Delivering sustainable communities skills: the role of the further education sector

Final report for Inspire East

December 2008
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Executive summary

Introduction

1. Inspire East appointed SQW Consulting (SQW) in March 2008 to investigate how the further education (FE) sector can more effectively support the core occupations involved in planning, developing and maintaining sustainable communities in the East of England. The study attempted to quantify and describe the key characteristics of the core occupations, assess how the FE sector currently supports and enables access to these occupations, and recommend ways in which the contribution of the FE sector could be strengthened in the future.

2. The core occupations involved in planning, developing and maintaining sustainable communities constitute a predominantly graduate workforce. It is understood that the higher education (HE) sector makes a significant contribution to the development of the region, but much less is known about the contribution made by the FE sector. Not all sustainable communities occupations require graduate entry, and much HE is now delivered through FE colleges, particularly in the East of England.

3. Inspire East is seeking to strengthen its contribution to ensure the region has the skills needed to create sustainable communities. Identifying skills shortages in the region and working with partners and others to fill them is one of four blocks of activity for the regional centre of excellence for sustainable communities. This study sought to provide more intelligence about the role of the FE sector in supplying the skills needed by the core occupations in the sustainable communities workforce. It included consideration of HE-in-FE but not HE-in-HE, which also makes an important contribution to the development of the largely graduate sustainable communities workforce in the region.

Key messages

- The FE sector provides access to and support for the sustainable communities workforce in a number of different ways, offering learning provision at a range of different levels and in a variety of different settings, including initial training for entry to employment as well as professional updating for the workforce and the delivery of HE-in-FE.

- There is a significant amount of FE provision for the sustainable communities occupations, suggesting that the FE sector is already making an important contribution to supporting the sustainable communities workforce in the region.

- A majority (18) of the 25 general and specialist FE colleges in the region offer provision supporting sustainable communities occupations, and some make a very significant contribution to developing the sustainable communities workforce.

- The overall provision in all parts of the region compared to the size of the workforce in these areas is fairly well balanced, however there are some potential mismatches between supply and demand for particular occupations.
• Some occupational groups within the region’s sustainable communities workforce are better served by FE provision than others in the region, notably housing and social services, surveyors and engineers.

• In addition to technical/practical/job-specific skills, employers of five case study occupations reported skills gaps in management and problem solving skills, and skills shortages in these areas and also in team working and communication skills.

• 40% of employers of five case study occupations in the sustainable communities workforce reported that they do not use FE colleges, citing FE courses which are not relevant and a preference in-house training as their main reasons.

• Enhancing the role of the FE sector in supporting the core occupations will depend on partners working together at different stages of the process. Drawing on the findings of this study, a set of recommendations have been developed attempting to help inform the planning, funding and delivery strategies for provision relevant to sustainable communities.

The sustainable communities workforce in the region

4. The core occupations outlined by the Egan Review (2004) were a useful starting point for this study. However, the Review deployed very broad occupational categories which in many cases constrain alignment with standard national data sets, thereby preventing quantitative analysis of employment patterns and trends.

5. In order to quantify the sustainable communities workforce in the region, the first step was to define the core occupations using Standard Occupation Classification (SOC) codes. Egan’s core occupations for which no comparable SOC code could be found were excluded from the study. The resulting group of 24 SOC occupations formed the basis of subsequent demand- and supply-side data analysis.

6. The second step was to filter these 24 occupations by Standard Industry Classification (SIC) codes, in order to identify sectors in which these occupations were most strongly represented (and to exclude those in this occupations working in clearly irrelevant sectors). Identifying strongly relevant SIC codes confirmed the selection of the 24 four-digit SOC codes for the study, and in some cases has enabled workforce analysis to be conducted using SIC-coded data in the absence of SOC-coded data. For example, by quantifying the number of jobs and businesses we were able to describe the spatial distribution of the workforce in the region.

7. The analysis of the regional workforce provides a range of information on the profile of workers in the 24 occupations. As well as looking at the number of people living and working in the region, key characteristics of age, gender, ethnicity and qualifications were analysed for each occupation. Despite constraints attendant upon using Census 2001 data (highlighted in more detail in Annex C), notable patterns were observed across the 24 occupations:

• most occupations were predominately male, apart from housing and social services and community development occupations, which had significant female populations
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• several occupations had an older workforce, notably housing and services-related occupations and also building inspectors, architects and managers in construction

• houseparents and residential wardens, property, housing and land managers, building inspectors, housing and welfare officers and managers in construction all had an older workforce and also relatively low percentages of workers with degree-level qualifications

• in contrast, architectural technicians, engineering technicians and draughtspersons had a very young workforce, with over 26% aged between 16 and 24 years

• all occupations were dominated by white ethnic groups, with technical occupations showing particularly low levels of ethnic diversity

• only three occupations had non-white ethnic groups contributing more than 5% of the workforce - social workers, youth and community workers and mechanical engineers.

Skills supply and demand in the region

8. In order to understand current FE provision for the selected core occupations in the region, a detailed analysis of provision (for 2006/07, the latest year for which data were available) at the 25 general and specialist FE colleges in the region was conducted using the Learning and Skills Council (LSC) Individualised Learner Record (ILR) and Higher Education Statistics Agency (HESA) Combined Record. Relevant subject areas were mapped against the 24 occupations aggregated into six larger occupational groups:

• architecture and town planning
• community development
• engineering
• environmental
• housing and social services
• surveying.

9. Unsurprisingly, these groups were not equally represented in the provision delivered by general and specialist FE colleges in the East of England. Three occupational groups (housing and social services, surveyors, and engineering) each accounted for more than a quarter of the relevant learner enrolments in 2006/07. The remaining three occupational groups each accounted for less than 10% of relevant learner enrolments, including architects and town planners for which there were virtually no learner enrolments identified. Eighteen out of the 25 colleges also offered relevant HE-level provision and take up was predominately in subjects associated with housing and social services, engineering, community development and to a lesser extent surveying. There was very little take-up of environmental, architecture and town planning provision at this level in FE colleges.
10. There were a large number of learner enrolments on subjects relating to some occupations compared to a relatively small workplace population (as a proportion for the regional workforce), in particular for housing and social services, community development and surveyor occupations. In contrast, architectural and town planners and engineering occupations had larger workforce populations (as a proportion of the regional workforce) compared to the regional total number of learner enrolments. Looking at the characteristics of the regional workforce and learner populations, the following points were identified:

- Unsurprisingly, most FE learners on relevant provision were aged 16-19, with the frequency of learner enrolments dropping markedly with increasing age, with the exception of community development for which there was a very widely spread age distribution. This may reflect the older workforce population of one of the occupations included in this occupational group (houseparents and residential wardens).

- The majority of enrolments were by male learners but under this there existed stark gender splits for most of the occupational groups. Community development and housing and social services were female-dominated whilst surveyors and engineering were male-dominated, again reflecting trends across the regional workforce.

- The ethnicity of the learner population is in line with patterns of diversity present in the workforce population, with white ethnic groups dominating but with community development showing the highest proportion of non-white ethnic groups.

11. Despite all 25 general and specialist FE colleges in the region offering at least some FE provision relevant to the core occupations for sustainable communities, there were some notable differences between local areas. The provider analysis of supply revealed the following:

- All 25 of the general and specialist FE colleges in the East of England region delivered some provision relevant to the core occupations in the communities workforce. The five largest providers were Bedford College, Otley College, City College Norwich, College of West Anglia and Chelmsford College.

- Relevant LSC-funded learner enrolments provision for community development was heavily concentrated in Suffolk and environmental provision concentrated in Norfolk and Suffolk. Provision for the remaining occupations was more evenly distributed across the region.

- The local LSC area delivering the largest proportion of relevant learner enrolments was Essex. The local LSC area delivering the smallest proportion was Cambridgeshire.

- The local LSC area delivering the largest proportion of relevant FE learner enrolments at HE-level was Norfolk. In contrast, Cambridge and Bedfordshire local LSC areas contributed only very small proportions of HE-in-FE.

12. Overall, the distribution of FE and HE-in-FE learner enrolments was largely in line with the proportion of jobs and key employers in each local LSC area. For example, the largest
contributor of LSC-funded learner enrolments - Essex local LSC area - had a similar proportion of jobs and key employers (at 23% and 27% of the regional total, respectively) compared to the proportion of learner enrolments (22% of all LSC-funded learner enrolments and 24% of HE-level provision delivered in FE colleges). There was some variation in Norfolk: despite contributing the largest proportion of relevant FE-in-HE learner enrolments, the county ranked third in terms of the contribution of regional jobs by this local LSC area.

Case study findings

13. The initial brief focused on a detailed examination of five case study occupations where the FE sector plays important role. The purpose of the case studies developed to focus on:

- obtaining data on the estimated workplace and resident population from Census 2001 and LFS
- providing a more thorough investigation of subject areas and qualifications (at level 3) for the five occupations using ILR and HESA data
- exploring typical entry routes and career pathways into these occupations.

14. The case studies were selected on the basis of three criteria: the apparent importance of FE in supporting the entry to the core occupations; the size of national workforce in these occupations; and the proportion of workers in the industries identified as relevant to the sustainable communities sector. The five case study occupations were:

- building and civil engineering technicians
- conservation and environmental protection officers
- housing and welfare officers
- managers in construction
- youth and community workers.

15. The volume of relevant provision at level 3 delivered in the East of England varied substantially between the five case study occupations. By far the most provision was available for youth and community workers. By contrast, there was little provision in the region for conservation and environmental protection officers and housing and welfare officers. Compared to the volume of provision nationally, the East of England had relatively high levels of provision for building and civil engineering technicians. On the other hand, there was a notable gap in the amount of level 3 provision for housing and welfare officers in comparison with provision at the national level.

16. The 2007 National Employer Skills Survey (NESS) revealed that the main cause behind hard-to-fill vacancies across all of the case studies was low numbers of applicants with the required skills, with the exception of architectural and town planning technologists and technicians, where people ‘not interested in the job’ was commonly stated as the reason for vacancies.

1 A sixth case study occupation, architectural and town planning technicians, had to be excluded from the main report due to insufficient data on FE provision, however other aspects are discussed in Annex E.
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17. Employers of youth and community workers reported more skills gaps in the current workforce than employers of other occupations. The nature of skills gaps reported by employers varied across the sectors. Employers reported shortages of management skills having a significant negative impact in the construction sector, whilst others reported gaps in problem solving skills in sectors where architectural and town planning technologists and technicians, housing and welfare officers, and youth and community workers are employed. Technical/practical/job-specific skills gaps were a particular concern for employers of building and civil engineering technicians and conservation and environmental protection officers.

18. The same technical/practical/job-specific skills were reported to be hard to obtain from applicants across all the case study occupations, followed by oral communication and written skills. When considering which skills need improving most, team working, oral communication, management and problem solving skills were all reported by employers, alongside technical/practical/job-specific skills.

19. Whilst employers associated with managers in construction, housing and welfare officers, and youth and community workers had a higher proportion of off-the-job training, the other occupations had less. Generally, around 60% of establishments had used FE colleges to provide teaching and training over the past year whilst over 80% had used other providers. Those employers for all five case study occupations stated which did not use FE colleges stated that it was because FE courses were not relevant and they preferred in-housing training.

20. Considering entry routes and career pathways, there were varying levels of activity from Sector Skills Councils (SSCs), Professional Bodies and other organisations associated with the case study occupations. Asset Skills (the SSC for property, housing, facilities management, cleaning and parking industries) has worked closely with the Chartered Institute of Housing (CIH) to ensure its National Occupational Standards and link with CIH qualifications. Lifelong Learning UK (LLUK, the SSC responsible for the professional development of staff working in the lifelong learning sector) and Lantra (the SSC for the environmental and land-based sector) have promoted level 3 qualifications, with the former developing the framework for youth and community work and the latter supporting the introduction of the 14-19 Diploma in environmental and land-based studies (which becomes available in September 2009). Elsewhere, Construction Skills has been involved in the introduction of the 14-19 diploma in Construction and Built Environment (which became available in September 2008).

Methodology

21. The methodology for this study was largely focused on a series of quantitative analyses of large and complex datasets. The process involved a number of important judgements throughout the research in order to generate the most useful information.

22. The first stage of the research involved defining the core occupations making up the sustainable communities workforce. This task involved taking decisions on what occupations reasonably could be included, based on the feasibility for data analysis. Some occupations were not easy to quantify using standard datasets and therefore had to be excluded. Other
occupations were included but on the understanding that not all workers in these occupations would be working in sectors specifically related to the planning, delivering and maintaining of sustainable communities.

23. In addition, it was also necessary to identify the industries in which workers in these core occupations are most likely to work. Again, this involved decisions whether to include or exclude particular sectors, based on the proportion of all workers in these sectors in the core occupation for the sustainable communities workforce. The nineteen selected sectors allowed for the analysis of data where information by occupation was unavailable, for example when quantifying the number of jobs and businesses in the region to understand the spatial distribution of the workforce.

24. The study also identified the subject areas, or qualifications, which are most important to the core occupations in order to quantify and analyse the patterns of FE provision in the region. To do this, the 24 individual core occupations had to be aggregated up into occupational groups in order to avoid duplication in the classification of subject areas mapped to the occupations. Furthermore, the mapping of subject areas to occupations involved decisions to exclude very broad subject areas which many entrants into the core occupations are likely to take (e.g. mathematics), but where high proportions of other learners not progressing to employment in the core occupations would also be found.

25. Based on these selections, a range of datasets have been analysed, for which there are specific data limitations, including:

- Recent data on the workforce (derived from the Annual Population Survey/Labour Force Survey) is not robust at a regional level. Instead, older data from the 2001 Census was used to undertake an analysis of the regional workforce. In contrast, learner data (from the ILR and HESA Combined Record) was analysed for 2006/07.

- Whilst the regional characteristics of the workforce were analysed by core occupation, data on jobs and employers in the region (using Annual Business Inquiry [ABI] 2006 and Experian National Business Database information) were only available by selected industry, making it difficult to draw robust conclusions on the spatial distribution of workers compared to the location of jobs and employers in the region.

- ABI data on jobs is subject to sampling error and methodological issues, which means that when disaggregated to a lower level (either by geography or sector) data can be inaccurate. Similarly, Experian data is subject to various discrepancies, for example businesses self-select themselves for inclusion in the National Business Database, and the size of business (number of employees) is often skewed by listing employee numbers for the entire business.
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1: Introduction

1.1 Inspire East appointed SQW Consulting in March 2008 to investigate how the further education (FE) sector can more effectively support the core occupations involved in planning, developing and maintaining sustainable communities in the East of England. The study attempts to quantify and describe the key characteristics of the core occupations, assesses how the FE sector currently supports and enables access to these occupations, and recommends ways in which the contribution of the FE sector could be strengthened in the future. The purpose of the study is to provide a detailed evidence base from which a set of recommendations can be presented which will help organisations in the region maximise the contribution of the FE sector to the sustainable communities agenda.

Background

The sustainable communities agenda

1.2 The ‘Sustainable Communities Plan’ (ODPM, February 2003) defined a ‘sustainable community’ as one characterised by economically buoyant, culturally vibrant communities with close relationships between the various segments of the population, supported by integrative working practices between publicly-funded health, social and housing services and the private and voluntary sector. The document generated much debate as to what is meant by the phrase ‘sustainable communities, what leadership and management skills are required in order to build and maintain them, and how far the plans outlined in the document live up to the promise of sustainable development.

1.3 The debate was furthered by ‘The Egan Review: Skills for Sustainable Communities (2004), which defined sustainable communities as meeting the

... diverse needs of existing and future residents, their children and other users, contributing to a high quality of life providing opportunity and choice ... enhancing the environment and promoting social cohesion and inclusion and strengthening economic prosperity.

1.4 Eight key components for sustainable communities were outlined, namely: governance, transport and connectivity, services, environmental, equity, economy, housing and the built environment, and social and cultural.

1.5 The sustainable communities agenda is thus a complex one, which draws on a wide range of skills and occupations. Egan identified over 100 priority occupations as priorities, categorised under three headings:

- core occupations – those people who spend almost all their time in activities to do with planning, delivering or maintaining sustainable communities or whose involvement is critical to the success of those communities

- associated occupations – whose contribution is important to successful delivery but are not involved full time
• the wider public – whose involvement does not derive from their occupation, but whose active engagement is essential.

1.6 Egan argued that vocational and professional occupations will increasingly require staff who are multi-professional and inter-disciplinary if they are to obtain the skills and knowledge needed for creating sustainable communities. He highlighted a current shortage of both technical skills (e.g. planning and design) and ‘softer’ generic skills such as leadership and communication. It should be noted that while the former may only relate to specific occupations, the latter are important for the entire sector. As a result action is needed to both encourage more people to enter employment across core occupations and to upskill those currently working in these and other occupations.

1.7 Although many of the policy drivers behind the skills and sustainability agenda are national, regions will be subject to different conditions and constraints. Regional drivers of change are recognised within the regional spatial strategies, regional economic strategies and regional housing strategies, and these are likely to influence and impact upon both the demand and supply of skills for the sustainable communities workforce. In terms of delivery the Egan Review concluded that local authorities should take the lead in delivering sustainable communities, working across all areas of service delivery but in partnership with other key service providers, stakeholders and the community. To achieve this, there is a need for not only new/advanced skills but more integrated and co-ordinated processes, as well as a change in culture in terms of the attitudes and behaviours of those involved.

The role of the FE sector

1.8 The FE sector in England is increasingly driven by delivering the aspiration for world-class skills within a demand-led system envisaged by Lord Leitch in ‘Prosperity For All in the Global Economy: World Class Skills’ (HMT, December 2006). The government’s response, ‘World Class Skills: Implementing the Leitch Review of Skills in England’ (DIUS, July 2007) signalled the need to change the current approach to skills provision in the UK in order to close the productivity gap with other competitor nations. The response reinforced the demand-led approach driven by the needs of learners and employers.

1.9 Along with the formation of the UK Commission for Employment and Skills (UKCES), the response also emphasised that the remit of the Sector Skills Councils would be more sharply focused on raising employer ambition and investment in skills, articulating the future skills needs in sectors and ensuring that employer demand drives the supply of skills (including higher-level skills). The Skills Pledge, the Train to Gain brokerage service, strengthened financial entitlements for adults to receive basic skills training and achieve first full level 2 qualifications, are all key elements of the reform package. So too is the recommendation that all young people in England should participate in education or training until their 18th birthday from September 2015, announced in the ‘Raising Expectations: Staying in Education and Training Post 16’ (DfES, March 2007).

1.10 The sector is now focused on delivering the Public Service Area (PSA) targets resulting from the Comprehensive Spending Review (CSR), in response to the Government’s Leitch Review implementation plan (July 2007). The 2007 Pre-Budget Report and the Comprehensive
Spending Review, ‘Meeting the aspirations of the British people’ (HMT, October 2007), sets out two key steps for implementing the Leitch recommendations:

- increase spending by DIUS on higher education and skills from £14.2 billion in 2007-08 to £16.4 billion by 2010-11
- introduce a new PSA ‘to improve the skills of the population on the way to ensuring a world-class skills base by 2020’.

1.11 The ‘LSC grant letter: 2008-09’ (DIUS, November 2007) directs the increased levels of government funding to ‘delivering a significant increase in participation and attainment post-16; ensuring that everyone has the basic platform of skills needed for employability and progression; and narrowing significantly the achievement gaps for those from disadvantaged backgrounds’. Train to Gain and apprenticeships will receive significantly increased levels of funding. Train to Gain, the government’s flagship employer engagement initiative, is set to become a mainstream part of every provider’s offer, with around a third of the adult skills and FE budget to be routed through it by July 2011. ‘Train to Gain: A Plan For Growth: November 2007 – July 2011’ (LSC, November 2007), sets out how the volume of Train to Gain provision will increase rapidly, with a strong emphasis on increasing employer demand, reforming skills brokerage, reducing provider bureaucracy, and extending learner eligibility to include apprenticeships for those aged over 19 years and also second level 2 qualifications and support for level 3 qualifications and higher-level skills.

