



# Cogent Sector Skills Agreement South West

December 2007

Publication Number COR 046

Innovation

Competence

Productivity

Sustainability



*Improving* business performance through *skills* development

[www.cogent-ssc.com](http://www.cogent-ssc.com)



INVESTOR IN PEOPLE

**skills**  
FOR BUSINESS



EUROPEAN UNION  
European Social Fund



## **1. Introduction**

Cogent partners, stakeholders and industry relationships diagram

## **2. Context**

- 2.1 Social and economic policy context
- 2.2 Policies for sector development
- 2.3 Policies for skills development
- 2.4 The Skills Base

## **3. Size and Shape of the Sector**

- 3.1 Size and shape of the sector
- 3.2 Drivers of change
- 3.3 Implications for skills and employment
- 3.4 Assessment of current provision
- 3.5 Provision – issues affecting the Cogent industries
- 3.6 Identified gaps – meeting future needs

## **4. Action plans – filling the gaps**

- 4.1 Cogent Career Pathways
- 4.2 Cogent Apprentices
- 4.3 Competence Assurance
- 4.4 Cogent Industry Passports
- 4.5 Upskill

## **5. Reaching Agreement**

Reaching Agreement in the South West  
The way forward

## **6. Appendix**

Cogent Standard Industrial Classification (SIC codes)  
Provision within the Cogent sector

## **7. References**



## 1. Introduction

Sector Skills Agreements (SSA) are being produced for every sector supported by a Sector Skills Council, including Cogent which covers the chemical, pharmaceutical, nuclear, oil and gas, petroleum and polymers industries. The aim of these agreements is to secure for each sector the range and level of skills necessary to achieve productivity at internationally competitive levels. In partnership with employers, the Government and others, Cogent will use the Sector Skills Agreement as a framework for delivery of the skilled workforce which employers in the sector want. The Agreement will:

- lead to better planned and more integrated delivery of skills training;
- help to produce credible, cost effective, quality assured and better-tailored training provision;
- help to target public funding more efficiently;
- encourage employers to invest more in developing their workforce.

The SSA has employed a series of research activities starting with a desktop review of existing research to help target the following primary research in areas of weakness of existing information.

### Desktop Research


A review of Labour Market Intelligence (LMI) sources ensured duplication of existing research was minimised. The SSA draws from existing data, research reports and intelligence sources in the investigation of productivity, current and future employment demand, skills needs and training provision.

### Primary Research

Four strands of primary research for the SSA were employed to augment the LMI identified through the research review:

- **Answers on a postcard to 4 key questions** – flyer distribution to employers providing detail about SSA and an opportunity to engage in process by answering questions about key business, management, people development challenges and measures of productivity.
- **Detailed employment, skills and training needs analysis** – consultation interviews with sector employers seeking more detailed information on short – medium term demand for employment by occupations, skills required (detail around technical, management & leadership), and impacts upon training needs.
- **Supporting employment, skills and training needs analysis** – online consultation to support employer engagement and enable wider sector input to the detailed analysis of employer skills & training needs. Further details are in the appendices of the Cogent Skills Needs Assessment.
- **Employer skills surveys** - these research projects, requested by industry to be undertaken by Cogent, have fed into the process.

Cogent's UK SSA has been developed through a five stage process, to reflect both statistical evidence from national sources, and direct discussions with employers and stakeholders. It builds on the previously published documents:

- 
- **Skills Need Assessment (whole sector)**
    - Plus summaries for each industry
  - **Assessment of Current Provision (whole sector)**
    - Plus summaries for each industry
  - **Gap Analysis by Industry**
  - **Issues and Proposed Interventions**
    - Plus summaries for each industry

These documents are available from the Cogent corporate website and have also been published on the Sector Skills Development Agency website:

