="list-style-type: none"> Production managers 	<ul style="list-style-type: none"> Mechanical engineers Electrical engineers 	<ul style="list-style-type: none"> Production team leaders and supervisors Quality control 	<ul style="list-style-type: none"> Machine operatives 	
Health and Care		<ul style="list-style-type: none"> Doctors 	<ul style="list-style-type: none"> Nurses and midwives 		<ul style="list-style-type: none"> Care assistants
ICT and Technology	<ul style="list-style-type: none"> Project managers 	<ul style="list-style-type: none"> Software developers Test engineers Big Data analysts 			
Tourism and Hospitality	<ul style="list-style-type: none"> Hotel/restaurant managers and supervisors 		<ul style="list-style-type: none"> Chefs 	<ul style="list-style-type: none"> Greenkeepers 	<ul style="list-style-type: none"> Waiting staff Housekeeping
LEGEND	HIGH PRIORITY – SIGNIFICANT SKILLS ISSUE		MEDIUM PRIORITY – EMERGING SKILLS ISSUE	LOW PRIORITY – NO APPARENT SKILLS ISSUE	

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The research has drawn on a wide range of available labour market sources to update the Fife workforce planning model which was first developed in 2014. In doing so, it has underlined the importance for the Fife economy of meeting the skills needs of six key sectors, maintaining and/or increasing uptake in FE and Modern Apprenticeship subject areas that align with these key sectors, and supporting employers in trying to recruit for current and future hard-to-fill vacancies.

The update has found that, and not discounting the potential impact that the Tullis Russell redundancies announced in April 2015 may have on the Fife labour market, little has substantively changed in the last 12 months. The 'actions required' by sector outlined in Figure 6.1 below therefore largely remain unchanged from the 2014 report.

Figure 6.1: Summary of Actions Required by Sector

	Recommended Actions
Construction and civil engineering	<ul style="list-style-type: none"> • Maintain construction MA numbers • Increase college enrolments if construction industry picks up as projected • Employability providers to help re-engage unemployed skilled tradesmen • Develop mechanisms for skills providers to consult with Fife's construction employers on regular basis following the end of the Fife Construction Forum
Energy and engineering/ manufacturing	<ul style="list-style-type: none"> • Sector requires continued investment in engineering and related subject areas • Significant increase in engineering MAs needed to meet future demands • Pathways should be established to upskill existing workforce to higher skilled positions • Continue to develop links between industry and education to raise awareness of and interest in sector, while also ensuring future supply of hand and technical skills
Food and drink	<ul style="list-style-type: none"> • Raise awareness of diversity of opportunities in food and drink sector • Ensure flow of engineers into food and drink manufacturing • For lower-skilled positions (e.g. food production line operatives), need core skills along with food hygiene and basic machinery skills
Health and care	<ul style="list-style-type: none"> • Maintain health and social care MAs and college provision • Build relationship with NHS Fife to help support workforce planning process • Gain stronger understanding of residential care sector within Fife and its employment and skills demands
ICT and technology	<ul style="list-style-type: none"> • Increase Fife College places to help train future programme/software designers • Ensure college provision responds to future ICT trends – including demand for Big Data analysts • Consider whether Fife should aim to become 'Centre of Excellence' for ICT and software skills

Tourism and hospitality	<ul style="list-style-type: none"> • Fife skills partners to work more closely with Dundee partners to understand and plan for future demands for tourism workforce • Build awareness of tourism sector and its career opportunities within schools and with young people's influencers. This in turn will hopefully attract more enrolments onto Fife College (and Dundee and Angus College) catering, food, leisure services and tourism courses • Develop skills pathways to enable tourism workforce to progress into higher skilled jobs in sector (e.g. supervisory, managerial and chef positions). This will support workforce retention ambitions • Align employability activities to help meet lower skilled tourism vacancies
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Despite the limited changes over the 12 month period, workforce planning exercises that provide meaningful and up-to-date labour market intelligence remains very important – particularly in relation to skills planning; careers information, advice and guidance; and in responding to redundancies. In Fife, the question is now how to build on this existing approach and generate a greater level of labour market intelligence. There are **two key issues** for consideration here.

1. Employer Engagement

To engage with employers, the 2014 research took the approach of an e-survey of Fife employers supported by one-to-one interviews with a selection of large employers. While the interviews worked well, there was disappointment that only 50 employers responded to the survey. This year, the intention was to hold sectoral focus groups but arranging these in such a way as to guarantee strong employer representation proved difficult. In short, both the e-survey and focus group approach do not appear to be effective mechanisms in the longer-term.

An alternative approach should be tested and our proposal is that Fife public sector partners build on the number of different interfaces where employers are asked about or communicate their employment and skills needs (e.g. employer groupings, one-to-one employer relationships and business-education activities). A significant amount of recruitment, skills and training intelligence can be gained from Fife's employers through these routes, but it is not being formally collated and then shared across partners. Instead partner agencies (e.g. Fife Council, Scottish Enterprise, SDS and Business Gateway providers) should be looking to maximise this intelligence by signing up to a standardised process of recording and sharing employers' recruitment, training and skills issues.

2. Aligning with the Regional Skills Assessments

In November 2014, the Regional Skills Assessments (RSAs) were published by SDS and Fife is in the privileged position of having the only single local authority area RSA. Given that the RSA and this Workforce Modelling research have very similar aims and draw on similar sources of information, there would appear to be limited value in having the two pieces of research running concurrently.

As a way forward, and in recognising that the RSAs aim to become an established resource in Scotland's skills planning environment, it is recommended that Fife Council and partners review what elements they value from the Workforce Modelling research and feed this back to SDS to inform and influence the design and content of future RSAs. Where SDS do not feel able to deliver on these elements, then Fife Council and partners can assess whether additional research is required to address these gaps. In short, it is proposed that the RSA becomes the main skills planning resource but there is scope to invest in additional research that wraps around and provides further insight to the RSA.