**FE provision in the East of England**

1.12 As with national delivery, LSC funding priorities in the East of England focus on young people aged 16-18 (for whom the LSC has a statutory duty to plan for post-16 provision) and adults aged 19 years and older. The ‘Learning and Skills Council East of England Regional Commissioning Plan 2008/09’ (LSC, January 2008) sets out how LSC funding will increasingly focus investment on the achievement of full national qualifications in the future. Nearly 70% of the LSC East of England budget in 2007/08 went on young people in school sixth forms and 16-18 FE. Young people receive higher unit funding than adults, with the latter comprising two thirds of funded learners. In 2008/09 the number of places for young people in colleges, sixth forms and work-based learning will increase by 17,200 places (compared with 2006/07), as will the number of places for adults to study for a full level 2 qualification and skills for life by 30,000 places. Investment will prioritise seven sectors (including construction and the built environment) and will target key beneficiaries while addressing three key priorities:

- creating demand for learning among young people, adults and employers
- transforming the FE sector to improve access, maintain success rates, tackle poor provider performance, embrace equality and diversity, and respond effectively to change
- delivering better skills, better jobs and better lives.
1.13 The 2008/09 commissioning plan responds to a number of challenges relating to FE provision for young people and adults in the region identified in the ‘East of England regional strategic analysis’ (LSC, February 2007). These are presented in outline below:

<table>
<thead>
<tr>
<th>Challenges relating to FE provision (LSC East of England regional commissioning plan 2008/09)</th>
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</thead>
<tbody>
<tr>
<td><strong>Young people</strong></td>
</tr>
<tr>
<td>• 21% of 16 and 17 year olds do not participate in education or training in the region in 2004, but with the largest sub-regional variations including the highest non-participation rates for England (25% in Essex and Norfolk)</td>
</tr>
<tr>
<td>• 27,000 15 year olds leave LS schools in the region without achieving a Level 2 qualification; areas with the highest rates include Luton, Peterborough and Basildon</td>
</tr>
<tr>
<td>• one in three young people in the region lack a Level 2 qualification by age 19, which is equivalent to around 18,800 young people in 2005.</td>
</tr>
<tr>
<td><strong>Adults</strong></td>
</tr>
<tr>
<td>• the pattern of adult need varies across the region with North Norfolk, Forest Heath (Suffolk), and the Fenlands indicating the lowest proportion of adults with a Level 2 qualification</td>
</tr>
<tr>
<td>• an estimated 53% of adults in the region have literacy levels at Level 1 or below, and an estimated 7 out of 10 adults have numeracy skills at Level 1 or below</td>
</tr>
<tr>
<td>• projections suggest there will be a continued shift towards higher-level qualifications, with the employment share of those with low or no qualifications expected to fall from 31% in 2004 to 18% in 2014.</td>
</tr>
</tbody>
</table>

Source: LSC Commissioning Plan for the East of England 2008/09

**Report structure**

1.14 The structure for the remainder of the report will be as follows:

- Chapter 2 – Defining the sustainable communities core occupations and industries, explaining the approach taken in attempting to define and quantify the sustainable communities workforce
- Chapter 3 – The regional sustainable communities workforce, exploring the size and characteristics of the regional workforce using 2001 Census data
- Chapter 4 – Understanding supply and demand, exploring the trends in current provision at FE Colleges in the region with trends in the workforce population
- Chapter 5 – The case study occupations, providing more detail on the five selected occupations
- Chapter 6 – Recommendations
- Chapter 7 – References
- Chapter 8 – Glossary
- Annexes A – I.

1.15 A summary of the key points is presented at the beginning of each chapter.
2: Defining the sustainable communities core occupations and industries

Key points

2.1 Arising from the process of defining the core occupations and industries for the sustainable communities workforce, the following points can be observed:

- Egan’s groups of core occupations provide a useful starting point in understanding the core occupations for sustainable communities, however, many of the occupations are very broad and do not translate easily into data terms.

- A set of 24 core occupations, defined by Standard Occupation Classification (SOC) codes have been identified as important to the sustainable communities agenda. These occupations form the basis of the analyses of key supply and demand data sets for this study.

- Nineteen industries, defined by Standard Industrial Classification (SIC) code have been identified as sectors where workers in the 24 core occupations are most likely to work. These selected industries inform the demand-side analyses for this study.

Introduction

2.2 This section of the report presents a set of core occupations with a defined list of associated four-digit Standard Occupation Classification (SOC) codes2 for the core occupations in the sustainable communities workforce. The selection of SOC codes formed the basis of the analysis to provide the labour market intelligence needed in order to define key characteristics of these occupations, to assess employers’ skills needs and current training supply in the FE sector, and to influence the supply of skills for these occupations in the future.

2.3 In defining the workforce, the core occupations relevant to planning, delivering and maintaining sustainable communities (defined by SOC code) have been prioritised over the selection of relevant industries (defined by SIC code). The occupations are more closely defined compared to the industries, and therefore provide a sounder basis for more accurate quantification of the workforce. The industries, or SIC codes, encompass a wide range of workers, many of whom are not likely to be involved in the sustainable communities agenda. However, where possible data on occupations has been filtered by a selection of industries, or SIC codes, identified as relevant to this workforce, in order to try and quantify the workforce as accurately as possible.

2.4 Since the Egan Review was published, there have been a number of attempts to define the sustainable communities occupations. The Ernst and Young (2004) ‘Evidence-base Review of Skills for Sustainable Communities’ was commissioned in parallel with the Egan Review to assess whether the supply of skills in the ‘core’ professions identified by Egan were sufficient

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2 All SOC codes identified are derived from the SOC 2000 system.
to meet the demands created by the need to deliver the Sustainable Communities Plan. The evidence base consolidated the original list of core occupations identified by Egan and grouped into similar occupational themes, and analysed the Labour Force Survey (LFS)\(^3\) data at a national level (with some regional projections) to quantify the national workforce across each occupation.

2.5 The ‘Mind the Skills Gap’ report by (Arup for ASC, 2004) assessed the gaps in the supply and demand of skills required to deliver sustainable communities. Using a revised selection of SOC codes as set out by Ernst and Young, the report suggested a sustainable communities workforce of about 750,000 employees, approximately 3% of the total workforce in England. The report reviewed skills gaps by sector, organisation and occupation and concluded that although there had been significant growth in the total sustainable communities workforce in recent years, there was likely to be a shortfall in supply for suitably qualified professionals.

2.6 More recently, English Partnerships and the ASC jointly published the ‘Draft Brownfield Skills Strategy’ (2008). The strategy has four overarching objectives: changing attitudes towards skills; encouraging cross-disciplinary working; raising the profile of brownfield skills; and promoting a common framework for skills development. The evidence base for the strategy follows a similar methodology to the reports mentioned above in attempting to define brownfield skills, by mapping LFS data against SOC codes. The research suggested a 75% labour shortfall in the sustainable communities workforce involved in brownfield delivery in England forecast to 2012. The highest deficits were recorded for developers, surveyors, engineers and housing and welfare officers. The East of England was projected as one of the top three regions with the greatest forecast skills deficits and skills gaps.

2.7 All of these reports go some way to defining the core occupations, quantifying the workforce at the national level and, to a limited extent, also the regional level. The purpose of this report is to go one step further and attempt to define the regional workforce for the East of England in more detail, using both LFS and 2001 Census datasets. The report also considers the key characteristics of this workforce, and the industries in which they work.

2.8 The following sections sets out the methodology for defining the core occupations and selected industries for delivering sustainable communities.

**Defining the core occupations**

2.9 Using the Egan Review to create a base list of core occupations for investigation (see Annex C of the Egan Review)\(^4\), four-digit SOC codes have been identified which most closely correspond with each occupation\(^5\).

2.10 It should be said at the outset that it has not been possible to allocate an appropriate SOC code to all core occupations identified by the Egan Review, because in several cases no suitable

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\(^3\) The LFS is a quarterly sample survey of households living at private addresses in Great Britain, providing information on the UK labour market.


\(^5\) Reports by ASC and Arup (2004) *Mind the Skills Gap: The skills we need for sustainable communities*, York Consulting (2007) *Gap analysis for sustainable communities professionals*, and Ernst & Young (2004) *Evidence base review of skills for sustainable communities*, were also consulted to identify any additional occupations were included in the analysis.
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codes exist. Moreover, even where appropriate SOC codes do exist, it is likely that some workers covered by these codes do not contribute to supporting sustainable communities. In some cases, the core occupations suggested by the Egan Review have been consolidated into more appropriate categories for analysis, whilst others have been excluded completely on the basis that the core occupations would be almost impossible to identify within the most relevant SOC codes. The allocations presented below derive from the project team and Inspire East’s best judgements in mapping the Egan Review core occupations to the available SOC codes.

2.11 For some occupation groups, for example planners, architects, engineers and surveyors, SOC codes are more easily identifiable (even if they are not specific enough to allocate to sub-groups set out by Egan). In other cases the allocation of SOC codes is more difficult because either the SOC code did not exist, or a significant proportion of workers covered by these codes do not contribute to supporting sustainable communities.

2.12 Occupations relating to the construction and skilled trades, and local and regional government posed particular challenges because of their size and broad coverage of SOC levels, discussed below. This is partly related to the way the SOC system works. It is acknowledged that the majority of the core occupations, particularly in SOC major groups 1 (Managers and Senior Officials) and 2 (Professional Occupations), comprise graduates who enter employment following higher education (HE). However, the role of the FE sector in supporting and providing access to these occupations is potentially significant given the increasing prominence of vocational pathways into and through HE, and the high volume of HE delivered through FE colleges in the Eastern region. The study did not consider the delivery of HE-in-HE in the region.

2.13 SOC major groups 3 (Associate Professional and Technical), 4 (Administrative and Secretarial) and 5 (Skilled Trades) contain occupations which are more likely to require FE-level skills, and increasingly qualifications. For example, the large group of construction and allied trades under SOC major group 5 will require relevant qualifications in electrical engineering, heating and ventilation etc. To some extent SOC major groups 6 (Personal Service Occupations), 7 (Sales and Customer Services) and 8 (Process Plant and Machine Operatives) will also require specific qualifications, for example in health and safety.

2.14 When the Egan Review was published, it was acknowledged that other work was being undertaken specific to the construction industry and skilled trades. Therefore, it was agreed that the majority of construction and skilled trade occupations would be excluded and the focus would remain on managers in construction. However, the SOC system does not ‘reward’ supervisors with a higher-level job grade. Whilst managers are likely to be classified in SOC major group 1 (even within small businesses) other supervisors in skilled trades may be classified into SOC major groups 5 and 8. This issue is of particular importance for SOC major group 5 (Skilled Trades). Currently most operatives classified in major group 5 will have a skill level at least equal to Level 3 and new entrants will invariably be trained through FE, mainly on day release.

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6 Major Group categories include: Managers and Senior Officials; Professions’ Associate Professional and Technical; Administrative and Secretarial; Skilled Trades; Personal Service; Sales and Customer Services; Process, Plant and Machine Operatives; Elementary Occupations.
2.15 The occupations highlighted by the Egan Review within the ‘implementers and decision makers’ categories (encompassing those working in Government organisations) are very broad, and SOC codes are particularly difficult to identify within the existing SOC system. This is further complicated when considering the regional tier of Government, where the SOC system does not distinguish between Central and Regional Government. For example, some staff of Regional Government may be classified as SOC codes within Central Government whilst others will be allocated to Local Government. The provisional list of SOC codes included a long list of occupations for Local and Central Government occupations. However, it was agreed at an early stage that given the large number of workers and the size of the public sector, only an initial analysis using the LFS would be performed on these SOC codes and they would not be viable for further analysis7.

2.16 To ensure that all appropriate SOC codes had been identified, a check was carried out using the detailed SOC coding and descriptive list published by the Office for National Statistics (ONS)8. This list enabled a search on job titles against four-digit SOC codes, which was particularly useful for the social and community occupations given the overlap across the public, private, and the community and voluntary sectors.

2.17 Table 2-1 summarises the selected SOC codes and the estimated national workforce for each occupation using the LFS (October-December 2007). Twenty-four occupations were selected in total. The next stage of the analysis explored in which industries these occupations were based.

<table>
<thead>
<tr>
<th>Egan occupation group</th>
<th>Explanation of occupation groups</th>
<th>SOC selection (national workforce)</th>
<th>Rationale for selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Planners</td>
<td>The Egan Review outlined a series of groups of interest within built environment occupations. A number of different planners were identified by Egan including urban, rural, transport, highway, and environmental planners.</td>
<td>2432 Town planners (22,474) 3121 Architectural and Town Planning Technicians (25,555)</td>
<td>The SOC system in many cases does not distinguish between different types of planner. Therefore they have all been grouped into one with individual SOC codes identified accordingly. SOC codes 2432 and 3121 most closely correspond to planners as a whole. The SOC system does not distinguish between different types of planner.</td>
</tr>
<tr>
<td>2. Architects</td>
<td>Within built environment occupations, the Egan Review outlined a number of different categories of architect including architects, architectural technicians, architectural technologists, landscape architects and police architectural liaison officers.</td>
<td>2431 Architects (50,566) 3121 Architectural and Town Planning Technicians (25,555) 3122 Draughtspersons (46,536)</td>
<td>The SOC system in many cases does not distinguish between different types of architects and landscape architects, or architectural technicians and technologists. Therefore they have all been grouped into one with individual SOC codes identified accordingly. Urban designers have also been included in this group. SOC codes 2431, 3121 and 3122 have been selected for analysis, recognising that 3121 overlaps with planners.</td>
</tr>
</tbody>
</table>

7 Annex A presents the total national workforce for these SOC codes
<table>
<thead>
<tr>
<th>Egan occupation group</th>
<th>Explanation of occupation groups</th>
<th>SOC selection (national workforce)</th>
<th>Rationale for selection</th>
</tr>
</thead>
</table>
| **3. Engineers**      | The Egan Review listed engineers to include civil, structural, building services, geotechnical, highways, transport and environmental engineers within built environment occupations. | 2121 Civil engineers (82,565)  
2122 Mechanical Engineering (83,902)  
2123 Electrical Engineering (52,547)  
2128 Planning and Quality Control Engineers (31,465)  
3113 Engineering Technicians (70,810)  
3114 Building and Civil Engineering Technicians (28,732) | SOC codes are identifiable for some of the engineer sub-groups listed by Egan, but not all. SOC codes for civil, mechanical and electrical engineers have been selected as well three more technician-level SOC codes.  
In addition, it is recognised that within this group there are likely to be a large number of workers not engaged with the sustainable communities workforce.  
SOC codes 2121, 2122, 2123, 2128, 3113 and 3114 have been selected. |
| **4. Surveyors**      | The Egan review included geomatic/land, valuation, quantity, general practice and building surveyors along with building inspectors within built environment occupations. | 2434 Chartered Surveyors (not quantity) (65,009)  
2433 Quantity Surveyor (36,891)  
3123 Building Inspectors (4,350) | The SOC system in some cases does not distinguish between these different types of surveyor. Therefore, they have all been grouped into one with individual SOC codes identified accordingly.  
SOC codes 2434, 2433 and 3123 have been selected. |
| **5. Environmental**  | The Egan review identified environmental occupations as including environmental officers, advisors and managers | 1212 Natural Environment and Conservation Managers (5,853)  
1235 Recycling and Refuse Disposal Managers (7,691)  
3551 Conservation and Environmental Protection Officers (23,221)  
3568 Environmental Health Officers (10,484) | The SOC system in some cases does not distinguish between these environmental occupations. Therefore they have all been grouped into one with individual SOC codes identified accordingly.  
SOC codes 1212, 1235, 3551 and 3568 have been selected for analysis. The Ernst and Young report identified a longer list but this has been reduced to exclude bioscientists/biochemists, countryside and park rangers, gardeners and grounds (wo)men and forestry workers. |
| **6. Social**         | The Egan Review identifies managers of housing and social services as the primary focus for social occupations. | 1184 Social Services Managers (43,331)  
1231 Property, housing and land managers (117,538)  
2442 Social Workers (100,676)  
3232 Housing Welfare Officers (162,335) | Housing and social services occupations have been combined into one group.  
SOC codes 1184, 1231, 2442, 3232 have been selected. |
| **7. Community**      | The Egan Review identified professional community and voluntary workers and community/neighbourhood wardens as Community occupations. | 3231 Youth and Community Workers (102,413)  
6114 Houseparents and Residential Wardens (38,020) | The SOC system in many cases does not distinguish between these different types of community occupation. Therefore they have all been grouped into one with individual SOC codes identified accordingly.  
Further investigation by job title did suggest that community care managers, community resource managers, and community centre managers |
### Egan occupation group

<table>
<thead>
<tr>
<th>Egan occupation group</th>
<th>Explanation of occupation groups</th>
<th>SOC selection (national workforce)</th>
<th>Rationale for selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Local and Regional Government</td>
<td>The Egan Review highlighted a series of occupations titled implementers and decision makers, comprising of regeneration specialists, MPs and civil servants and staff of relevant local, regional and national organisations. The Ernst and Young report included two groups of occupations entitled Central Government and Local Government.</td>
<td>The following SOC codes were provisionally selected for analysis: 1111 Senior Officials in National Government 1113 Senior Officials in Local Government 2441 Public Service Administrative Assistants 3561 Public Service Associate Professionals 4111 Civil Service Executive Officers 4112 Civil Service Administrative Officers and Assistants 4113 Local Government Clerical Officers and Assistants</td>
<td>Due to the size of the workforce within these SOC codes and the scale of the public sector as a whole, it is impossible to isolate the proportion supporting the sustainable communities workforce.</td>
</tr>
<tr>
<td>9. Construction managers</td>
<td>This group was not identified in the Egan Review but for the purposes of this study Construction industry managers have been identified as a separate group for analysis, focusing only on the managerial and supervisory level.</td>
<td>1122 Managers in Construction (249,334)</td>
<td>Construction and skilled trades are an important and large sector. With the focus at the managerial and supervisory level only, SOC code 1122 has been selected for analysis.</td>
</tr>
</tbody>
</table>

1 LFS data presented corresponds to all in employment in England by occupation in main job (October – December)

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### Identifying industries relevant to the sustainable communities workforce

2.18 To inform the analysis of employment patterns and key employers in the East of England, industries relevant to sustainable communities were investigated. Selecting industries using SIC codes raises similar problems to identifying SOC codes because the four-digit SIC codes will include a large proportion of industries not relevant to the sustainable communities agenda.

2.19 An initial analysis of LFS data at a national level was performed to finalise both the SOC codes and to identify relevant SIC codes (using LFS Supercross)\(^9\), which would form the focus for the remainder of the study. Using LFS Supercross, SIC codes with workers from each of the 24 SOC codes were identified. SIC codes making up less than 2% of the workers in each SOC code have been excluded, as have SIC codes considered as unrelated to the

\(^9\) Supercross is tool designed to enable analysis of micro-level labour force data generated by the LFS.
sustainable communities workforce, leaving 19 SIC codes identified as relevant, summarised in Table 2-2. A full description of individual SIC codes can be found in Annex A as can the complete analysis of SIC codes by SOC code.

Table 2-2: Definition of 4-digit SIC codes relevant to the sustainable communities workforce

<table>
<thead>
<tr>
<th>4-digit SIC code</th>
<th>Short description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4511-4550</td>
<td>Construction</td>
</tr>
<tr>
<td>7011</td>
<td>Development and selling of real estate</td>
</tr>
<tr>
<td>7032</td>
<td>Management of real estate</td>
</tr>
<tr>
<td>7420</td>
<td>Architectural/engineering activities</td>
</tr>
<tr>
<td>7484</td>
<td>Other business activities (not elsewhere classified)</td>
</tr>
<tr>
<td>7511</td>
<td>General public service activities</td>
</tr>
<tr>
<td>7512</td>
<td>Regulation: education agencies etc</td>
</tr>
<tr>
<td>7513</td>
<td>Regulation: more efficient business</td>
</tr>
<tr>
<td>7514</td>
<td>Supporting service activities</td>
</tr>
<tr>
<td>7523</td>
<td>Justice and judicial activities</td>
</tr>
<tr>
<td>7524</td>
<td>Public security/law/order activities</td>
</tr>
<tr>
<td>7530</td>
<td>Compulsory social security activities</td>
</tr>
<tr>
<td>8531</td>
<td>Social work activities with accommodation</td>
</tr>
<tr>
<td>8532</td>
<td>Social work activities without accommodation</td>
</tr>
<tr>
<td>9000</td>
<td>Sewage and refuse disposal etc</td>
</tr>
<tr>
<td>9112</td>
<td>Activities of professional organisations</td>
</tr>
<tr>
<td>9133</td>
<td>Activities other membership organisations (not elsewhere classified)</td>
</tr>
<tr>
<td>9261</td>
<td>Operation of sports arenas/ stadiums</td>
</tr>
<tr>
<td>9272</td>
<td>Other recreational activities (not elsewhere classified)</td>
</tr>
</tbody>
</table>

Source: ONS, SIC 1992 descriptions

2.20 The following section analyses data from the LFS and 2001 Census in order to quantify the national and regional workforce within the selected occupations and selected industries.