<http://www.cogent-ssc.com>

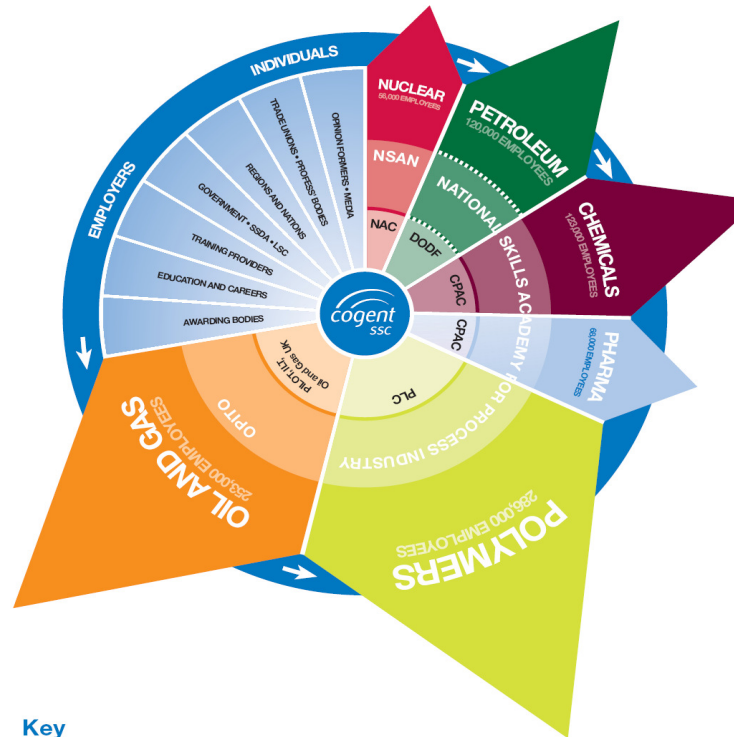
<http://www.ssda.org.uk>

The South West Sector Skills Agreement for the chemical, pharmaceutical, nuclear, oil and gas, petroleum and polymers industries provides an overview of their size, shape and future needs. It draws on all previously published SSA documentation and provides a brief summary of the work to date.

This document also provides a regional cut of Cogent's original SSA data, thereby providing a snapshot of the sector in the region. It draws on other regionally sourced research documents and will be supported by the production of Cogent's regional fact-sheet for the South West in early 2008. This fact-sheet will supplement the regional SSA report through the publication of additional and current LMI.

During 2008, Cogent will consult with key stakeholders on the development of a regional action plan, to be designed and agreed with industry and partner organisations. Details of individual national agreements are held centrally, and can be provided on request. The scope of consultation throughout the SSA process was very broad, including representatives from the four nations, education and training providers, employee representatives, and of course, employers.

## 1.1 Cogent partners, stakeholders and industry relationships



### Key

- PLC Polymer Leadership Council
- OPITO Subsidiary of Cogent SSC. Delivering skills solutions to the oil and gas industry
- PILOT Joint Govt/employer/trades union oil and gas industry task force
- ILT Industry Leadership Team
- NSAN National Skills Academy for Nuclear
- NAC Nuclear Advisory Council
- DODF Downstream Oil Distribution Forum
- CPAC Chemicals and Pharmaceuticals Advisory Council





## 2. Context

The Sector Skills Agreement for the chemical, pharmaceutical, nuclear, oil and gas, petroleum and polymer industries in the South West identifies the skills needs, an assessment of current provision to meet these needs, and the gaps in provision to meet current and future needs. The report shows what needs to be done by employers, providers and other stakeholders to address the gaps in the South West region.

The industries referred to in this report provide direct employment for approximately 28,700 people, structured around some 1,700 businesses in the South West. The Cogent sector contributes £1.2bn to the region's GVA (excluding oil, gas and nuclear) while employing approximately 1.2% of the region's workforce.

The nuclear industry is not readily identifiable from national sources, such as the SIC (Standard Industrial Classification) system, with only reprocessing activities represented. To address this, Cogent has completed a series of research studies in collaboration with the wider industry including reprocessing, decommissioning, deterrent systems (MoD) and support services - leading to the identification of an employment base of approximately 56,000 in the UK and direct employment for approximately 10,000 in the South West (including supply chain employees)<sup>1</sup>.

The oil and gas industry is defined as the extraction of crude petroleum and natural gas along with the service activities incidental to oil and gas extraction, excluding surveying. The UK oil and gas industry contributes over £21bn GVA to the UK economy each year<sup>2</sup> and is ranked eleventh globally in terms of crude oil production<sup>3</sup>. The industry has an employment base of 253,000, including direct supply chain employment, across approximately 500 employers nationally.

---

<sup>1</sup> National Skills Academy for Nuclear, Business Plan 2007-11

<sup>2</sup> Annual Business Inquiry 2005, data released Nov 2006, ONS

<sup>3</sup> Oil and Gas UK <http://www.oilandgas.org.uk/index.cfm>


The definition of the Petroleum industry is based on processing of petroleum products through to point of sale of petrol. It has elements of impact on the footprint of a number of other SSCs, such as Skills for Logistics (fuel transportation) and Skillsmart (retail sale at forecourts). Cogent's focus is on the processing and handling of petroleum products, with skills related to driving and actual retail skills being catered for by the appropriate SSC. With this in mind, it is estimated that there are approximately 5,300 employees involved in the petroleum industry in the South West, including retail sale at forecourts.

The chemical and polymer industry definitions are based on the manufacture and processing of chemical and polymer products. These industries are characterised by SMEs and form the largest employment base in the South West employing 5,300 and 13,800 respectively. The pharmaceuticals industry accounts for approximately 3,800 employees in the region.