Summary

2.21 The occupational groups provided by the Egan Review are a useful starting point in attempting to define the sustainable communities workforce. However, as they currently stand the occupations provided by Egan were not compatible with standard data sets such as the LFS or Census. The methodology adopted here attempts to define more accurately, using SOC codes, the occupations that make up the sustainable communities workforce in order to assess the size of the workforce and identify relevant educational provision at the FE level. In doing so, it is acknowledged that not all of the core occupations highlighted by Egan as important to the sustainable communities agenda can be aligned to specific SOC codes, and that consequently the resulting selection of 24 core occupations for the focus of this study is not complete.
Furthermore, not all workers in these 24 core occupations will be associated with the planning, delivering or maintaining sustainable communities. It is not possible to know how many fall into this category. Investigating the most likely industries for those working in the 24 core occupation goes some way towards eliminating these additional numbers, but the resulting figures remain indicative only, particularly when taking into account the limitations of the datasets used for this study.

The final selection of the 24 core occupations coming out of this early stage is important as it shapes the rest of the study. More specifically, it allows a much more accurate and informed extraction of both demand-side data from the LFS and Census at the national and regional levels, and supply-side data from the Individualised Learner Record (ILR) and Higher Education Statistics Agency (HESA) Combined Record.
3: The regional sustainable communities workforce

Key points

3.1 The key points from the analysis of regional workforce data derived from the 2001 Census are:

- The number of residents in the East of England employed in the core occupations across all industry sectors totalled just over 112,300. When considering only those working within the 19 selected industries relevant to the core occupations, the total amounted to 70,200.

- There were 91,600 employees in the East of England, across all industries. The largest occupation group by far is managers in construction, with a workforce population of over 17,000 in all industries. Housing and welfare officers ranked second, with around 9,000 workers.

- Most occupations had a predominately male workforce. The main exceptions were occupations related to housing and social services, and community development.

- Houseparents and residential workers, building inspectors and social services managers showed an older workforce, with over 70% of the workforce aged over 40. Occupations with a younger age profile where 50% or more of the workforce were aged under 40, included youth and community workers, conservation officers, architectural technicians, engineering technicians and civil engineers.

- All occupations were dominated by white ethnic groups. Non-white ethnic groups were significantly underrepresented in some occupations, especially in more technical areas of work. There were only three occupations where non-white ethnic groups contributed more than 5% of the workforce: social workers, youth and community workers and mechanical engineers.

Introduction

3.2 As explained in the previous chapter, an initial analysis of LFS data at the national level was performed to help shape and select the core occupations that would form the focus of this study. Due to the sampling methodology of the LFS, regional-level analysis is unreliable because of small numbers. Therefore in order to carry out a more in-depth analysis of the regional workforce, bespoke Census datasets were commissioned from the Office of National Statistics (ONS). Although 2001 Census data is also subject to methodological problems and is now somewhat dated, it provides the most accurate quantification of the workforce at regional level.

3.3 Data were obtained for both employed residents and the workplace population in the region. These populations are defined by the ONS as follows.
Employed residents: Data relate to where people usually live as opposed to where they are on Census night. Students and schoolchildren studying away from the family home are counted as resident at the term-time address. Other residents absent from home on Census night were required to be included on the Census form at their usual/resident address. Data counts people of working age (16 to 74) only.

Workplace population: Defined as the people aged 16-74 who are in employment and whose usual place of work is in the area. People with no fixed workplace are treated the same as people who work mainly at or from home and are counted as working in their area of residence.

3.4 Ideally, data for both populations would have covered the 24 selected occupations and would have been restricted to people working in the selected industries relevant to the sustainable communities workforce. However, when commissioning data from the Census a number of restrictions arose due to data protection, which meant in practice only limited analyses could be carried out on this basis. Furthermore, it would have been beneficial to extract data at the sub-regional level but it was not possible to information at this level from the commissioned dataset. The analysis of Annual Business Inquiry data and Experian data provided later in the report (see Chapter 4 and Annex D) is available at a sub-regional level. However, it is reasonable to assume that for most occupations in the sustainable communities, the size of the workforce will be roughly in line with the size of the overall population.

3.5 Applying the final selection of the 24 core occupations, characteristics of age, gender, ethnicity and highest level of qualification have been analysed using Census data. A summary of the key characteristics of the regional workforce are presented in the following section, which precedes a brief comparison between the regional data on employed residents extracted from the Annual Population Survey (APS, which includes the annual LFS) and regional Census data. The complete APS/LFS and Census analyses of the national and regional sustainable communities workforce are provided in Annexes B and C.

Key characteristics

Significant occupations

3.6 According to the analysis of the 2001 Census, the number of residents in the East of England employed in the core occupations across all industry sectors totalled just over 112,300. When considering only those working within the 19 selected industries relevant to the core occupations, the total amounted to 70,200. In terms of number, managers in construction dominated with over 21,000 employed residents, 18,000 of whom were working within the selected industries. Housing and welfare offices ranked second with almost 11,500 employed residents in total of whom 7,000 were working within the selected industries. In contrast, natural environment and conservation managers and building inspectors had the smallest numbers of employed residents across all industries and the selected industries.

3.7 The Census identified a total of around 91,600 employees in the East of England, across all industries. As in the case of employed residents, the largest occupation group by far is managers in construction, with a workforce population of over 17,000 in all industries.
Housing and welfare officers ranked second, with around 9,000 workers. Building inspectors and natural environment and conservation managers had the smallest workplace populations. Town planners had the third smallest workforce but overall, ten occupations had total workforces of 1,500 or less. Figure 3-1 below displays the number of workers in each occupation (across all industries) for the region.

Age, gender, ethnicity and qualifications

3.8 For each core occupation, age, gender, ethnicity and qualification levels were analysed for the workplace population. These characteristics are discussed in turn below, using the workforce population (those employed in the East of England) derived from the Census. Data here refers to the core occupations (the 24 SOC codes) and all industries (rather than the selected 19 SIC codes).

3.9 Firstly, considering gender, most occupations had a predominately male workforce. The main exceptions were occupations related to housing and social services, and community development. More specifically, social workers, houseparents and residential wardens, housing and welfare officers, social services managers and youth and community workers, all showed a significant proportion of women in the workforce. The gender breakdown for each occupation is displayed in Figure 3-2.
3.10 The age breakdown of the workforce population is a critical factor in determining the future requirements of training and skills development. There were a number of occupations which displayed an older age profile, where 70% or more of the workforce were aged over 40. These included houseparents and residential workers, building inspectors and social services managers. Between 60% and 70% of workers were aged 40 and over in the following occupations: housing and welfare officers; social workers; architects; property, housing and land managers; and managers in construction. The age profile for each core occupation is displayed in Figure 3-3.
3.11 When considering the qualification levels of these groups, further observations can be made in relation to age. For the seven occupations where around 35% or more of the workforce were aged 50 or more in 2001, five also had relatively low percentages with degree level qualifications. These occupations were houseparents and residential wardens; property, housing and land managers, building inspectors, housing and welfare officers and managers in construction.

3.12 Occupations with a younger age profile where 50% or more of the workforce were aged under 40, include youth and community workers, conservation officers, architectural technicians, engineering technicians and civil engineers. Unfortunately, due to data protection reasons, the 16-24 year old category could not be disaggregated further but this age group included many of the technician roles. For engineering technicians, architectural technicians, and draughtspersons, over 26% of their total workforces were in this age group. When considering qualification level there was some variation and whilst engineering technicians and draughtspersons were less likely to be qualified to level 4 or above (less than 50% of the workforce), architectural technicians were more likely to be qualified to this level (more than 50%). In contrast, there were relatively few managers in this age group, which may not be surprising given the years of study required for qualification in some of the occupations e.g. architects.

3.13 Considering ethnicity, all occupations were dominated by white ethnic groups. The white population accounted for over 90% of the total for every occupation. The non-white ethnic groups were significantly underrepresented in some occupations (less than 2%), especially in more technical areas of work. There were only three occupations where non-white ethnic groups contributed more than 5% of the workforce: social workers (8%), youth and community workers (7%), and mechanical engineers (6%).

Comparing the national and regional workforce

3.14 Figure 3-1 compares the percentages of UK and East of England employed residents working in the selected industries. Census data indicate significantly higher percentages of residents with lower-level qualifications than the more recent 2006/07 APS. In part, this may reflect the earlier date of the Census. It may also reflect the fact that people are unaware of the level equivalences for qualifications that they hold. The APS probes for this information to ensure that it is accurately recorded. The Census is a self-completion survey and no such prompting is involved.
3.15 It is also possible to compare age structures of people working in selected occupations for 2001 and 2006/07. Figure 3-5 focuses on the percentage of the employed residents aged 40 and over for the 24 core occupations. In the case of the 2001 Census, the information covers people working in all industries. The 2006/07 APS UK data cover people working in selected industries.
3.16 The APS data show significant variation across occupations and it is likely that this is primarily due to sampling variance. However, generally the Census suggests a relatively older labour force in most of the occupational groups, with higher percentages aged 40 and over.

Summary

3.17 The analysis of the regional sustainable communities workforce provides a range of information on the profile of workers in the 24 core occupations. Although the accuracy of the information is limited by the year of data collection and the methodological issues surrounding Census data (highlighted in more detail in Annex C), there are some notable trends across the 24 core occupations. The main findings in relation to the Census workforce population data can be summarised as follows:

- most occupations were predominately male with the exception of housing and social services, and community development based occupations which instead had a significant female population
- there were a number of occupations which displayed an older workforce notably in housing and services-related occupations and also building inspectors, architects and managers in construction
- houseparents and residential wardens, property, housing and land managers, building inspectors, housing and welfare officers and managers in construction all showed an older workforce and also relatively low percentages of workers with degree level qualifications
- in contrast, architectural technicians, engineering technicians and draughtspersons showed a very young age profile with over 26% of their workforce aged between 16 and 24 years old
- all occupations were dominated by white ethnic groups with technical areas of work showing particularly low levels of ethnic diversity
- only three occupations had non-white ethnic groups contributing more than 5% of the workforce: social workers, youth and community workers and mechanical engineers.
Delivering sustainable communities skills: the role of the further education sector
Final report for Inspire East

4: Understanding supply and demand

Key points

- The Learning and Skills Council (LSC) Individualised Learner Record (ILR) and the Higher Education Statistics Agency (HESA) Combined Record have been used to analyse FE and FE-in-HE provision in the region. The focus on the FE sector excluded consideration of HE-in-HE provision, which makes an important contribution to the development of the largely graduate sustainable communities workforce.

- The FE sector makes an important contribution to the sustainable communities workforce with 23,349 learner enrolments recorded in the LSC ILR for 2006/07 at the 25 general and specialist FE colleges in the East of England relevant to the core occupations.

- Most enrolments were in housing and social services, surveyors and engineering. Environmental, community development and architects and town planners had much smaller numbers of enrolments.

- There were 2,972 HE-level learner enrolments on relevant programmes in FE colleges in the region, delivered across 18 of the 25 general and specialist FE colleges in the East of England. Housing and social services, engineering and community development had the highest number of learner enrolments, followed by surveyors. Environmental, and architects and town planners contributed just 5% or less.

- There were some differences between the size of the learner and workforce populations in the region. Housing and social services, community development and surveyor occupations had relatively large learner populations compared to the workforce population. In contrast, architectural and town planners and engineering occupations had small numbers of learner enrolments compared to the size of the workforce.

- Overall, Essex contributed the highest number of learner enrolments at FE level, and Cambridgeshire the least. There were some notable differences in the spatial distribution of provision between occupational group, for example, community development provision was heavily concentrated in Norfolk whilst environmental was concentrated in Norfolk and Suffolk.

- For HE-in-FE provision, Norfolk local LSC area contributed by far the most number of learner enrolments and Cambridgeshire the least.

- Overall, the contribution of FE and HE-in-FE learner enrolments was largely in line with the proportion of jobs and key employers in each local LSC area.
Introduction

4.1 This chapter synthesises the findings from the analysis of FE and HE-in-FE in the East of England, with the analysis of the regional workforce, as presented in the previous chapter, in order to develop a better understanding of the existing supply and demand issues for the core occupations.

4.2 The analysis of the volume and type of learning provision in the region has been performed using two key datasets:

- The Learning and Skills Council’s (LSC) Individualised Learner Record (ILR) for 2006/07, which records details of the learning provision funded by the LSC in England. The scope of the data extraction is limited to the FE data set (the final version – F05). Data have been extracted for learners who attended any of the 25 general and specialist FE colleges in the East of England.

- The Higher Education Statistics Agency (HESA) Combined Record for 2006/07 records the vast majority of publicly-funded learning provision at HE in England. The HESA Combined Record includes the institution at which the learning took place, which in some cases is different from the accrediting Higher Education Institution (HEI). Using this feature, HE-in-FE data has been extracted for the same 25 general and specialist FE colleges in the East of England.

4.3 In order to identify areas of FE provision in the region relevant to the sustainable communities workforce, relevant subject areas had to be selected. The Learn Direct Classification System (LDCS) and the Joint Academic Coding System (JACS) are the two subject coding catalogues used by the LSC and HESA, respectively, in their learner/student records. They are both hierarchical in nature, such that higher order codes signify a broader subject area, while lower order codes give a more specific subject area. The selection of appropriate LDCS and the JACS codes mapped to the 24 SOC codes enables the identification of relevant FE provision supporting the sustainable communities workforce in the East of England. The extraction of appropriate learner/student records from the LSC ILR and the HESA Combined Record was performed on the basis of these codes.

4.4 To enable regional and provider-level analysis and avoid duplicating subject areas across associated occupations, the occupations were clustered into more appropriate groupings. The relevant subject areas were then aggregated up for each occupational group. Table 4-1 shows the core occupations that make up each occupational group. The subject areas identified for each occupational group are outlined in Annex F.

| Table 4-1: Occupational groups containing the core sustainable communities occupations |
|---------------------------------|---------------------------------|
| **Community development:**      | **Architects and town planners:** |
| Youth and community workers     | Architects                       |
| Houseparents and residential workers | Town planners                  |
| **Housing and social services:** | Architectural technologists and town planning technicians |
| Social services managers        | Draughtspersons                 |
| Housing and welfare officers    | Surveyors:                      |
| Social workers                  |                                  |
### Delivering Sustainable Communities Skills: The Role of the Further Education Sector

**Final Report for Inspire East**

<table>
<thead>
<tr>
<th>Property, housing and land managers</th>
<th>Quantity surveyors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental:</td>
<td>Chartered surveyors</td>
</tr>
<tr>
<td>Natural environment and conservation managers</td>
<td>Building inspectors</td>
</tr>
<tr>
<td>Recycling and refuse disposal managers</td>
<td></td>
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<tr>
<td>Conservation and environmental protection officers</td>
<td>Engineering:</td>
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<tr>
<td>Environmental health officers</td>
<td>Civil engineers</td>
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<tr>
<td></td>
<td>Mechanical engineers</td>
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<tr>
<td></td>
<td>Electrical engineers</td>
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<tr>
<td></td>
<td>Building and civil engineering technicians</td>
</tr>
<tr>
<td></td>
<td>Planning and quality control engineers</td>
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<tr>
<td></td>
<td>Engineering technicians</td>
</tr>
<tr>
<td></td>
<td>Managers in construction</td>
</tr>
</tbody>
</table>

4.5 On this basis, the ILR and HESA Combined Record were analysed at three different levels, namely:

- **Regional level analysis**: this analysis provides a profile of regional learner characteristics for the core occupations including age, gender, ethnicity and notional National Vocational Qualification (NVQ) level of the learners.

- **Provider level analysis**: this analysis provides information on the volume and type of provision for the core occupations delivered by each FE college in the region.

- **Case study level analysis**: this analysis allows a more detailed examination of the nature and volume of provision delivered by FE colleges in the East of England that is designed to support five case study occupations. Rather than using the identified subject areas, for this analysis information provided by the Qualifications and Curriculum Authority (QCA) concerning the qualifications that are suitable for particular occupations, as provided by the National Database of Accredited Qualifications (NDAQ), has been used.

4.6 After initial analysis of the datasets it was found that the supply-side data was insufficient for the architects and town planning occupational group, and therefore it was excluded from the case study analysis.

4.7 The remainder of this chapter is divided into two parts. The first part considers the nature and profile of learners and workers across the core occupations. In doing so, it should be remembered that 2001 Census data is being used, whilst the ILR and HESA Combined Record are in reference to the 2006/07 academic year. The second part examines the location of providers of relevant FE and HE-in-FE level courses and attempts to identify any relationships with the location of jobs and key employers (in the selected industries). The findings from the case study analysis are provided separately in Chapter 5. The full analyses of the ILR and HESA datasets, including a complete set of data tables, can be found in Annexes G to J.
Understanding supply and demand at the regional level

**Number of learner enrolments**

4.8 There were 23,349 learner enrolments recorded in the LSC ILR for 2006/07 at the 25 general and specialist FE colleges in the East of England that are relevant to the core occupations in the sustainable communities workforce. The six occupational groups that comprise this workforce were not equally represented in the provision delivered by general and specialist FE colleges in the East of England.

4.9 Three occupational groups each accounted for more than a quarter of the relevant learner enrolments (housing and social services, surveyors and engineering). The remaining three occupational groups each accounted for less than 10% of relevant learner enrolments, including architects and town planners for which there were virtually no learner enrolments identified.

4.10 18 out of the 25 general and specialist FE colleges delivered some HE-level provision. There were a further 1,991 learner enrolments recorded in the HESA Combined Record for 2006/07 at general and specialist FE colleges in the East of England that are relevant to the core occupations. These are in addition to the 981 HE-in-FE learner enrolments identified at the same providers in the same year in the LSC ILR. Together, therefore, there were 2,972 HE-in-FE learner enrolments on relevant programmes in the region (of which 67% was recorded in the HESA Combined Record). This equates to 12% of all provision (at any level) relevant to the core occupations for the sustainable communities workforce delivered at the 25 general and specialist FE colleges in the East of England region in 2006/07.

4.11 The occupational groups were not equally represented in the HESA Combined Record data. Three (of the six) occupational groups each accounted for more than a quarter of the relevant learner enrolments (housing and social services, engineering and community development), while a fourth (surveyors) accounted for a fifth of learner enrolments. The remaining two occupational groups (environmental, and architects and town planners) contributed just 5% or less.

4.12 Referring back to the Census, the core occupations contributing most to the regional sustainable communities workforce (in terms of the workplace population)\(^\text{10}\), were managers in construction. This occupation accounted for 19% of the total regional workforce, followed by housing and welfare officers (10%) and mechanical engineers (9%). In order to draw some comparison with the supply-side data, it is more useful to consider the six occupational groups. Figure 4-1 displays the proportional contribution of each occupational group to the total learner enrolments recorded in the ILR and HESA Combined Record and compares this to the total workplace population for the East of England.

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\(^{10}\) The workplace population refers to people working in the region across all industries.
Figure 4-1: The proportional contribution of each occupational group to the total FE learner enrolments, total HE-in-FE enrolments and total workplace population in the East of England.

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>ILR</th>
<th>HESA Combined Record</th>
<th>Workplace Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community development</td>
<td>29%</td>
<td>33%</td>
<td>6%</td>
</tr>
<tr>
<td>Housing and social services</td>
<td>25%</td>
<td>37%</td>
<td>25%</td>
</tr>
<tr>
<td>Environmental</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Architects and town planners</td>
<td>9%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Surveyors</td>
<td>10%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td>29%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Source: LSC ILR, HESA Combined Record, Census 2001

4.13 The Figure suggests there are a significant number of learner enrolments in subject areas relevant to the housing and social services occupational group, when compared to the size of the workplace population. Housing and social services provision accounted for 37% of the total learner enrolments in the ILR and 51% in the HESA Combined Record, compared to the workforce which accounted for 25% of the regional total. The HESA Combined Record shows that over 40% of learner enrolments at Honours Degree level, were in the housing and social services groups. In addition, the small proportion of enrolments at postgraduate level was also within this group.

4.14 The pattern was, to some extent, also true for the community development sector where a significant number of learner enrolments was recorded in the HESA Combined Record (33% of the total number), compared to a relatively small workplace population (6% of the regional workforce total). Similarly, there appeared to be a significant number of learner enrolments recorded in the ILR (29%) associated with the surveyors’ occupational group, compared to a relatively small workforce (10% of the regional workforce total).

4.15 The environmental occupational group also had a small workforce contributing 4% of the total sustainable communities workforce, which may in part reflect the low number of learner enrolments recorded in both the ILR and HESA Combined Record. Similarly, the architects and town planners occupational group had a relatively small workforce (9% of the total sustainable communities workforce). However, the ILR did not record any learner enrolments and the HESA Combined Record recorded only 39 learner enrolments.

4.16 In contrast, engineering occupations accounted for nearly half (47%) of the total sustainable communities workforce in the region, primarily because of the inclusion of managers in construction, which accounted for nearly one fifth alone. There was some evidence to suggest more of a balance between the total number of learner enrolments recorded in the HESA
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Final report for Inspire East

Combined Record (41%), and to a lesser extent the ILR (29%), and the size of the workforce population. HESA data suggests that all learner enrolments for this occupational group were at a level below Honours degree, with the single most common type of qualification being the Foundation Degree. Higher National Certificates and Higher National Diplomas were also relatively common.

Age

4.17 When looking at the age profile of learners, the ILR suggests that in most cases learners were aged between 16-19 years old. More than half (54%) of all learner enrolments were taken up by learners in this age group, with the frequency of learner enrolments dropping increasingly with age, such that only 10% of learner enrolments were accounted for by learners aged 20-24 years old. HESA data shows the 20-24 year age group as the single most common group accounting for 33% of enrolments, but learners in their 30s and 40s were still relatively common with 17% and 13% of the total number of enrolments, respectively.

4.18 There were, however, differences in the age distributions between the six occupational groups. This was most notable in the community development group where older learners were more commonly recorded in the ILR and HESA Combined Record. Both datasets suggested a flatter age distribution for community development compared to the other occupational groups, with the ILR indicating only 7% of learner enrolments in the youngest age group and its peak (12%) in the 40-44 age group. The HESA data shows that older learners (in their 30s and 40s) were nearly as common as learners under 30.

4.19 Older learners were also more common in the housing and social services sector according to the HESA Combined Record. To some extent this is likely to reflect an older workforce. For example, referring back to the Census analysis, 60% of the workforce was aged over 50 for all four occupations within the housing and social services occupational group. With learner enrolments on Honours Degrees and postgraduate qualifications more common amongst this group, these trends may be indicative of the existing workforce taking up further study later on in life, through for example part-time study and distance learning.

4.20 In contrast, surveyors showed the youngest age profile in Census data, with 72% of learner enrolments within the 16-19 age group. Similarly, HESA data indicated a high peak in enrolments within the 20-24 age group for this occupation. The same was true for learners on environmental and engineering qualification aims where enrolments peaked in the 16-19 age groups. In part, this supports the finding of a younger workforce from the Census analysis. The Census indicated that technician roles within these occupational groups exhibit a younger age workforce whereas the managerial positions, as would be expected, show a much older profile.

4.21 Figure 4-2 summarises the age distribution of the workforce for the six occupational groups. It indicates the older workforce of the housing and social services, and to a lesser extent, the community development group. The surveyors had the highest proportion of workers in the youngest age group of 16-24, at over 8%. The environmental and engineering groups also had a younger age profile with a significant proportion of workers aged under 40, which may reflect the younger age technicians in these occupational groups.
Gender

4.22 Overall, both genders were equally represented in terms of the learner profile in the region but this masked strong gender bias between occupational groupings, in favour of males for the engineering and surveyor occupational groups and in favour of females for the community development, housing and social services. For the environmental group, there were a higher proportion of females in the environmental occupational group recorded in the HESA Combined Record whereas there was a more balanced profile when looking at enrolments recorded in the ILR.

4.23 Figure 4-3 below displays the gender split for the workplace population by occupational group. The trends in the gender split for learner enrolments seem to reflect wider trends in the regional workforce with the 2001 Census indicated that most occupations were predominately male with the exceptions of those occupations categorised within the housing and social services and community development occupational groups. The environmental workforce differed from the learner profile with the Census indicating a predominately male population.
Figure 4-3: Workplace population and gender split by occupational groups for the East of England

Source: 2001 Census

**Ethnicity**

4.24 The ethnicity of learners enrolled on qualification aims relevant to the core occupations for sustainable communities reflects trends across the regional workforce. Over 95% of learners recorded by the ILR were ethnically white. 88% of the learners enrolled on relevant qualifications aims recorded by the HESA Combined Record were also ethnically white. However, there are uncertainties when analysing ethnicity information here due to the significant proportion of enrolments falling into the ‘unknown’ ethnicity category.

4.25 Some variation between the occupational groups was observed in the data. According to the ILR, the surveyors group exhibiting the least ethnic diversity, with 92% of enrolments by learners who were ethnically white. The community development occupational group showed the most ethnic diversity, with 83% of enrolments by learners who were ethnically white with a further 5% ethnically black, 3% ethnically Asian, 2% mixed, and 3% of other ethnic origin.

4.26 The Census data indicate that the white population accounted for over 90% of the total for each of the 24 core occupations. For some occupations (11 in total), over 98% of the workforce was white, indicating that non-white ethnic community groups are significantly under-represented, especially in more technical areas of work including all three occupations making up the surveyors occupational group. There were just three occupations where non-white groups contributed more than 5% of the workforce, which included social workers (8%), youth and community workers (7%). This seems to mirror trends highlighted in relation to the learner profile.

**Academic level**

4.27 The analysis of the ILR suggests that most learners were enrolled on learning aims appropriate to their pre-existing qualification level. Just under 40% of learner enrolments
were by learners at level 2, with a similar proportion at level 3. Just under 20% were by learners at level 1 or entry level, while less than 5% were qualified to level 4 or above. Between the occupational groups, level 2 was most common for community development, environmental and surveyors, while level 3 was most common for housing and social services and engineering.

4.28 In terms of the notional NVQ level of the learning aim, most learners were enrolled on learning aims appropriate to their pre-existing qualification level. Overall, levels 2 and 3 predominated with 36% and 38% of learner enrolments respectively, as displayed in Figure 4-4. Of the remainder, 22% were at a lower level and 4% were at a higher level (HE level). However, there was considerable variation between the occupational groups. The community development occupational group was dominated by provision at level 2, but it also had the largest proportion of provision at level 4 or above. Both the environmental and surveyors occupational groups had large proportions at level 1 and entry level.\textsuperscript{11} Engineering and to a lesser extent housing and social services had high proportions of provision at level 3.

![Figure 4-4: Notional NVQ level of the learning aim by occupational group](image)

4.29 The HESA Combined Record data suggest that three-quarters of learner enrolments at FE colleges were at below Honours degree level, and half of these were registered for Foundation degrees. Most of the remainder were registered for Honours degrees, but all of these enrolments related to the community development and housing and social services occupational groups. Just 4% of provision was at postgraduate level, all of which was relevant only to the housing and social services occupational group.

\textsuperscript{11} The large proportion of learners at NVQ level 1 is likely to be an anomaly which may be explained by the inclusion of a wider range of subject areas than may be directly relevant to this occupational group. This is a necessary consequence of the methodology adopted, which requires higher levels of generalisation than would otherwise be desirable in order to construct viable populations for analysis.
4.30 When reflecting back to the highest level of qualification achieved by the workforce population, 41% of the workforce within the core occupations was qualified to level 4 or above and 9% had no qualifications. This suggests workers are continuing onto higher-level courses beyond FE colleges.

4.31 Once again, there was variation between the qualification levels of the individual occupational groups. Table 4-5 below displays the highest qualification levels achieved for each occupational group based on the 2001 Census.

![Figure 4-5: Highest level of qualification achieved for the workplace population, by occupational group for the East of England](image)

Source: 2001 Census

4.32 The environmental group had the highest proportion of workers qualified to level 4 or above out of all occupational groups (58% of the workforce). This is despite providers predominately offered learning aims equivalent to NVQ level 1 or entry level and all HE-in-FE provision identified by the HESA Combined Record being at a level less than an Honours degree.

4.33 Despite the community development group having the largest proportion of level 4 provision available, when considering the workforce this group showed the least qualified workforce in terms of the proportion qualified to level 4 (at 28% of the workforce) but showed the highest proportion of workers recording no qualifications (15%) out of all occupational groups. This is likely to reflect the older age profile of this group where qualification requirements for people entering this occupation were lower.
Understanding supply and demand at the local level

4.34 Following the provider level analyses of the ILR and HESA Combined Record dataset, this section analyses the volume and take up of provision by the 25 general and specialist FE colleges across the region and the six local LSC areas. Where possible these trends are compared with the spatial distribution of the workforce drawing on information from ABI, providing detail on the location of jobs, and Experian data which provides information on the location of key employers.

Locating provision

4.35 The 25 colleges by Local LSC (LLSC) area included in this study include the following:

- 4 in Norfolk LLSC area: East College, College of West Anglia, City College Norwich and Great Yarmouth College
- 3 in Cambridge LLSC: Cambridge Regional College, Huntingdonshire Regional College and Peterborough Regional College
- 4 in Suffolk LLSC area (Lowestoft College, Otley College, West Suffolk College, Suffolk New College
- 3 in Bedfordshire and Luton LLSC area (Barnfield College, Bedford College and Dunstable College
- 4 in Hertfordshire LLSC area (Hertford Regional College, North Hertfordshire Regional College, Oaklands College and West Herts College)
- 7 in Essex LLSC area (Chelmsford College, Colchester Institute, South East Essex College, Thurrock and Basildon College, Braintree College, Epping Forest College and Harlow College).

4.36 All 25 general and specialist FE colleges in the region delivered some provision relevant to the core occupations for sustainable communities, according to the ILR. 18 of these colleges also offered relevant provision according to the HESA Combined Record, as displayed in the map in Figure 4-6 below.
4.37 In terms of their contribution to the total number of learner enrolments on relevant qualification aims recorded by the ILR, the five largest providers were Bedford College (7%), Otley College (7%), City College Norwich (7%), College of West Anglia (6%), and Chelmsford College (6%). Combined, these colleges account for 34% of all relevant provision in the region.

4.38 Table 4-2 lists the providers that contributed the most learner enrolments by occupational group, as recorded by the ILR. It shows that in the case of community development and environmental occupations, the provision in the region was strongly concentrated in a small number of providers. Learner enrolments were most dispersed in the case of the housing and social services occupational group, while provision was also relatively dispersed for surveyors and engineering.
Table 4-2: Distribution of learner enrolments (FE) relating to the core occupational groups for sustainable communities between FE colleges in the East of England

<table>
<thead>
<tr>
<th>Occupational group</th>
<th>Largest five providers</th>
<th>Combined proportion of learner enrolments accounted for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community development</td>
<td>Otley College; North Hertfordshire College; Chelmsford College; Suffolk New College; City College Norwich</td>
<td>89%</td>
</tr>
<tr>
<td>Housing and social services</td>
<td>Otley College; Suffolk New College; North Hertfordshire College; City College Norwich; South East Essex College</td>
<td>36%</td>
</tr>
<tr>
<td>Environmental</td>
<td>Otley College; College of West Anglia; Bedford College; City College Norwich; South East Essex College</td>
<td>92%</td>
</tr>
<tr>
<td>Surveyors</td>
<td>Barnfield College; Chelmsford College; City College Norwich; Oaklands College; Otley College</td>
<td>44%</td>
</tr>
<tr>
<td>Engineering</td>
<td>Bedford College; Peterborough Regional College; College of West Anglia; Oaklands College; Hertford Regional College</td>
<td>41%</td>
</tr>
</tbody>
</table>

Source: LSC ILR 2006/07

4.39 Figure 4-7 displays the distribution of learner enrolments by local LSC area and occupational group. From this, the following observations can be made:

- community development occupations: provision for community development occupations was heavily concentrated in Suffolk, with particularly small volumes of provision in Bedfordshire (and Luton) and, to a lesser extent, Cambridgeshire

- housing and social services occupations: provision was distributed well throughout the region, but relative concentrations existed in Suffolk and Hertfordshire

- environmental occupations: provision for environmental occupations was concentrated in Norfolk and Suffolk, while there was no provision of this type in Hertfordshire and relatively small volumes in Essex

- surveyors occupations: provision was distributed fairly evenly throughout the region, but relatively high concentrations existed in Essex

- engineering occupations: again provision was distributed fairly evenly regionally but there were relative concentrations in Bedfordshire (and Luton) and Essex.
Figure 4-7: Distribution of learner enrolments between the Local LSC areas in the East of England, by occupational groups

Source: LSC ILR 2006/07

4.40 The five largest providers of relevant HE-in-FE provision as recorded by the HESA Combined record were City College Norwich (36%), Colchester Institute (11%), West Suffolk College (9%), Oaklands College (8%) and Thurrock and Basildon College (6%). Together, these five providers accounted for 69% of all relevant HE-in-FE provision across the region. When looking at the distribution of learner enrolments related to the core occupational groups for sustainable communities between FE colleges in the region, it is evident that such provision was strongly correlated in a small number of providers across the region, as illustrated in Table 4-3.

Table 4-3: Distribution of learner enrolments (HE-in-FE) relating to the core occupational groups for sustainable communities between FE colleges in the East of England

<table>
<thead>
<tr>
<th>Occupational group</th>
<th>Largest five providers</th>
<th>Combined proportion of learner enrolments accounted for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community development</td>
<td>City College Norwich ; Colchester Institute ; Great Yarmouth College ; Bedford College ; Thurrock and Basildon College</td>
<td>86%</td>
</tr>
<tr>
<td>Housing and social services</td>
<td>City College Norwich ; Colchester Institute ; Great Yarmouth College ; Thurrock and Basildon College ; West Herts College</td>
<td>86%</td>
</tr>
<tr>
<td>Environmental</td>
<td>Easton College ; Otley College ; College of West Anglia (there were no other providers)</td>
<td>100%</td>
</tr>
<tr>
<td>Surveyors</td>
<td>Oaklands College ; West Suffolk College ; Chelmsford College ; South East Essex College ; City College Norwich</td>
<td>72%</td>
</tr>
<tr>
<td>Engineering</td>
<td>City College Norwich ; Oaklands College ; West Suffolk College ; Chelmsford College ; Thurrock and Basildon College</td>
<td>80%</td>
</tr>
</tbody>
</table>

Source: HESA Combined Record 2006/07
4.41 Figure 4-8 displays the distribution of learner enrolments by local LSC area and occupational group for relevant HE-in-FE provision delivered by FE colleges in the region.

![Figure 4-8 : Distribution of learner enrolments between the Local LSC areas in the East of England, by occupational groups](image)

Source: HESA Combined Record 2006/07

4.42 This Figure illustrates the predominance of Norfolk LSC area, which contributes to relevant learner enrolments far more than any other area with 42% of the total. This reflects the pre-eminence of City College Norwich, the single largest provider in the region for relevant provision (recorded in the HESA Combined Record) for all occupational groups with the exception of surveyors, in which it was the fifth largest provider.

4.43 Essex LSC area delivered a further 24% of relevant learner enrolments, with a third of all provision for surveyors. Provision was concentrated at Chelmsford College and South East Essex College. Colchester Institute in Essex also contributes to most of the remaining provision for community development and housing and social services (second after Norfolk).

4.44 Providers in Suffolk and Hertfordshire LSC areas were relatively important contributors to regional provision for the core occupations. There were only three providers offering relevant environmental provision with two providers located in Norfolk (Easton College and College of West Anglia) and the other in Suffolk (Otley College). Suffolk LSC area also had relatively high number of learner enrolments within the surveyors and engineering groups. Overall 15% of learner enrolments recorded by HESA Combined Record were in Suffolk LSC area. A further 11% were at providers in Hertfordshire LSC area, which again showed most provision offered by providers in this area relevant to surveyor and engineering occupations, in addition to a small amount of provision relevant to housing and social services.

4.45 In contrast, Cambridge and Bedfordshire LSC areas contributed only very small proportions of relevant HE-in-FE provision at FE colleges in the region. None of the providers in
Cambridgeshire LSC featured in the largest five providers for any of the occupational groups and instead there was only a very small amount of provision relevant to surveyors and engineering offered in this area. Bedfordshire and Luton showed very small numbers of enrolments across all occupational groups, with the exception of environmental. Only one provider - Bedford College - featured in the largest five providers for any of the occupational groups, which was for community development provision.

**Locating jobs and employers**

4.46 The ability to compare and contrast the spatial distribution of learner enrolments across the region with that of the workforce is limited by the nature of the data. As set out in Chapter 4, ABI has been used to provide some rough indication of where jobs and workplaces in selected industries (using 4-digit SIC codes) relevant to the core occupations are located. However, the ABI is subject to sampling errors and methodological changes over time and this limits its accuracy, particularly when disaggregating data geographically or by industry. Experian data has been used to provide further detail on the specific location of key employers in the region but again such data can be inaccurate, particularly in classifications of size (by number of employees) and industry. Nevertheless, it is useful to attempt to draw comparisons between the spatial distribution of learners and workers in the region, in order to understand better the balances between supply and demand.

4.47 ABI (2006) suggests workplaces in the selected industries (with 100 or more employees) supply around 135,600 employee jobs for the region, equating to nearly 6% of all jobs in businesses of this size in the East of England. Around quarter of these jobs are located in Hertfordshire LLSC area and another 23% in Essex. A further 17% of the jobs in the selected industries are in Norfolk and 14% in Cambridgeshire (and Peterborough) whilst the number of jobs located in Suffolk and Bedfordshire (and Luton) are smaller with 12% and 10%, of the regional total, respectively.

4.48 Table 4-4 provides a comparison of learner enrolments (recorded by both the ILR and HESA Combined Record) and the proportion of jobs in the selected industries relevant to the core occupations (recorded by ABI 2006) for each LLSC area. It shows Norfolk LLSC delivering nearly half of all learner enrolments in relevant HE-in-FE provision, largely due to the presence of City College Norwich. However the proportion of jobs in selected industries does not reflect this concentration of provision.

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12 ABI records in data (or local) units, which do not readily correspond to the commonly used terms firms, companies or businesses by which employers are sometimes identified. They are roughly equivalent to workplaces but because of the way the data are collected two or more units can be present in the same workplace (Nomis)

13 The confidence intervals and standard errors for ABI data for areas in the East of England can be found at [https://www.nomisweb.co.uk/articles/showArticle.asp?title=Information&article=news/071212_abi-stderrs.htm](https://www.nomisweb.co.uk/articles/showArticle.asp?title=Information&article=news/071212_abi-stderrs.htm) [accessed October 2008]

14 All ABI data has been rounded to the nearest 100th.
Table 4-4: Proportion of learner enrolments and jobs in selected industries by local LSC area

<table>
<thead>
<tr>
<th>Local LSC Area</th>
<th>Proportion of learner enrolments (ILR)</th>
<th>Proportion of learner enrolments (HESA)</th>
<th>Proportion of jobs in selected industries (ABI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedfordshire (and Luton)</td>
<td>15%</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>Cambridgeshire (and Peterborough)</td>
<td>12%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Essex</td>
<td>22%</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Hertfordshire</td>
<td>16%</td>
<td>11%</td>
<td>24%</td>
</tr>
<tr>
<td>Norfolk</td>
<td>17%</td>
<td>42%</td>
<td>17%</td>
</tr>
<tr>
<td>Suffolk</td>
<td>19%</td>
<td>15%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: LSC ILR 2006/07, HESA Combined Record 2006/07, ABI 2006

4.49 In many cases, workers in the core occupations will be based in more than one of our selected industries and indeed workers in the selected industries will often not fall into any one of the core occupations defined using SOC codes. Therefore, it is difficult to investigate the spatial distribution of the core occupations in any detail. However, some of the selected industry sectors are more closely defined and are more directly comparable with the core occupations, for example, the social work industries and the housing and social services occupational group.

4.50 Social work industries accounted for 11% of jobs in selected industries for the region. Just under a third of jobs in the social work with accommodation sector (36%) were based in Essex, and a further 29% were in Hertfordshire. Most jobs in social work activities without accommodation were based in Essex (40%) but also Norfolk (32%). Learner enrolments related to housing and social services provision was fairly evenly spread across the region but with relative concentrations in Suffolk, Essex and Hertfordshire LLSA areas. Higher education-in-FE enrolments were heavily concentrated in Norfolk LLSA area.

4.51 SIC codes 4511 to 4550 are all related to construction and therefore are likely to include a significant proportion of workers in engineering occupations. After ‘general public service activities’, construction was the largest contributor of jobs for the region (21% of the total). ABI data suggests 40% of these jobs were located at workplaces in Hertfordshire, indeed construction was an important industry in Hertfordshire, with 35% of all jobs in this county falling within this sector. A further 21% of construction jobs in the region were based in Essex, with smaller numbers in Norfolk and Suffolk (11% and 13%, respectively). Referring back to the distribution of learner provision related to engineering, learner enrolments at FE level were fairly evenly spread across the region with relative concentrations in Bedfordshire (and Luton) and Essex. For HE-in-FE, engineering provision was heavily concentrated in Norfolk and Hertfordshire.

4.52 Turning now to the location of key employers in the region, Experian identified 1,124 businesses that fall within the selected industries relevant to the core occupations, and which employ 100 or more people. This figure differs to the number of ‘workplaces’ suggested by the ABI, on which the analysis of jobs has been based. ABI data suggested there were

\[\text{number of workplaces} = 1,124\]

\[\text{number of jobs} = \text{number of workplaces} \times \text{average number of workers per workplace} \]

\[\text{average number of workers per workplace} \approx \text{number of workers} / \text{number of workplaces} \]

\[\text{number of workers} = \text{number of workplaces} \times \text{number of workers per workplace} \]

\[\text{number of workers per workplace} = \text{number of workers} / \text{number of workplaces} \]

\[\text{number of workers per workplace} \approx \text{number of workers} / \text{number of workplaces} \]

\[\text{number of workers} = \text{number of workplaces} \times \text{number of workers per workplace} \]

\[\text{number of workplaces} = \text{number of workers} / \text{number of workers per workplace} \]

\[\text{number of workplaces} = \text{number of workers} / \text{number of workers per workplace} \]

\[\text{number of workplaces} = \text{number of workers} / \text{number of workers per workplace} \]

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\[\text{number of workplaces} = \text{number of workers} / \text{number of workers per workplace} \]

4.53 Including SIC code 8531, Social work activities with accommodation and 8532, Social work activities without accommodation
approximately **500 workplaces** in the East of England in the selected industries relevant to the core occupations for sustainable communities that employ 100 or more people. However, Experian duplicates\(^{16}\) businesses that are of the same franchise, which are likely to have been counted as only one ‘workplace’ (the head office) in the ABI. Once these duplications are removed, Experian lists **around 400 businesses** against the same criteria.

4.53 Experian data suggests over a quarter of businesses (27%) in the selected industries are located in Essex LSC area, with a further 20% in Hertfordshire, 18% in Norfolk, 13% in Suffolk, 12% in Cambridgeshire (and Peterborough) and the remaining 10% in Bedfordshire (and Luton). Table 4-5 provides a comparison of learner enrolments recorded by both the ILR and HESA Combined Record, with the proportion of businesses recorded in each local LSC area.

<table>
<thead>
<tr>
<th>Proportion of learner enrolments (ILR)</th>
<th>Proportion of learner enrolments (HESA)</th>
<th>Proportion of businesses in selected industries (Experian)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedfordshire (and Luton)</td>
<td>15%</td>
<td>6%</td>
</tr>
<tr>
<td>Cambridgeshire (and Peterborough)</td>
<td>12%</td>
<td>2%</td>
</tr>
<tr>
<td>Essex</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>Hertfordshire</td>
<td>16%</td>
<td>11%</td>
</tr>
<tr>
<td>Norfolk</td>
<td>17%</td>
<td>42%</td>
</tr>
<tr>
<td>Suffolk</td>
<td>19%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Source: LSC ILR 2006/07, HESA Combined Record 2006/07, ABI 2006

4.54 Once more, the number of employers located in Norfolk as a proportion of the regional total does not reflect the dominance of HE-in-FE learner enrolments. Whereas ABI data suggests Cambridge local LSC area contained one quarter of all jobs in selected industries for the region, according to Experian data the area only contains just over one tenth of all key employers, which is more in line with the relative contribution of learner enrolments.

4.55 Experian data suggested the largest sectors in the region by far, in terms of number of businesses was construction (43% of the regional total number of businesses). However, this is likely to include a large number of businesses that are not directly relevant to the sustainable communities agenda in terms of employing ‘managers in construction’. 17% of businesses in the region were in the social work sectors according to these data, and a further 10% in architectural engineering and consultancy. Figure 4-9 below maps the postcodes of the circa 400 businesses (excluding the duplicates) in the region which have been identified as relevant to the sustainable communities workforce.

\(^{16}\) A significant proportion of these duplicates were charities with outlets located throughout the region.
Annex D provides more information on the location of businesses in the region. A list of businesses in particular sectors, most relevant to the core occupations, is also provided.

Summary

The six occupational groups that comprise the workforce for this study were not equally represented in the provision delivered by general and specialist FE colleges in the East of England.
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England. According to the ILR, three occupational groups each accounted for more than a quarter of the relevant learner enrolments in 2006/07 (housing and social services, surveyors and engineering). The remaining three occupational groups each accounted for less than 10% of relevant learner enrolments, including architects and town planners for which there were virtually no learner enrolments identified. Eighteen out of the 25 colleges also offered relevant HE-in-FE provision and take up was predominately in subjects associated with housing and social services, engineering, community development and to a lesser extent surveying. There was very little take-up of environmental, architecture and town planning provision at this level.

4.58 Data suggested there were a large number of learner enrolments on subjects relating to some occupations compared to a relatively small workplace population (as a proportion of the regional workforce), in particular for housing and social services, community development and surveyor occupations. In contrast, architectural and town planners and engineering occupations had larger workforce populations (as a proportion of the regional workforce) compared to the regional total number of learner enrolments. Looking at the characteristics of the regional workforce and learner populations, the following points were identified:

- Overall, most learners were aged 16-19, with the frequency of learner enrolments dropping markedly with increasing age, with the exception of community development for which there was a very widely spread age distribution. This may reflect the older workforce population.

- The majority of enrolments were by male learners but under this there existed stark gender splits for most of the occupational groups. Community development and housing and social services were female-dominated whilst surveyors and engineering were male-dominated, again reflecting trends across the regional workforce.

- The ethnicity of the learner population is in line with patterns of diversity present in the workforce population, with white ethnic groups dominating but with community development showing the highest proportion of non-white ethnic groups.

4.59 Despite all 25 general and specialist FE colleges in the region offering at least some provision relevant to the core occupations for sustainable communities, there were some notable differences between local areas. The provider analysis of supply suggested the following:

- All 25 of the general and specialist FE colleges in the East of England region delivered some provision relevant to the core occupations in the sustainable communities workforce. The five largest providers were Bedford College, Otley College, City College Norwich, College of West Anglia and Chelmsford College.

- Relevant LSC-funded learner enrolments provision for community development was heavily concentrated in Suffolk and environmental provision concentrated in Norfolk and Suffolk. Provision for the remaining occupations was more evenly distributed across the region.

- The LLSC area delivering the largest proportion of relevant learner enrolments was Essex. The local LSC area delivering the smallest proportion was Cambridgeshire.
• The LLSC area delivering the largest proportion of relevant FE learner enrolments in HE-in-FE was Norfolk. In contrast, Cambridge and Bedfordshire local LSC areas contributed only very small proportions.

Overall, the contribution of FE and HE-in-FE learner enrolments was largely in line with the proportion of jobs and key employers in each LLSC area. For example, the largest contributor of LSC-funded learner enrolments - Essex LLSC area - had a similar proportion of jobs and key employers (at 23% and 27% of the regional total, respectively) compared to the proportion of learner enrolments (22% of all LSC-funded learner enrolments and 24% of HE-in-FE provision). There was some differentiation in Norfolk, which despite contributing the largest proportion of relevant HE-in-FE learner enrolments, in terms of the contribution of regional jobs by this LLSC area, it ranked third. However, Experian data did suggest that nearly a fifth of all relevant employers were located in Norfolk.
5: The case study occupations

Key points

- The five case study occupations selected for more detailed investigation included building and civil engineering technicians, conservation and environmental protection officers, housing and welfare officers, managers in construction and youth and community workers.

- The volume of relevant provision at level 3 delivered varied substantially between the five occupations. By far the most provision was available for youth and community workers. By contrast, there was little provision at level 3 delivered for conservation and environmental protection officers and housing and welfare officers.

- Employers in the selected industries, surveyed by the National Employer Skills Survey (2007) stated lack of experience or recent recruitment was the main reason behind lack of proficiency. Skills found difficult to obtain from applicants were technical/practical/job-specific, oral communication, and written skills.

- Team working skills, oral communication skills, management skills, problem solving skills and technical/practical/job-specific skills were commonly mentioned as skills that needed improving most.

- Around 60% of employers had used FE colleges to provide teaching and training over the past year. Those employers not using FE colleges stated in all cases it was because the courses were not relevant and that they preferred in-housing training.

Introduction

5.1 Building on the analysis of data for all core occupations, the second part of the study identified and investigated a selection of the core occupations in more detail. The purpose of the case studies was to:

- obtain information on the estimated workplace and resident population data, using the Census and LFS

- allow for a more thorough investigation of subject areas and qualification levels relating to these occupations using information derived from the ILR and HESA analyses

- explore typical entry routes and career pathways into these occupations.

5.2 This chapter opens with a discussion of the selection of the five case studies, followed by an overview of the findings in relation to learner enrolments, and skills needs, gaps and shortages for the five occupations. Details for each case study are presented at the end of this chapter.
Case study selection

5.3 The case studies were selected on the basis of three criteria:

- the apparent importance of FE support for the entry to the core occupations
- the size of national workforce in these occupations
- the proportion of workers working in the relevant SIC codes.

5.4 Construction workers were identified in the study brief as a possible subject for case study investigation, focusing on how the FE sector supports routes into managerial and supervisory roles. Youth and community workers were also identified as a focus for the study, given the potential contribution of the FE sector and the importance of understanding entry routes and progression in an area where there is currently no professional body.

5.5 To identify the remaining case studies, those occupations which are likely to be most relevant to the FE sector were selected by identifying SOC codes categorised as associate professional and technical occupations (major group 3 in the 2000 SOC system). With the exception of managers in construction, ‘managers and senior officials’ and ‘professional occupations’ (major groups 1 and 2 respectively) have been excluded as they are associated primarily with graduate entry routes to employment. Of the total 24 SOC codes selected, there were nine major group 3 associate professional and technical occupations.

5.6 Of these nine occupations, and with ‘managers in construction’ and ‘youth and community workers’ already selected, four further occupations were chosen as meeting the criteria outlined above. The final six occupations selected for the case studies are summarised in Table 5-1 overleaf.

Table 5-1: Selected case study occupations

<table>
<thead>
<tr>
<th>SOC major group</th>
<th>Number of workers nationally across all industries (SIC codes)</th>
<th>Number of workers nationally across selected industries</th>
<th>% of national workforce in selected industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1122: Managers in Construction</td>
<td>249,334</td>
<td>209,184</td>
<td>84%</td>
</tr>
<tr>
<td>3121: Architectural and Town Planning Technicians</td>
<td>25,555</td>
<td>24,719</td>
<td>97%</td>
</tr>
<tr>
<td>3114: Building and Civil engineering Technicians</td>
<td>28,732</td>
<td>21,317</td>
<td>74%</td>
</tr>
<tr>
<td>3551: Conservation and Environmental Protection Officers</td>
<td>23,221</td>
<td>19,451</td>
<td>84%</td>
</tr>
<tr>
<td>3232: Housing Welfare Officers</td>
<td>162,335</td>
<td>131,120</td>
<td>81%</td>
</tr>
<tr>
<td>3231: Youth and Community Workers</td>
<td>102,807</td>
<td>79,309</td>
<td>77%</td>
</tr>
</tbody>
</table>

Source: SQW Consulting
5.7 Following initial analysis of FE provision in the region using the ILR 2006/07, the decision was made to exclude the case study for architectural and town planning technicians because there was insufficient provision. As with the other five case studies, data was extracted from the ILR using the qualification titles listed by the QCA/Ofqual in their National Database of Accredited Qualifications (NDAQ). This resulted in just over 1,000 learner enrolments being identified at general and specialist FE colleges in the East of England.

5.8 However, this contradicted the finding from the broader occupational analysis which revealed there are just 10 learner enrolments in the LSC ILR 2006/07 under the broader 'architects and town planners' occupational group (within which this case study would sit). Upon closer investigation, it was found that the enrolments against the qualifications identified by the NDAQ were BTEC qualifications in construction, building services engineering and civil engineering, which had been allocated to the surveyors and the engineers’ occupational groups. In other words, the qualifications identified by the NDAQ as appropriate for architectural and town planning technicians are very generic; moreover they are more appropriately allocated to other occupational groups.

5.9 Despite the unavailability of supply-side data, architectural and town planning technicians have not been excluded from the analysis completely. A partially-complete case study for this occupation has been included, providing information on the workforce, skills issues, entry routes and career pathways.

Overview of the case study occupations

5.10 An overview of the analyses for the five case studies is provided in the following section before presenting the five case study pro formas. It is important to reiterate here that there are important limitations relating to data used to inform the case studies, such as sampling error and non-response, particularly when considering the estimates of the resident/workplace populations (LFS and Census) and the number of jobs/businesses in the region (ABI and Experian).

Learner provision

5.11 Data from the ILR record 2006/07 was extracted for each of the five case study occupations (not architectural and town planning technicians). To achieve this, we used a different method to the one employed for the previous chapters. We drew on information provided by the QCA/OfQual concerning the qualifications that are suitable for particular occupations stored on the NDAQ. The scope of the provision analysed was limited to NVQ level 3 and the learning aims17 listed on the NDAQ for these five case study occupations.

5.12 The volume of relevant provision at level 3 delivered in the East of England varied substantially between the five case study occupations. By far the most provision was available for youth and community workers. By contrast, there was little provision in the region delivered for conservation and environmental protection officers and housing and

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17 The NDAQ identifies appropriate learning aims by their learning aim reference number, which is specific to a particular awarding body. We have broadened the scope of the provision considered here by also extracting provision with the same title that is accredited by other awarding bodies.
welfare officers. Compared to the volume of provision nationally, the East of England had relatively high levels of provision for building and civil engineering technicians. On the other hand, there was a notable gap in the amount of level 3 provision for housing and welfare officers comparison with provision at the national level.

5.13 Further findings from the ILR analysis are summarised below. The total number of learner enrolments at level 3 for some of the occupations is very small and therefore the analysis of learner characteristics is limited. The complete analysis can be found in Annex G.

- There were 1,916 learner enrolments on level 3 provision relevant to youth and community workers. The demographic characteristics of these learners are similar to the community development occupational group described in the regional level analysis.

- There were 167 learner enrolments on level 3 provision relevant to building and civil engineering technicians. The age and gender characteristics of these learners were in accordance with the engineering occupational group outlined in the regional level analysis, but ethnic diversity was notably less.

- There were 436 learner enrolments on level 3 provision relevant to managers in construction. This group of learners was notably different to the engineering occupational group described in the regional level analysis: learners tended to be older, women were considerably more common and there was slightly greater ethnic diversity.

- There were 82 learner enrolments on level 3 provision relevant to conservation and environmental protection officers. These learners were markedly different from the characteristics of the environmental occupational group described in the regional level analysis: learners were younger, with a strong male bias and there was less ethnic diversity.

- There were just 28 learner enrolments on level 3 provision relevant to housing and welfare officers. While the gender and ethnicity characteristics aligned with the trends among the housing and social services occupational group outlined in the regional level analysis, these learners tended to be older.

**Skills needs, gaps and shortages**

5.14 The National Employer Skills Survey (NESS) collects data on the ‘incidence, extent and nature of skills problems facing employers, in terms of both recruitment and skill gaps within their existing workforce’ (LSC), and explores expenditure on training activities. The 2007 NESS is based on a survey of around 79,000 employers in England, which was followed by a sub-sample survey with 7,000 employers to obtain information on those that had funded or arranged training. For the East of England, the un-weighted employment base surveyed was 8,454.

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18 The small proportion of learners at NVQ level 3 for this occupation is inconsistent with findings for the wider housing and social services occupational group, and appears to be an anomaly. It may be explained by the inclusion of more highly-qualified occupations in this wider group.
5.15 Regional NESS data have been analysed for all case study occupations (including architectural and town planning technicians). The survey does not collect information on individual 4-digit SOC codes (3-digit SOC codes are employed). Data has been analysed by SOC Major Groups\textsuperscript{19} as displayed in Table 5-2. All but one of the case study occupations are classified in SOC Major Group 3 – ‘associate professionals’. 14\% of employers surveyed in the East the England stated they employed associate professionals, and therefore the information extracted from the NESS can be treated as indicative only. Managers in construction are the exception and are classified as Major SOC Group 1, defined as ‘managers and senior officials’. 91\% of employers in the region stated they employed managers or senior officials.

<table>
<thead>
<tr>
<th>Case study occupation</th>
<th>SOC Major Group</th>
<th>Selected SIC codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architectural and town planning technicians</td>
<td>3: Associate professionals</td>
<td>4511-4550, 7011, 7420, 7511, 7512, 7514, 8532</td>
</tr>
<tr>
<td>Building and civil engineering technicians</td>
<td>3: Associate professionals</td>
<td>4511-50, 7420</td>
</tr>
<tr>
<td>Conservation and environmental protection officers</td>
<td>3: Associate professionals</td>
<td>4511-50, 7511, 7420, 7524, 9000, 9112, 9133, 9261, 9272</td>
</tr>
<tr>
<td>Housing and welfare officers</td>
<td>3: Associate professionals</td>
<td>7011, 7511, 7512, 7523, 8531, 8532</td>
</tr>
<tr>
<td>Managers in construction</td>
<td>1. Managers and senior officials</td>
<td>4511-50, 7011, 7420</td>
</tr>
<tr>
<td>Youth and community workers</td>
<td>3: Associate professionals</td>
<td>7511, 7512, 7523, 7524, 8531, 8532, 9133</td>
</tr>
</tbody>
</table>

5.16 A full analysis of the 2007 NESS for the case study occupations is provided in Annex E. The main findings from the analysis are summarised below:

- When looking across all six case study occupations, the selected industries with the highest proportion of hard–to-fill vacancies related to conservation and environmental protection officers, and building and civil engineering technicians. In contrast, employers in selected industries associated with housing and welfare officers and youth and community workers had very low numbers of vacancies. The main causes of these vacancies across all selected industries were low numbers of applicants with the required skills, with the exception of architectural and town planning technologists and technicians, where people ‘not interested in the job’ was commonly stated as the reason for vacancies.

- Again, when considering skills shortage vacancies, the highest number were in selected industries relating to conservation and environmental protection officers, and the lowest among housing and welfare officers and youth and community workers.

\textsuperscript{19} The SOC Major Groupings are as follows: Managers and Senior Officials; Professional Occupation; Associate Professional and Technical Occupations; Administrative and Secretarial Occupations; Skilled Trades Occupations; Personal Service Occupations; Sales and Customer Service Occupations; Process, Plant and Machine Operatives, and; Elementary Occupations
Employers associated with youth and community workers suggested considerable skills gaps compared to the other occupations. The skills gap having the greatest negative impact varied across occupations. For employers in industries related to managers in construction, management skills were considered as having the greatest negative impact whereas for architectural and town planning technologists and technicians, housing and welfare officers, and youth and community workers it was problem solving. For employers in industries related to building and civil engineering technicians and conservation and environmental protection officers, technical/practical/job-specific skills were having the greatest negative impact.

In all cases, lack of experience or recent recruitment was stated as the main reason behind the lack of proficiency, followed by recruitment problems, or the inability for the workforce to adapt to change. Skills found difficult to obtain from applicants were technical/practical/job-specific skills across all occupations, followed most commonly by oral communication and written skills. When considering which skills need improving there was variation between occupations but team working skills, oral communication skills, management skills, problem solving skills and technical/practical/job-specific skills were all frequently mentioned.

When exploring training there was variation between the balance of off-the-job and on-the-job training across occupations. Whilst employers associated with managers in construction, housing and welfare officers, and youth and community workers had a higher proportion of off-the-job training, the other occupations had less. Generally, around 60% of establishments had used FE colleges to provide teaching and training over the past year whilst over 80% had used other providers. Those employers not using FE colleges stated in all cases it was because the courses were not relevant and that they preferred in-house training. Table 5-3 overleaf summarises the main findings for the case studies according to a list of common indicators reviewed for each.
**Table 5-3: Summary of findings from the case studies**

### Regional workforce population

<table>
<thead>
<tr>
<th>Number of employed residents/workplace population</th>
<th>1,900 living in the region</th>
<th>1,400 living in the region</th>
<th>11,500 living in the region</th>
<th>21,300 living in the region</th>
<th>3,560 living in the region</th>
<th>1,560 living in the region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,500 working in the region</td>
<td>1,300 working in the region</td>
<td>9,000 working in the region</td>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
</tr>
<tr>
<td>1,400 living in the region</td>
<td>1,300 working in the region</td>
<td>9,000 working in the region</td>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
</tr>
<tr>
<td>1,300 working in the region</td>
<td>9,000 working in the region</td>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9,000 working in the region</td>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,300 working in the region</td>
<td>9,000 working in the region</td>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9,000 working in the region</td>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17,500 working in the region</td>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,850 working in the region</td>
<td>1,300 working in the region</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,300 working in the region</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Gender split

- 91% male, 9% female
- 68% male, 32% female
- 81% female, 19% male
- 96% male, 4% female
- 72% female, 28% male
- 78% male, 28% female

### Age profile

- 24% aged under 30, 31% aged over 50
- 24% aged under 30, 21% aged over 50
- 33% aged over 50 years old, 16% aged under 30
- 8% aged under 30, 36% aged over 50
- 25% aged under 30, 21% aged over 50
- 27% aged under 30, 27% aged over 50

### Ethnicity

- 98% ethnically white
- 98% ethnically white
- 95% ethnically white
- 98% ethnically white
- 93% ethnically white
- 98% ethnically white

### Qualification level

- 35% qualified to Level 4+, 7% Level 3, 23% Level 2, 16% Level 1, 7% no qualifications.
- 73% qualified to Level 4+, 33% Level 3, 10% Level 2, 8% Level 1 and 5% no qualifications.
- 34% qualified to Level 4+, 13% Level 3, 22% Level 2, 15% Level 1, 9% no qualifications.
- 22% qualified to Level 4+, 6% Level 3, 20% Level 2, 22% Level 1, 16% no qualifications.
- 38% qualified to Level 4+, 14% Level 3, 20% Level 2, 15% Level 1 and 6% no qualifications.
- 53% qualified to Level 4+, 9% Level 3, 23% Level 2, 11% Level 1, 2% no qualifications.

### Regional provision

<table>
<thead>
<tr>
<th>Number of learner enrolments</th>
<th>167 learner enrolments on Level 3 qualifications</th>
<th>82 learner enrolments on Level 3 qualifications</th>
<th>28 learner enrolments on Level 3 qualifications</th>
<th>436 learner enrolments on Level 3 qualifications</th>
<th>1,916 learner enrolments on Level 3 qualifications</th>
<th>Data unavailable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender split</td>
<td>89% male, 11% female</td>
<td>90% male, 10% female</td>
<td>82% female, 18% male</td>
<td>55% female, 45% male</td>
<td>85% female, 15% male</td>
<td>Data unavailable</td>
</tr>
<tr>
<td>Age profile</td>
<td>40% of enrolments was in the 16-19 age group</td>
<td>72% of enrolments was in the 16-19 age group</td>
<td>39% of enrolments in the 40-44 age group</td>
<td>17% of enrolments were in the 25-29 age group</td>
<td>18% of learner enrolments were in the 40-44 age group</td>
<td>Data unavailable</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>96% ethnically white</td>
<td>100% ethnically white</td>
<td>96% ethnically white</td>
<td>88% ethnically white</td>
<td>83% ethnically white</td>
<td>Data unavailable</td>
</tr>
<tr>
<td>Relative concentrations of provision</td>
<td>Engineering provision fairly evenly distributed but relative concentrations in Bedfordshire (and Luton) and Essex.</td>
<td>Provision for environmental occupations was concentrated in Norfolk and Suffolk. There was no provision in Hertfordshire and small volumes in Essex.</td>
<td>Housing and social services well distributed, relative concentrations existing in Suffolk and Hertfordshire.</td>
<td>Engineering provision fairly evenly distributed but relative concentrations in Bedfordshire (and Luton) and Essex.</td>
<td>Community development provision heavily concentrated in Suffolk (FE). Small volumes in Bedfordshire (and Luton).</td>
<td>Data unavailable</td>
</tr>
</tbody>
</table>
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The largest providers (FE) for provision relevant to the occupational group

<table>
<thead>
<tr>
<th>Region</th>
<th>Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedford College, Peterborough Regional College, College of West Anglia, Oaklands College and Hertford Regional College (41% of learner enrolments for the region).</td>
<td></td>
</tr>
<tr>
<td>Otley College, College of West Anglia, Bedford College, City College Norwich, South East Essex College (92% of all learner enrolments for the region).</td>
<td></td>
</tr>
<tr>
<td>Otley college, Suffolk New College, North Hertfordshire College, City College Norwich, South East Essex College (36% of all learner enrolments for the region).</td>
<td></td>
</tr>
<tr>
<td>Bedford College, Peterborough Regional College, college of West Anglia, Oaklands College, Hertford Regional College (41% of all learner enrolments for the region).</td>
<td></td>
</tr>
<tr>
<td>Otley College, North Hertfordshire College, Chelmsford, Suffolk New College, City College Norwich (89% of all learner enrolments for the region).</td>
<td></td>
</tr>
</tbody>
</table>

The largest providers (HE-in-FE) for provision relevant to the occupational group

<table>
<thead>
<tr>
<th>Region</th>
<th>Providers</th>
</tr>
</thead>
<tbody>
<tr>
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Employers

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## Skills and training

### Vacancies
- 47% of employers stated hard-to-fill vacancies. 43% said it was because of none or few applicants with the required skills.
- 48% of employers stated hard-to-fill vacancies. 43% said it was because of none or few applicants with the required skills and lack of work experience.
- 3% of employers stated hard-to-fill vacancies. 8% of employers stated hard-to-fill vacancies. 3% of employers stated hard-to-fill vacancies. 14% of employers stated hard-to-fill vacancies.

### Skills gap
- 4% of employers stated a skills gap.
- 16% of employers stated a skills gap. Lack of technical/practical/job-specific, and problem-solving skills were having the greatest negative impact.
- 28% of employers stated a skills gap. Lack of management skills was having the greatest negative impact.
- 12% of employers stated a skills gap. Lack of problem-solving skills was having the greatest negative impact.
- 35% of employers stated a skills gap. Lack of problem-solving skills was having the greatest negative impact.
- 24% of employers stated a skills gap. Lack of problem-solving skills was having the greatest negative impact.

### Skills for improvement
- 47% of employers stated oral communication skills needed improving.
- 63% of employers stated technical/practical/job-specific needed improving most followed by oral communication skills (42%).
- Team working, problem solving and management skills all needed improving according to employers.
- 53% of employers stated technical/practical/job-specific needed improving most followed by oral communication skills (47%) and management skills (45%).
- All employers stated the main skills for improvement were either team working or problem solving.
- 72% of employers stated team working skills needed improving most, followed by problem solving and management skills (both at 71%).

### On and off-the-job training
- 23% of associate professionals trained off-the-job over the last 12 months, 26% on-the-job.
- 34% of associate professionals trained off-the-job over the last 12 months, 37% on-the-job.
- 41% of associate professionals trained off-the-job over the last 12 months, 20% on-the-job.
- 63% of managers trained off-the-job over the last 12 months, 56% on-the-job.
- 50% of associate professionals trained off-the-job 26% on-the-job.
- 41% of associate professionals trained off-the-job 20% on-the-job.

### Training at FE colleges
- 58% of employers had used FE colleges to provide teaching and training, 80% had used other providers.
- 60% of employers had used FE colleges to provide teaching and training, 85% had used other providers.
- 40% stated they had not used FE colleges because the courses provided were not relevant and 28% prefer in-house training.
- 65% of employers had used FE colleges to provide teaching and training, 88% had used other providers.
- 36% stated they had not used FE colleges because the courses provided were not relevant and 28% prefer in-house training.
- 41% stated they had not used FE colleges because the courses provided were not relevant.
- 59% of employers had used FE colleges to provide teaching and training, 90% had used other providers.
- 34% stated they had not used FE colleges because the courses provided were not relevant 33%.
- 66% of employers had used FE colleges to provide teaching and training, 86% had used other providers.
- 38% stated they had not used FE colleges because the courses provided were not relevant (25%).

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Source: SQW Consulting
The case studies

Table 5-4: Building and civil engineering technicians

<table>
<thead>
<tr>
<th>Occupation description</th>
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</thead>
<tbody>
<tr>
<td>Building and civil engineering technicians provide technical functions to assist civil and building engineers. The role can involve:</td>
</tr>
<tr>
<td>• design – surveying and assessing sites, arranging for soil and rock samples to be analysed, producing design drawings</td>
</tr>
<tr>
<td>• estimating - preparing detailed estimates and producing information on the quantity and type of materials to be used</td>
</tr>
<tr>
<td>• planning - helping to set target dates for completing each stage of construction</td>
</tr>
<tr>
<td>• buying - helping to cost and buy materials, equipment and labour</td>
</tr>
<tr>
<td>• site engineering - checking the progress of the construction work</td>
</tr>
<tr>
<td>• land and quantity surveying</td>
</tr>
</tbody>
</table>

The workforce

The national and regional workforce:

• There were over 21,300 employed residents working as building and civil engineering technicians in sustainable communities industries recorded by the LFS for 2007 in Great Britain. In the East of England, there were nearly 1,900 employed residents who were working in this occupation across all industries. Regarding the workplace population, there were around 1,500 building and civil engineering technicians working in the region across all industries.

• The occupation is male-dominated with 91% male and only 9% female. This is similar to the trends across the East of England where 89% and 87% of technicians across the employed resident and workplace population, respectively, are male.

• 90% of the national population of technicians working in industries relevant to the sustainable communities workforce were ethnically white, 6% were ethnically Black or Black British and 4% ethnically Asian or Asian British. The East of England showed less ethnic diversity within this occupation with 98% who were ethnically white, taking account of all industries.

• Nationally, 56% of technicians working across industries relevant to the sustainable communities workforce were qualified to NVQ Level 4 or above, 17% to Level 3, 3% to Level 2 and 2% with no qualifications. For both the employed resident and workplace population in the East of England across these same selected industries, around 32-35% of technicians were qualified to Level 4 or above, 7-9% to Level 3, 21-24% to Level 2, 19-16% to Level 1 and 8% had no qualifications.

Key employers in the region:

The majority of building and civil engineering technicians are employed in construction-related industries, or in architectural engineering and consultancy. There are over 28,150 jobs in the East of England in construction-related industries according to ABI data across 170 different businesses (Experian). A limited proportion of these jobs are likely to be for technicians. There are a further 7,000 jobs in architectural engineering and consultancy jobs, and 40 businesses in the region.

Skills needs, gaps and shortages:

According to the NESS 2007, 47% of employers in selected industries associated with building and civil engineering occupations stated they had hard to fill vacancies for associate professionals (compared to 20% across all selected industries). Nearly half of employers (43%) suggested the main cause was because of none or few applicants with the required skills and 24% suggested it was because of lack of experience which the company demands. 35% of employers stated they had skills shortage vacancies for associate professionals (compared to 31% across all selected industries).

Only 4% of employers stated they had a skills gap for associate professionals associated with this occupation (compared to 20% across all selected industries). The skills gap having the greatest negative impact for associate professionals was technical/project/job-specific skills and management skills (27% and 23%, respectively). Skills found difficult to obtain from applicants were predominately technical/practical/job-specific skills, customer handling skills and problem solving skills.

Summit Skills suggest basic skills levels of new entrants are getting worse. Employers suggested oral communication skills and management skills need improving most (47% and 45%, respectively). Across all selected industries technical/practical/job-specific was considered as a higher priority.

Training

The NESS 2007 suggests 23% of associate professionals have been trained off-the-job and 26% were trained on-the-job. Over half (58%) of employers had used FE colleges to provide teaching and training over the past 12 years.
months. 88% of employers had used other providers. The reasons not for engaging in teaching and training at FE colleges were primarily because the courses they provide are not relevant (36%) or because employers prefer in-house training (28%).

For those employers that have not provided training over the past twelve months (58%), the main reason was because staff were fully proficient. Summit Skills suggested in relation to Building Services Engineering Technicians, that there was a shortage of NVQ Level 3 Apprenticeship Training in the East of England.

**Learner profile**

The ILR 2006/07 indicated the following in relation to provision for building and civil engineering technicians (data are compared with take up of level 3 qualifications for the occupation nationally, and also with relevant FE and HE-in-HE provision [at all levels] offered at general and specialist FE colleges in the region for the engineering occupational group).

- There were 167 learner enrolments for learning aims specifically related to building and civil engineering technicians at general and specialist FE Colleges in the East of England region. This equates to nearly 10% of this type of provision delivered in England as a whole, which is more than the overall contribution of the region to national FE provision (7.5%).
- The largest proportion of enrolments was in the 16-19 age groups (40%), echoing trends across the engineering occupational grouping as a whole, but differing to national trends where there was a more marked proportion of younger learners, suggesting a slightly older age profile for this occupation in the East of England.
- 89% of level 3 learner enrolments were taken up by males, which was less than across the engineering occupational group and nationally (94% and 93%, respectively).
- 96% of enrolments at level 3 were by learners who were ethnically white, suggesting a less ethnically diverse profile compared to the engineering occupational group as a whole and national trends (86% and 93%, respectively).

**Main providers:**

- Provision related to the engineering occupational group at FE level was fairly spread out across the region with relative concentrations in Bedfordshire (and Luton) and Essex. However, the five largest providers for provision related to engineering were Bedford College, Peterborough Regional College, College of West Anglia, Oaklands College and Hertford Regional College (41% of all learner enrolments for the region).
- Provision related to the engineering occupational group for HE-in-FE was much more concentrated, with 80% of provision delivered by the following five providers: City College Norwich; Oaklands College; West Suffolk College; Chelmsford College; and Thurrock and Basildon College.

**Entry routes and career pathways**

**Entry routes**

Apprenticeships, national certificates and diplomas are common routes into this occupation. Relevant FE qualifications identified from the National Database of Accredited Qualifications (NDAQ) include the following:

- National Diploma/Certificate in Building Services Engineering
- National Diploma/Certificate in Civil Engineering
- Award in Building Services Engineering
- Award in Construction and the Built Environment.

A common entry route into technician roles will be through an Apprenticeship with a company or employer including Building Services Engineers Apprenticeships. The 14–19 Diploma in Construction and the Built Environment, and the Diploma in Engineering are also available from September 2008.

**Career Pathways**

Technicians aim to gain the qualification EngTech. To achieve this they must register formally with Engineering Council UK (ECUK) as an engineering technician. This requires an appropriate qualification such as an NVQ/SVQ Level 3 or BTEC national certificate or diploma. 21

Technicians may go on to become engineers and can gain Chartered engineer (CEng) or incorporated engineer (IEng) status through membership of the Chartered Institution of Building Services Engineers (CIBSE) or other engineering institutions licensed by the Engineering Council UK (ECUK). For chartered status (CEng), an accredited first degree with honours in engineering or technology plus an appropriate accredited MEng or an accredited integrated MEng degree is usually required. Accreditation of degrees is conferred by CIBSE and the ECUK.

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21 Prospects, www.prospects.ac.uk
Conservation and environmental protection officers are responsible for the scientific planning and daily running of areas of the environment in a way that reconciles the interests of conservation, land owners and the public. More specifically, conservation officers are responsible for a range of activities that benefit the natural environment including the management, protection and development of the countryside.

Environmental officers assist environmental managers in monitoring environmental legislation and employer compliance, assist projects helping to minimise waste, meet emissions conditions and improve energy efficiency, and contribute to environmental awareness programmes.

### The workforce

**The national and regional workforce:**

- There were nearly 14,500 employed residents working as conservation and environmental protection officers in sustainable communities industries recorded for 2007 in Great Britain. In the East of England, there were over 1,400 employed residents in this occupation. Nearly 1,300 conservation and environmental protection officers were working in the region.
- 68% of employed residents at the national level were male and 32% female, which matched the profile for the East of England.
- 90% of officers in industries relevant to the sustainable communities workforce in Great Britain were ethnically white, 7% Black or Black British and 3% of other ethnic group. There was less ethnic diversity at the regional level, with 98% of both the employed resident and workplace population being of white ethnicity.
- Nationally, across the industries relevant to the sustainable communities workforce, the proportion of officers qualified to NVQ Level 4 or above was higher at 88% compared to the East of England at 73% (employed residents and workplace population). 5% of employed residents in the region were qualified to Level 2, as were 3% of the workplace population, compared to 3% nationally.

### Key employers in the region:

Conservation and environmental protection officers are more evenly spread across industrial sectors compared to most of the other occupations. The highest proportion tends to work in architectural engineering and consultancy. There are around 7,000 jobs in architectural engineering and consultancy across 40 businesses in the region. Some may also work for Government and regulatory bodies for which there are a further 8,100 jobs amongst a very small number of businesses. Conservation and environmental protection officers will only make up a very small number of these jobs within these organisations.

### Skills needs, gaps and shortages:

The NESS 2007 suggests 48% of employers working in selected industries associated with this occupation had hard to fill vacancies for associate professionals (compared to 20% of employers across all selected industries related to sustainable communities). The main causes were low number of applicants with the required skills and a lack of work experience. 37% of employers stated they had skills shortage vacancies for associate professionals within the selected industries for this occupation (compared to 31% across all selected industries).

16% of employers stated they had a skills gap for associate professionals (compared to 20%). The skills gap having the greatest negative impact for associate professionals in this field were technical, practical and job-specific skills whereas across all selected industries, problem solving skills were considered as having the greatest negative impact.

54% of employers considered technical, practical and job-specific skills as difficult to obtain from applicants as were oral communication skills at 42%. The same reasons were given across all selected industries at 75% and 24%, respectively.

The results indicate that the skills most in need of improvement are technical, practical and job-specific skills (63%), team working (55%) and problem solving skills (49%). Across all selected industries, team working (65%), problem solving skills (60%) and management skills (52%) were the main areas for improvement.

### Training

34% of associate professionals have been trained off-the-job over the past twelve months, compared to 37% trained on-the-job. 80% of employers stated that they had used FE to provide teaching or training over the past twelve months. 85% of employers had used other providers over the past twelve months. 40% stated they had not used FE Colleges because the courses were not relevant and a further 22% stated it was because they preferred in-house training.

Over half of employers (52%) stated they had not provided training over the past twelve months. This was primarily because staff were believed to be already fully proficient.

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22 Standard Occupational Classification (2000)
23 Hobsons (http://www.get.hobsons.co.uk/advice/science-environmental-officer)
Learner profile

The ILR 2006/07 indicated the following in relation to provision for conservation and environmental protection officers (data are compared with take up of level 3 qualifications for the occupation nationally, and also with relevant FE and HE-in-FE provision [at all levels] offered at general and specialist FE colleges in the region for the environmental occupational group).

- There were 82 enrolments at level 3 in provision relevant to conservation and environmental protection officers at general and specialist FE Colleges in the East of England. This equates to nearly 8% of this type of provision delivered in England as a whole, which is slightly less than the overall contribution of the region to national FE provision (7.5%).
- There was a strong concentration of learner enrolments in the 16-19 age group (72%), which is notably higher than the environmental occupational group (27%) but more in line with the national trend for this age group (68%).
- Most take-up was by male learners (90%), which again differed to the profile of the environmental occupational group as a whole where there was a more even distribution in gender (43% male) but was more in line with the gender split at a national level (76% male).
- All level 3 provision was taken up by learners who were ethnically white compared to the environmental occupational group where 89% of learners were ethnically white and the remaining learners either of Asian or black ethnicity.

Main providers:

- Provision for the environmental occupational group at FE level was concentrated in Norfolk and Suffolk, while there was no provision in Hertfordshire and relatively small volumes in Essex. The five largest providers were Otley College, College of West Anglia, Bedford College, City College Norwich and South East Essex College (92% of all learner enrolments for the region).
- Provision for the environmental occupational group for HE-in-FE was offered by only three providers, namely Easton College, Otley College and College of West Anglia.

Entry routes and career pathways

Entry routes

Degree-level qualifications are still largely regarded as the route into this occupation. There are a wide range of degree subjects relevant to such work, including rural resource management, countryside management, rural environmental management, conservation and environmental studies.

The Sector Skills Agreement by Lantra (2006) does list a number of relevant FE qualifications, also identified from the NDAQ, which according to Lantra shows that the most popular qualification at FE level in relation to environmental conservation was the National Diploma in Countryside Management. Connexions also suggest that it is possible to move into conservation with the right transferable skills from a related area of work, such as farming, forestry or horticulture.

Relevant FE qualifications identified from the National Database of Accredited Qualifications (NDAQ) included the following:

- BTEC National Award/Diploma/Certificate in Countryside Management
- Certificate in Environmental Conservation
- NVQ in Environmental Conservation.

There are also apprenticeships in Environmental Conservation. From September 2009, the new 14-19 diploma in Environmental and Land-based Studies will become available.

Career pathways

There are a number of professional bodies which offer continued training and accredited programmes in this field, for example the Institute of Environmental Management and Assessment, the Institute of Environmental Sciences and the Institute of Ecology and Environmental Management.
Table 5-6: Housing and welfare officers

<table>
<thead>
<tr>
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The main roles of a housing and welfare officer are to:

- manage and maintain rented properties within a specific geographical area
- assess and address housing needs of particular localities and individuals
- help clients claim the benefits or tax credits they are entitled to
- assist the blind, deaf, sick, elderly, physically handicapped and mentally ill with problems relating to their condition, and investigate cases of child neglect or ill treatment and other welfare tasks.  

The workforce

The national and regional workforce:

- The LFS for 2007 suggests there are around 131,100 employed residents in Great Britain working as housing and welfare officers in industries relevant to sustainable communities.
- Census data suggests there are 11,500 residents living in the East of England employed as housing and welfare officers. There are just over 9,000 housing and welfare officers working in the East of England across all industries.
- 81% of housing and welfare officers are female and 19% male across the sustainable communities sectors in Great Britain. This compares to approximately 76% and 24%, respectively, for the East of England across all industries for both employed residents and the workplace population.
- Nationally, there is an older age profile for this occupation with 33% of employed aged over 50 (33%), more than double that of the population aged under 30 (16%). Regionally, this disparity was more marked, particularly when considering the workplace population in the East of England wherein 12% of officers were aged under 30 and 38% were aged over 50.
- 87% of employed residents working in this occupation across industries relevant to the sustainable communities workforce were ethnically white, 6% Black or Black British, 3% Asian or Asian British, 2% other ethnic group and 1% mixed.
- 55% of employed residents working nationally as housing and welfare officers in industries relevant to the sustainable communities workforce were qualified to NVQ Level 4 or above. A further 17% were qualified to Level 3, 15% to Level 2 and 1% had no qualifications. In the East of England, the proportion of the workplace population working in these industries qualified to Level 4 or above is markedly lower at 34% with a further 13% qualified to Level 3, 21% to Level 2 and a higher proportion at 9%, recording no qualifications.

Key employers in the region:

Most housing and welfare officers are employed in social work sectors. There are approximately 15,400 jobs in the region within these sectors, with the highest number of jobs located in Essex and Norfolk. Experian data suggests there are 60 businesses in the region within these sectors.

A smaller proportion of housing and welfare officers may also work in sectors such as the development sale of real estate (due to the inclusion of housing associations) or Government and regulatory bodies. Combined, there are a further 8,300 jobs in these sectors regionally, and another 17 businesses.

Skills needs, gaps and shortages:

The NESS 2007 suggests 3% of employers had hard to fill vacancies for associate professionals, which is much lower than across all selected industries related to sustainable communities (20%).

18% of employers stated they had skills shortage vacancies for associate professionals (compared to 31%). A higher proportion of employers recorded a skills gap for associate professionals. At 28%, this was higher than the average across all selected industries related to sustainable communities (20%). Employers felt the skills gap having the greatest negative impact was a lack of problem solving skills.

Employers suggested the main causes for lack of proficiency were lack of experience or employees having been recently recruited (92%), recruitment problems (73%) and high staff turnover (39%). The skills found difficult to obtain from applicants were predominately technical/practical/job-specific skills (86%). Employers also considered literacy skills and oral communication as difficult to obtain (16% and 15%, respectively).

LFS resident-based population (2007)
Census 2001, workplace population
Defined as the ‘Development of real estate projects; bringing together financial, technical and physical means to realise real estate projects for later sale, whether for residential buildings or other real estate.’ (ONS)
Employers considered the skills that need improving most for associate professionals working in these fields were team working, problem solving and management skills. Skills for Care also suggested areas of social work needed to develop new ways of delivering services. In doing so individuals will require skills to aid multi-disciplinary and cross-agency teams, adopt flexible approaches so that the sector can be more responsive to change in order to deliver high quality services. Asset Skills suggested literacy and numeracy skills were significant problems that needed addressing.

Training

The NESS 2007 suggests 41% of employers working in the selected industries related to this occupation had trained staff off-the-job over the past twelve months. 20% of employers had provided on-the-job training. 65% of employers had used FE Colleges to provide teaching and training over the past twelve months whilst 88% had also used other providers. The reasons not for engaging in teaching and training at FE colleges were primarily because the courses they provide are not relevant (36%) or because employers prefer in-house training (28%).

Learner profile

The ILR 2006/07 indicated the following in relation to provision for housing and welfare officers (data are compared with take up of level 3 qualifications for the occupation nationally, and also with relevant FE and HE-in-FE provision at all levels offered at general and specialist FE colleges in the region for the housing and social services occupational group):

- There were 28 learner enrolments on provision at level 3 in the East of England that was specifically relevant to housing and welfare officers. This equates to 1.2% of this type of provision delivered in England as a whole, which is considerably less than the overall contribution of the region to national FE provision (7.5%).
- A higher number of enrolments for the 40 to 44 age group were recorded for housing and welfare officers compared to the housing and social services occupational group (39%, compared to 8%) but given the small sample involved at the case study level for this occupation, the numbers can be treated only as indicative.
- 82% of learners on qualifications relevant to housing and welfare officers were female, compared to 94% for the housing and social services group and 75% nationally.
- 96% of learners on level 3 provision related to housing and welfare officers were ethnically white, compared to 88% and 76% in the housing and social services occupational group and nationally, respectively.

Main providers:

- Provision for the housing and social services occupational group at FE level was distributed across the region with relative concentrations in Suffolk and Hertfordshire. The five largest providers were Otley College, Suffolk New College, North Hertfordshire College, City College Norwich, South East Essex College (36% of all learner enrolments for the region).
- Provision for the housing and social services occupational group for HE-in-FE was distributed across the region but concentrated amongst a number of key providers, including: City College Norwich; Colchester Institute; Great Yarmouth College; Thurrock and Basildon College; and West Herts College (86% of all learner enrolments for the region).

Entry routes and career pathways

Entry routes

Entrants do not always need formal qualifications to enter this occupation although basic English and Maths skills are necessary and A levels or equivalent qualifications are an advantage. Welfare officers and advisors may enter employment through voluntary work with an organisation. Many people enter housing occupations later in life by having transferable skills which they have gained from previous experience in the workplace.

Generally, there is low awareness about career options in housing amongst young people. Asset Skills and the Chartered Institute for Housing (CIH) are now trying to address levels of awareness through increased contact with schools, colleges, councils and housing associations. At present, the CIH offers the main bulk of housing qualifications, all of which comply with the National Occupational Standards set by Asset Skills. Some of these qualifications are available at Level 3. These and other Level 3 qualifications identified from the NDAQ include:

- Certificate/Award in Housing
- Certificate in Housing Maintenance
- Award in Residential Letting and Property Management
- NVQ in Housing

Assets Skills.

Refer to the CIH Why Housing? document for more information for entry routes and career pathways at all levels (http://www.cih.org/careers/whyhousing/).
• NVQ in Advice and Guidance
• NVQ in Surveying, Property and Maintenance.

According to the NDAQ, a new Level 3 qualification in Neighbourhood Management is now offered (from 2008) accredited by CIH.

Asset Skills are working to develop apprenticeships in this area and are revising existing NVQs in Housing. The ‘Society, Health and Development’ and ‘Construction and Built Environment’ 14-19 diplomas will also become available in 2009 with the latter in particular including some modules relevant to housing.

Career pathways

The CIH, Chartered Institute of Building (CIOB) and Asset Skills are working to encourage more housing associations\(^30\) to offer accredited qualifications at Level 2 and above. At present, many housing associations and local councils will often offer in-house, short-course training rather than accredited qualifications. Organisations such as Citizens Advice and the Child Poverty Action Group (CPAG) also provide relevant training programmes. There is a need to increase awareness about qualifications but also encourage housing more generally as a career amongst young people.

The APEX qualification in Housing is the usual route to becoming a full professional member of the CIH although there are also NVQs/SVQs, HNCs or Housing apprenticeships available. The CIH also offer a range of CPD activities for its members. CIH also offer open access and specialist workshops relevant to the housing industry. Skills for Care lists a range of non-accredited training courses that may be beneficial for officers, including Leadership and Supervisory Skills, Counseling Skills, ICT Skills and Managing Challenging behavior.
Table 5-7: Managers in Construction

<table>
<thead>
<tr>
<th>Occupation description</th>
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<tbody>
<tr>
<td>Managers in construction plan, organise, direct and co-ordinate the construction and maintenance of civil and structural engineering works including houses, flats, factories, roads and runways, bridges, tunnel and railway works, harbour, dock and marine works and water supply, drainage and sewage works. They are responsible for:</td>
</tr>
<tr>
<td>• developing a programme of work for the project</td>
</tr>
<tr>
<td>• supervising the building work</td>
</tr>
<tr>
<td>• making sure the site is safe and that there are good industrial relations</td>
</tr>
<tr>
<td>• reporting on progress to the client who is paying for the work.</td>
</tr>
<tr>
<td>• supervising the preparation of the site and</td>
</tr>
<tr>
<td>• communicating with a wide range of people, including the public and professionals such as architects, engineers, estimators and surveyors.</td>
</tr>
</tbody>
</table>

The workforce

The national and regional workforce:

- There were over 209,000 employed residents working as managers in construction in sustainable communities industries recorded in the LFS for 2007 in Great Britain. In the East of England, there were nearly 21,300 employed residents who were working in this occupation across all industries. There were around 17,500 managers in construction working in the region itself.
- 96% of employed residents at the national level were male compared to 92% for employed residents and workers in the East of England.
- 98% of managers in construction working in industries relevant to the sustainable communities workforce in Great Britain were ethnically white with the same pattern displayed in the East of England.
- Across all industries relevant to the sustainable communities workforce, the proportion of managers, nationally, qualified to NVQ Level 4 or above was higher at 40% compared to the East of England at 22% (employed residents) and 21% (workplace population). Managers in the East of England were more likely to have no qualifications compared to nationally at 16% and 5%, respectively.

Key employers in the region:

There are over 28,150 jobs in construction-related industries in the East of England with the highest numbers in Hertfordshire, followed by Essex. Experian data suggests there are 170 businesses in these sectors. Most of these businesses employed between 100 and 250 employees.

Skills needs, gaps and shortages:

The NESS 2007 shows 8% of employers stating they had hard-to-fill vacancies for managers in construction-related industries. This is slightly higher than across all selected industries relating to sustainable communities (3%). The main cause was low numbers of applicants with the required skills with 43% of employers stating this reason (across all selected industries more employers suggested it was caused by not enough people being interested in the job). 8% of employers said they had skills shortage vacancies for managers. 12% of employers suggested they had a skills gap, which is lower than compared to all selected industries (21%). The skills gap having the greatest negative impact was management skills followed by team working skills.

Employers noted the main causes for lack of proficiency were lack of experience or being recently recruited and the inability of the workforce to keep up with change. Skills found difficult to obtain from applicants were primarily technical, practical and job-specific skills (54%), oral communication skills (37%) and written skills (34%).

Skills that need improving most relating to managers in construction are technical, practical and job-specific skills (53%), oral communication skills (47%) and management skills (45%). This differed across all selected industries where team working, problem solving skills and management skills were considered higher priorities for managers.

In addition, Construction Skills suggested there were lower levels of competence in general management skills, particularly with forward planning, knowledge management, IT and risk management. There was also low competence levels relating to business development skills, particularly creating and understanding opportunities (e.g. market understanding, presenting bids, risk management).

Training

The NESS 2007 shows 63% of managers were trained off-the-job compared to 56% trained on-the-jobs. 59% of employers in the sector had used FE colleges whereas 80% has used other providers. 58% of employers who had not provided training over the past 12 months stated this was because staff were fully proficient.

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32 Connexions.
Learner profile

The ILR 2006/07 indicated the following in relation to provision for managers in construction (data are compared with take up of level 3 qualifications for the occupation nationally, and also with relevant FE and HE-in-FE provision at all levels) offered at general and specialist FE colleges in the region for the engineering occupational group):

- There were 436 enrolments at level 3 in provision relevant to managers in construction at general and specialist FE colleges in the East of England. This equates to 6.6% of this type of provision delivered in England as a whole, which is slightly less than the overall contribution of the region to national FE provision (7.5%).
- 55% of take-up on level 3 provision was by females, which is largely in line with national trends where there is a relative balance between males and females, but differs considerably to the engineering occupational group as a whole where enrolments were overwhelmingly dominated by males (95% male).
- Most enrolments were in the 25-29 age group (17%), which differs from the age distribution for the engineering occupational group wherein learners over 25 were much less common. Overall, the age profile for the East of England was slightly younger when compared to national trends.
- 88% of enrolments were by learners who were ethnically white, which suggests a marginally more ethnically diverse profile compared to the engineering occupational group as a whole but in line with national trends.

Main providers:

- Provision related to the engineering occupational group at FE level was fairly spread out across the region with relative concentrations in Bedfordshire (and Luton) and Essex. However, the five largest providers for provision related to engineering were Bedford College, Peterborough Regional College, College of West Anglia, Oaklands College and Hertford Regional College (41% of all learner enrolments for the region).
- Provision related to the engineering occupational group at HE-in-FE was much more concentrated with 80% of provision delivered by the following five providers: City College Norwich; Oaklands College; West Suffolk College; Chelmsford College; and Thurrock and Basildon College.

Entry routes and career pathways

Entry routes

The fragmented and short-term nature of employment in the construction industry means that many workers enter the industry through informal routes and temporary work opportunities. Formal job vacancies only account for 3% of employment and as a result the industry has a low proportion of its workforce qualified. There are some relevant FE-level qualifications for managers in construction. Qualifications identified in the NDAQ include the following:

- BTEC Award/Diploma/Certificate in Construction and the Built Environment
- NVQ in Construction Site Supervision
- NVQ in Occupational Work Supervision
- NVQ in Construction Contracting Operations.

Since September 2008 the 14-19 Diploma in Construction and the Built Environment has been offered.

Career pathways

Progression routes into HE from technical certificates are well developed with a range of HNC/Ds. Construction Skills suggests that those completing Level 3 apprenticeships will often progress into supervisory or management roles. In terms of training, the National Construction College provides a range of training courses for the construction industry, including management and leadership courses.

In the future, there is also likely to be an increasing demand for specific training relating to sustainable development and renewables and as identified within skills needs and gaps, there is a need to develop more up-to-date training to reflect changing technology, building methods and business processes.
Youth and community workers provide support to individuals or groups of individuals through a range of activities or services that aim to encourage participation in social, political and community activities.

More specifically, the role of a community development worker is to work with particular communities in order to collectively bring about social change and justice. They work with individuals, families or whole communities to empower them to: identify their needs, opportunities, rights and responsibilities; plan what they want to achieve, organise themselves and take action; and evaluate the effectiveness and impact of the action.

In doing so, community development workers act as a link between communities and local government and other statutory bodies. They are frequently involved in addressing inequalities, and projects tend to target communities perceived to be disadvantaged, for example due to race, economic circumstances or geography.

### The workforce

#### The national and regional workforce:

- There were approximately 79,300 employed residents in Great Britain working as youth and community workers in industries relevant to sustainable communities in 2007.
- Census data suggests there are around 2,850 employed residents working as youth and community workers in the East of England. There are 3,560 residents living in the East of England employed as youth and community workers.
- 66% of youth and community workers are female in the sustainable communities sectors in Great Britain. There is a slightly higher female population in the East of England compared to nationally, with around 72% of employed residents and the workforce being female.
- 19% employed residents nationally were aged under 30 and 25% were aged over 50. The age profile for the East of England was marginally younger with 25% and 27%, respectively, for the employed resident population and 23% and 27%, respectively, for the workplace population.
- 90% of employed residents working in this occupation across selected sustainable communities industries were ethnically white, 5% are Asian or Asian British, 4% Black or Black British, and 1% of mixed ethnic group. The regional profile was similar when considering the workplace population, however, there was less ethnic diversity when considering the employed resident population with 98% of workers who were ethnically white.
- 53% of employed residents working as youth and community workers across industries relevant to the sustainable communities workforce are qualified to NVQ Level 4 or above, 22% are qualified to Level 3 and 13% to Level 2. Less than 1% had no qualifications. Regionally, there was a significantly lower proportion of the employed resident and workplace populations qualified to NVQ Level 4 or above in these industries, at 39-40%. 14% were qualified to Level 3 and 6-7% recorded no qualifications.

#### Key employers in the region:

Most youth and community workers are employed in the social work sectors. There are approximately 15,400 jobs in the region within these sectors with much higher numbers located in Essex and Norfolk. Experian data suggests regionally there are 60 businesses across these two sectors.

Some youth and community workers may also work in for Government and regulatory organisations (8,100 jobs and 3 organisations, regionally), membership organisations (3,100 jobs and 25 businesses) or other general public service activities (29,500 jobs and 15 organisations).

#### Skills needs, gaps and shortages:

The NESS 2007 shows a small proportion of employers recording hard to fill vacancies for associate professionals (3%, compared to 20% across all selected industries relating to sustainable communities). 18% of employers stated they had skills shortage vacancies for associate professionals (compared to 31% across all selected industries).

A higher proportion of employers in selected industries associated with this occupation recorded a skills gap for associate professionals compared to all selected industries (35% and 20%, respectively). The skills gap having the greatest negative impact was a lack of problem solving skills with 54% of employers stating this reason (compared to 51% across all selected industries).

The main causes for lack of proficiency according to employers were lack of experience or employees having been recently recruited (86%), recruitment problems (56%) and high staff turnover (53%). Skills that needed improving most were team working and problem solving skills with all employers responding stating this reason. 98% of employers responding also thought management skills needed improving.
Training

The NESS 2007 suggests 50% of employers trained associate professionals relating to youth and community workers off-the-job over the past twelve months compared to 26% trained on-the-job. Two thirds of employers had used FE colleges to provide teaching or training over the last 12 months whilst almost all employers (90%) had used other providers. The reasons not for engaging in teaching and training at FE colleges were primarily because the courses they provide are not relevant or because employers prefer in-house training.

Learner profile

The ILR 2006/07 indicated the following in relation to provision for youth and community workers (data are compared with take up of level 3 qualifications for the occupation nationally, and also with relevant FE and HE-in-FE provision [at all levels] offered at general and specialist FE colleges in the region for the community development occupational group):

- there were 1,916 learner enrolments for learning aims specifically related to youth and community workers at general and specialist FE colleges in the East of England
- the largest proportion of these enrolments were from learners in the 40-44 age group (18%), echoing the age distribution for the community development occupational group and the trends nationally (13% and 17%, respectively)
- 85% of level 3 provision was taken up by females, again, mirroring national trends (82%) but lower than the percentage across the community development group (89%)
- 83% of learners were ethnically white, in line with the community development occupation group and national trends (83% and 82%, respectively).

Main providers:

- Provision related to the community development occupational group at FE level was heavily concentrated in Suffolk, with particularly small volumes of provision in Bedfordshire (and Luton) and, to a lesser extent, Cambridge. The five largest providers for provision related to community development were Otley College, North Hertfordshire College, Chelmsford College, Suffolk New College, and City College Norwich (89% of all learner enrolments for the region).
- Provision related to the community development occupational group for HE-in-FE was concentrated in Norfolk, and to a lesser extent, Essex. There was no provision in Cambridgeshire or Hertfordshire. The five largest providers were City College Norwich, Colchester Institute, Great Yarmouth College, Bedford College, and Thurrock and Basildon College.

Entry routes and career pathways

Entry routes

The Federation for Community Learning and Development (FCDL) has constructed a learning and qualifications framework for community development workers. The FCDL highlight the National Open College Network (NOCN) programmes in Community Development at Levels 1, 2 and 3 and the NVQ in Community Development Work at Levels 2 and 3 as the main entry routes.

LLUK are also working to formalise their currently temporary qualifications framework for Community Development. The apprenticeship consists of the Level 2 NVQ in Community Development and Level 1 Key Skills in Communication and Application of Number. The advanced apprenticeship consists of the Level 3 NVQ in Communication Development and Level 2 Key Skills in Communication and Application of Number.

Youth Support Worker qualifications are available to study up to Level 3 and several awarding bodies have developed courses which are offered by local colleges in conjunction with employers. There are also new apprenticeships available in the youth and community work sector.

Existing relevant FE qualifications identified from the NDAQ at Level 3 include:

- Certificate in Community Development
- Certificate in Youth Work/Training for Youth Work/Supporting Youth Work
- Certificate for Health Trainers
- Certificate in Counseling Skills and Theory/Advanced Counseling Skills
- Certificate/NVQ in Health and Social Care
- Award in Safeguarding Children and Young People
- Award in Volunteer Management
- Diploma in Youth Work
- BTEC Award/Diploma/Extended Certificate in Society, Health and Development
• NVQ in Community Development Work
• NVQ in Youth Work/Youth Justice Services
• NVQ in Advice and Guidance

The ‘Society, Health and Development’ 14-19 diploma is available from September 2008.

Career pathways

The FCDL has produced information on different progression routes relating to a community development work learning and qualifications framework. There are NVQs available at Level 4 in Community Development Work as well as a number of HE degrees in community-related studies (including programmes offered through distance learning).

Some graduate and postgraduate qualifications lead to students become professional youth workers. To be professionally validated, the qualifications must be recognised by the Joint Negotiating Committee for Youth and Community Workers (JNC). Other HE full-time, part-time and distance learning courses are also available.
Table 5-9: Architectural and town planning technologists and technicians

<table>
<thead>
<tr>
<th>Occupation description</th>
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</thead>
<tbody>
<tr>
<td>Architectural and town planning technicians/technologists work closely with architects and other building professionals, providing architectural design services and solutions on construction and regeneration projects. They can be involved in:</td>
</tr>
<tr>
<td>• negotiating projects, assessing the needs of clients and users, agreeing project briefs.</td>
</tr>
<tr>
<td>• designing projects, preparing and presenting design proposals using computer-aided design (CAD) and traditional methods.</td>
</tr>
<tr>
<td>• managing projects, obtaining and evaluating tenders and contracts.</td>
</tr>
<tr>
<td>• evaluate and advise on refurbishment, repair, reuse, recycling and deconstruction of buildings.</td>
</tr>
<tr>
<td>• technologists have a broader range of skills than a technician, and will contribute more to the design and construction process, including contract management, certification and post-construction work.</td>
</tr>
</tbody>
</table>

The workforce

The national and regional workforce:

• There were 24,700 employed residents working as architectural and town planning technicians in sustainable communities industries recorded by the LFS for 2007 in Great Britain. In the East of England, there were 1,560 employed residents who were working in this occupation across all industries. Regarding the workplace population, there were around 1,300 architectural and town planning technicians working in the region across all industries.

• The occupation is male-dominated at the national level with 73% male and only 27% female. This is roughly in line with trends across the East of England where 78% of technicians across the employed resident and workplace population, are male.

• 93% of the national population of technicians working in industries relevant to the sustainable communities workforce were ethnically white. The East of England showed less ethnic diversity within this occupation with 98% who were ethnically white, taking account of all industries.

• Nationally, 77% of technicians working across industries relevant to the sustainable communities workforce were qualified to NVQ Level 4 or above, 12% to Level 3, 2% to Level 2 and 2% with no qualifications. For the workplace population in the East of England across all industries, 53% were qualified to Level 4 or above, 9% to Level 3, 23% to Level 2, 11% to Level 1 and 2% had no qualifications.

Key employers in the region:

Most technicians are employed in the architectural engineering and consultancy sectors. ABI data suggests there are around 7,000 jobs in this sector across the East of England with higher numbers located in Cambridgeshire (and Peterborough) and Hertfordshire. Experian data suggests there are around 40 businesses in this sector, regionally.

There may also smaller proportions of workers within the construction industries, development sale of real estate, the public sector and other Government and Regulatory bodies.

Skills needs, gaps and shortages:

The NESS suggests 14% of employers within the selected industries associated with this occupation stated they had hard to fill vacancies for associate professionals (compared to 20% of employers across all selected industries related to sustainable communities). The main cause for these vacancies was not enough people interested in this type of job.

35% of employers noted they had skills shortage vacancies for associate professionals and 24% stated they had a skills gap (compared to 31% and 20% across all selected industries). The skills gap having the greatest negative impact was primarily problem solving skills with 77% of employers stating this reason. 20% also stated technical/practical/job-specific skills.

Regarding lack of proficiency, almost all employers commenting stated it was because of lack of experience or recent recruitment. Skills found difficult to obtain from applicants were predominately technical/practical/job-specific skills but when considering skills that needed improving most, employers perceived team working skills (72%), problem solving skills and management skills (both at 71%) as the main priorities.

The recent Communities and Local Government Select Committee Report – Planning Matters, and research by the Academy for Sustainable Communities (ASC) suggests significant labour shortages and skills gaps for planners. The ASC has estimated that public sector planning departments face a 46 per cent labour shortage by 2012.

36 Connexions
Training

According to the NESS, 41% of employers with associate professionals relating to architectural and town planning technicians were trained off-the-job over the past twelve months compared to 26% of employers stated they had used on-the-job training.

67% of employers providing training have used FE colleges to provide this teaching and training. 86% of employers had used other providers to provide teaching and training over the last 12 months. The main reasons for not using FE colleges to provide teaching and training were because the courses were not relevant (38%) or in-house training was preferred (25%).

Entry routes and career pathways

Entry routes

The main entry routes into Architecture and Town Planning careers are still predominately through HE. Foundation degrees are being developed in some areas e.g. in architectural design, architectural technology and town planning. In the future, it is likely that there will be more collaboration between HE and FE providers in these subject areas. The town planning technician role in the future may broaden out, particularly within local authorities. Therefore, there may be scope for FE to develop provision for more junior technician roles, which are less dependent on technical/specialist skills, leaving qualified planners to take on higher-skilled roles.

For architectural technologists, construction or built environment, technology qualifications are the main entry routes including Foundation Degrees, HND/Cs, and national certificates and diplomas at Level 3. There is also now a new NVQ Level 4 qualification titled Built Environment Design, which replaces the architectural technology qualification. The Chartered Institute of Architectural Technologists (CIAT) suggests, regionally, the East is not very active in this area and provision is currently small.

Existing FE qualifications that may be relevant to this occupation, as identified from the National Database of Accredited Qualifications (NDAQ) include the following:

- BTEC Diploma in Engineering
- BTEC National Award/Certificate/Diploma in Engineering
- BTEC National Certificate/Diploma in Construction
- Award in Digital Modeling for Architectural Environments
- Diploma in Display Energy Certificates
- Diploma on Construction Energy Assessment
- NVQ in Built Environment Design
- NVQ in Surveying, Property and Maintenance

The Construction and Built Environment 14-19 diploma will also become available in 2009.

Career Pathways

Anglia Ruskin University offers an RTPI accredited MSc in Town Planning and a BSc (Hons) in Environmental Planning. The route to Chartered Membership for graduates of RTPI-accredited HE qualifications is usually through an Assessment of Professional Competence (APC).

For those qualified to Honours degree or above, there is the opportunity to qualify as a Chartered Architectural Technologist or a professional Architectural Technician through CIAT via the completion of the Chartered Architectural Technologist Professional and Occupational Performance (POP) Record. The applicant must then pass a Professional Practice Interview to attain Chartered Membership.

Chartered Architectural Technologists and professional Architectural Technicians have traditionally practised within architectural practices and local authorities but this is now broadening and a growing number are now applying their skills within research and academia as well as manufacturing and processing industries, housing, health and government agencies (CIAT).
6: Conclusions and recommendations

Conclusions

6.1 This study has offered a quantifiable definition for some of the sustainable communities core occupations, and has used this definition to explore the contribution of the FE sector to developing skills for the sustainable communities workforce in the East of England. Given the limitations of standard classification schemes and the national datasets they open up, the picture drawn of the demand for and supply of skills for the workforce is neither comprehensive nor complete, and many of the findings are qualified. However, the results of the study do – for the first time - illuminate key characteristics of the workforce and the learners who may one day enter it, and establishes the spatial patterns of employment and learning related to several of the core occupations in the East of England. The method identifying occupations in standard data sets, mapping them to relevant subject codes for further and higher education provision, and describing key characteristics of the workforce and FE provision most closely related to it, is one that could be extended to the analysis of HE-in-HE provision not covered by this study, and applied in other regions.

6.2 Overall, there seems to be a significant amount of FE provision supporting the sustainable communities workforce in the region, suggesting the FE sector is already making an important contribution to this agenda. Furthermore, the overall provision in all parts of the region compared to the size of the workforce in these areas is fairly evenly balanced. However, when looking at FE provision for particular occupations, it becomes clear that there are some potential mismatches between supply and demand. Further exploration is needed to ensure the FE sector can support learners and workers in the sustainable communities sector, and we propose one way to do this in the following recommendations.

6.3 The FE sector provides access to and support for the sustainable communities workforce in a number of different ways, offering learning provision at a range of different levels and in a variety of different settings, including initial training for entry to employment as well as professional updating for the workforce and the delivery of HE-in-FE. A majority (18) of the 25 general and specialist FE colleges in the region offer provision supporting sustainable communities occupations, and some make a significant contribution to developing the sustainable communities workforce.

6.4 Some occupational groups within the region’s sustainable communities workforce are better served by FE provision than others in the region, notably housing and social services, surveyors and engineers. In addition to technical/practical/job-specific skills, employers of five case study occupations reported skills gaps in management and problem solving skills, and skills shortages in these areas and also in team working and communication skills.

6.5 Despite the contribution made by the FE sector to the sustainable communities workforce 40% of employers of the five case study occupations reported that they do not use FE colleges, with the main reasons being because FE courses are not relevant and a preference for in-house training. The detail in this report and its supporting annexes provides an agenda...
for working with employers to strengthen the skills base of the sustainable communities workforce in the region.

6.6 Enhancing the role of the FE sector will depend on different organisations working together at different levels and stages, including Inspire East, SSCs, the LSC and HEFCE, to encourage providers in the region to strengthen their provision where necessary. Drawing on the findings of this study, a set of recommendations have been developed attempting to help inform the planning, funding and delivery strategies for provision relevant to sustainable communities. In addition, housing and welfare officers have been suggested as a potential ‘pilot’ occupation in which to investigate some of the issues arising from this report and to build on the recommendations set out below.

Recommendations

Planning

6.7 The 2007 NESS revealed some common skills shortages and gaps for the sustainable communities workforce in the East of England. Inspire East should consider the following actions:

• working with SSCs and employers in the region to ensure identified skills needs, shortages and gaps inform the LSC regional commissioning plan and are communicated through ACER’s provider networks in the region

• in particular, discussing with Lifelong Learning UK (LLUK) their recent revisions to the youth and community framework, with providers in the region the introduction of the new Environmental and land-based studies 14-19 Diploma, and with Lantra the development of qualifications based on Lantra’s National Occupational Standards.

• investigating with professional bodies and awarding bodies the accreditation of in-house employer training, identifying what generic skills have been incorporated into areas of study and whether these meet employers’ needs

• assessing whether CPD and short courses currently offered in the region meet employers’ needs

• investigating opportunities for Inspire East, ACER and individual providers to promote FE provision offering generic skills to meet employers’ needs.

6.8 HE-level provision in FE colleges was concentrated amongst a small number of providers across the region for all occupations, notably within Norfolk local LSC area. City College Norwich was by far the largest provider of relevant provision across all occupations with the exception of surveyors. In contrast, there was very little provision in Cambridgeshire and Bedfordshire (and Luton) local LSC areas. Inspire East should consider

• working with universities in the region and LSC East of England to investigate opportunities for developing a better distribution of relevant HE-in-FE provision across the region, in the light of existing HE-in-HE provision not considered by this study.
in particular, working with Anglia Ruskin University (ARU) and Cambridgeshire LSC, and with the University and Bedfordshire and Luton LSC, to ensure the sustainable communities occupations in these areas are provided with adequate local FE- and HE-level provision.

**Funding**

6.9 The take-up of relevant FE provision across the different occupational groups varied across the region. Whilst housing and social services, surveyors and engineering were more widely dispersed, community development and environmental provision was much more concentrated in Norfolk and Suffolk, and amongst a small number of providers. Inspire East should consider:

- working with LSC East of England and providers to expand provision for community development and environment.

6.10 Analysis of current provision across the general and specialist FE colleges in the region suggests there are currently low numbers of learner enrolments in architecture and town planning, environmental and community development provision. There is also low take-up in environmental, architecture and town planning provision in HE-in-FE in the region. This could be addressed by exploring the following points:

- The Chartered Institute for Architectural Technologists (CIAT) suggested there had been little interest expressed from HE institutions in the region in provision for architectural technicians. There is a need for Inspire East to explore potential for increasing provision in architecture and town planning, working with ARU, CIAT and the Royal Town Planning Institute (RTPI).

- Potentially, the role of town planning technicians may be broadening and therefore there may be potential for the FE sector to contribute more to some of the junior roles in planning.

- Working with Lantra to promote new 14-19 diploma in Environmental and land-based studies, and increase take-up.

- Working with LLUK and the Federation of Community Development Learning (FCDL) to encourage take-up of level 3 qualifications to complement the provision available at HE-level.38

**Delivery**

6.11 A number of opportunities exist to support the implementation of these recommendations. These include the introduction of the sustainable communities workforce in 2008 as one of several sectors targeted in ‘Beyond 2010’ (EEDA, 2008) for supported higher-level workforce development driven by employers. European Social Funding through to 2010 also presents opportunities to secure and allocate resources to developing the sustainable

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38 LLUK were keen to promote youth and community work in the East of England, and have noted the lack of existing infrastructure.
6.12 The findings suggest there was strong gender bias amongst individual occupations in both the workforce and learner populations. There needs to be further work with SSCs, LSC, ACER and professional bodies to challenge gender stereotyping and encourage recruitment onto relevant FE provision by underrepresented groups.

6.13 Some occupations exhibited an older workforce and learner population, notably in housing and social services. There may be value in working with CIH and Asset Skills to develop more entry routes and careers material for these occupations at secondary and further education, and promote these routes for younger age groups.

6.14 All occupations were dominated by white ethnic groups in both the workforce and learner populations. Technical areas of work tended to show particularly low levels of ethnic diversity suggesting that SSCs, LSC, ACER and professional bodies need to work together to encourage recruitment onto relevant FE provision by underrepresented groups.

**Housing and welfare officers**

6.15 Finally, we recommend that Inspire East establishes a task and finish occupation to investigate the processes involved in implementing the recommendations outlined above. We propose housing and welfare officers because this occupation benefits from a large amount of provision in the region and the workforce is relatively evenly distributed across the region. Moreover, Asset Skills and the Chartered Institute of Housing are both active in the East of England and have already begun investigating this occupation, attempting to align the Asset Skills NOS with provision in the region, and conducting research on this occupation in the region. The proposed task and finish group should include these two organisations alongside Inspire East, LSC, universities and local authorities on its steering group. The Group should consider the planning, funding and delivery of FE provision for housing welfare officers in order to test the recommendations.
7: References

Secondary data

General

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• LSC (November 2007) Train to Gain: A Plan For Growth: November 2007 – July 2011
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• ODPM(February 2003) Sustainable Communities Plan

Sector Skills Councils

• Asset Skills (March 2006), Skills Needs Assessment for the UK. Online, available: http://www.assetskills.org/site/Portals/0/SNA/finalreports/uk.pdf

• Construction Skills (2007), *Guidance on Progression Routes (Post 16) for Construction Young Apprenticeships Programme*


• Summit Skills, *In Focus: Key Issues affecting the UK-wide building services engineering sector.* Online, available: http://www.horizon-ssa.org.uk/The-Agreement/387

**Professional bodies**


• Chartered Institute of Building Services Engineers (CIBSE), *CIBSE Membership Fact Sheet Educational base for Engineering Technician Registration – L22.* Online: http://www.cibse.org/pdfs/L22.pdf

• Chartered Institute of Builders (CIOB), *Scottish / National Vocational Qualifications (S/NVQ).* Online, available: http://www.ciob.org.uk/education/nvq

• Construction Industry Council, *Current list of CIC NVQs/SVQs.* Online, available: http://www.cic.org.uk/activities/NVQ%20SVQ%20list.xls

• Chartered Institute of Housing, *Why Housing?* (http://www.cih.org/careers/whyhousing/).


• Environmental Services Association Website, redirected to EUSkills website for details on apprenticeships: http://www.euskills.co.uk/careers/
Federation of Community Development Learning (FCDL) *Community Development Work Learning and Qualifications Framework*.


**Primary data sets**

- Annual Business Inquiry (ABI) 2006. Employee and workplace analysis for the East of England
- Experian. Prospect Locator – National Business Database
- Higher Education Statistics Agency (HESA) Combined Record dataset 2006/07
- Learning and Skills Council (LSC) Individualised Learner Record dataset 2006/07
- ONS Census 2001, commissioned datasets at the regional level
8: Glossary

Annual Business Inquiry (ABI)

8.1 The ABI is a two-part survey of a representative sample of employers in the UK. The ABI samples approximately 78,000 businesses each year, with the sample being drawn from the Inter-Departmental Business Register (IDBR). The sample is stratified by industry, using Standard Industrial Classification SIC 92/ SIC 2003, and by six size bands. The largest size band (250 or more employees) is completely surveyed. Enterprises in lower bands are sampled, with the proviso that those employing fewer than 10 people are replaced annually and half of the sample in the intermediate four bands is replaced each year. For Wales and Scotland, the company size threshold at which all businesses are sampled is lower (ONS).

Employed residents

8.2 Employed residents data is defined as where people usually live as opposed to where they are on Census night. Students and schoolchildren studying away from the family home are counted as resident at the term-time address. Other residents absent from home on census night were required to be included on the Census form at their usual/resident address. Data counts people of working age (16 to 74) only (ONS).

Experian, National Business Database

8.3 Experian is a company specialising in providing analytical and information services to organisations and consumers to help manage the risk and reward of commercial and financial decisions. Experian Prospect Locator provides UK national business data from the National Business Database. The database holds information on over 2 million business records in the UK. It provides business contact details and various other business information, for example, business activity (defined by SIC code), turnover, size of business. For more information see http://www.prospectlocator.com.

Individualised Learner Record (ILR)

8.4 The Learning and Skills Council (LSC) records details of the learning provision funded by the LSC in England. The LSC collects ILR data to:

- monitor individual provider’s delivery against costed provision plan or contract
- inform local decisions about plans and provision, including strategic area reviews
- monitor progress to targets
- inform national planning, including policy development and modelling
- monitor quality improvement and evaluate the effectiveness of providers across the learning and skills sector
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• enable it to make its case to government for levels of funding appropriate to the sector
• demonstrate the outcomes of its distribution of funds.

Hard-to-fill vacancies

8.5 The National Employer Skills Survey defined hard-to-fill vacancies classified by the respondent as hard-to-fill.

Higher Education Statistics Agency (HESA) Combined Record

8.6 HESA populates the Combined Record based on a student's total programme of study leading to a qualification, and it involves the completion of a single record for each student, setting out the student-related and programme-related data.

Joint Academic Classification System (JACS)

8.7 The JACS is a system of categories used to logically classify higher education courses by their subject content.

Learning Aims Database (LAD)

8.8 The Learning Aim Database (LAD) contains information about all LSC-recognised learning aims offered by providers who return ILR data to the Council. It includes learning aim information required to complete ILR data returns, as well as funding and statistical data. The collection of information within the LAD is the responsibility of the Data Service. (Learning and Skills Council, see [http://www.lsc.gov.uk/providers/Data/Software/LAD/](http://www.lsc.gov.uk/providers/Data/Software/LAD/) for more information

Learn Direct Classification System (LDCS)

8.9 The LDCS is a framework of some 5000 categories, structured in a hierarchy of several tiers. It is used by LearnDirect to classify and categorise all the courses and qualifications currently available in the UK (QCA)

Skills shortage vacancies (SSVs)

8.10 The National Employer Skills Survey defines skills shortage vacancies as hard-to-fill vacancies which are skill related where at least one of the (SSVs) following causes was cited by the respondent: low number of applicants with the required skills, lack of work experience the company demands or lack of qualifications the company demands.

Skills gap

8.11 The National Employer Skills Survey defines skills gaps as the extent to which employers perceive their employees as not being skill gaps fully proficient at their jobs
Standard Industrial Classification (SIC)

8.12 Standard Industrial Classification (SIC) was first introduced into the United Kingdom in 1948 for use in classifying business establishments and other statistical units by the type of economic activity in which they are engaged. The classification provides a framework for the collection, tabulation, presentation and analysis of data and its use promotes uniformity. In addition, it can be used for administrative purposes and by non-government bodies as a convenient way of classifying industrial activities into a common structure. (ONS, for more information see http://www.statistics.gov.uk/methods_quality/sic/)

Standard Occupational Classification (SOC)

8.13 The Standard Occupational Classification was first published in 1990 to replace both the Classification of Occupations 1980 (CO80) and the Classification of Occupations and Dictionary of Occupational Titles (CODOT). SOC 1990 has been revised and updated to produce SOC2000. The two main concepts of the classification remain unchanged:

- kind of work performed - job, and
- the competent performance of the tasks and duties – skill.

Workplace population

8.14 The workplace is defined as the people aged 16-74 who are in employment and whose usual place of work is in the area. People with no fixed workplace are treated the same as people who work mainly at or from home and are counted as working in their area of residence (ONS).