Productivity improvements in Cogent industries have the potential to greatly enhance the balance of payments, given that 92% of chemical and pharmaceutical production serves non-UK markets, and currently delivers a trade surplus of £4.5 billion (2004 figures).

Each of the Cogent industries has a presence in the South West, and makes a substantial contribution to all parts of the UK. In many cases, its location is of strategic importance to other industries, either as a crucial part of the supply chain, or as an end user of materials. This can sometimes be neglected in terms of recognition, where the primary industry (e.g. automotive manufacture) is deemed significant, whereas the integral supply chain (such as polymers) is not.

This report will discuss sector wide issues and demonstrate how these issues affect the South West economy and labour market. An initial discussion of key policy initiatives will be followed by detailed industry analysis. Where possible specific comment



regarding South West employment will be made, however, due to limitation of national data and sample size this may not always be possible.

## 2.1 Social and economic policy context

The following section summarises the key policies operating within the South West region which have a direct impact on Cogent employers.

### The South West policy context

It is important to recognise the wider social and political context in which the Cogent sector is positioned in the South West. There are a number of significant policy documents that need reference. The documents explored in this section establish the wider context of key policy frameworks and initiatives within the region.

The South West of England Development Agency aims to transform England's South West through sustainable economic development. The Regional Economic Strategy (RES) is structured around three interlinked objectives:

- Innovation: successful and competitive businesses
- Skills: strong and inclusive communities
- Environment: an effective and sustainable region

This strategy provides the main policy driver which has substantial and direct impact on the Cogent sector in the South West. Further policies for sector and skills development are highlighted below.

## 2.2 Policies for sector development in the South West

The South West Regional Development Agency has identified eight key sectors for priority action in the region. These include advanced engineering, biomedical and healthcare, ICT, leisure and tourism, marine, creative industries, environmental

technology and food and drink. Cogent's priority sectors for the South West include the nuclear and polymer industries. Whilst these sectors do not directly fit into the RDA list, they continue to be of strategic importance to the regional priority sectors as a crucial part of the supply chain or as an end user of materials.

## 2.3 Policies for skills development in the South West


In addition to the strategies listed above, there are several documents which are particularly important to skills development in the South West.

The RDA aims to raise aspirations and achievements whilst at the same time developing a strong education system, providing high levels of basic and technical skills to secure the foundations for continuing improvements in business productivity and competitiveness. The RES aims to achieve this through four key objectives:

- Encourage an efficient and adaptable labour market
- Develop workplace skills and training
- Inspire people to improve their employability skills
- Ensure high quality and flexibility training provision.

In addition to the RES, skills development is further supported by the South West Employment and Skills Alliance (SWESA), the Regional Skills Partnership (RSP). The regional skills strategy and the work of the RSP will form the basis for activity to raise competitiveness through skills and learning. This includes four main priorities:

- Improving leadership and management skills
- Developing the enterprise skills of all ages within the region
- Developing the skills to increase innovation and creativity within the regional economy

- 
- Ensuring that the skills needs of the regional economy, and in key sectors in particular, are addressed at level 3 and above (including higher education).

Following the publication of the National Learning and Skills Council Annual Statement of Priorities for 2007-2008 which sets out key national priorities and targets, the South West Learning and Skills Council has published its Regional Commissioning Plan 2007-2008. The plan identifies four priorities for action in the region:

- Provide more and better opportunities for young people
- Raise the skills of adults and the workforce
- Create a world-class system of provision
- Invest in economic development through partnership.

The key policies detailed above are mapped to Cogent's SSA solutions in section 5 of this report to show synergy between Cogent and regional partner strategic objectives.

## **2.4 The Skills Base in the South West**

There are several key issues currently affecting the skills base in the South West. The LSC Regional Strategic Analysis for the South West shows that whilst the region has a relatively good supply of skilled people compared to other English regions, productivity remains low and skills attainment needs to be improved

Learning participation rates of 16 and 17 year olds between 2002 and 2004 in the South West have fallen to 80%, according to LSC figures. Participation rates at age 16 (85%) are higher than at 17 (76%) in 2004. There are disparities in participation rates between local authorities with Bath and North East Somerset showing the highest participation rate for 16 and 17 year olds in 2004 (86%). In contrast, Poole has seen a drop in participation from 80% in 2002 to 75% in 2004. Torbay has the lowest participation rate for 16 and 17 year olds at 72% in 2004.


The latest NEET figures available for the South West are based on March 2006 data. The figures show that there were 8,307 not in employment, education or training and a further 5,427 individuals whose status is currently unknown. The percentage of the South West population aged between 16 and 18 that were classified as NEETs in March 2006 for the South West was 6%, which is considerably less than the National figure of 7.9%.

The South West has a significant proportion of its 16-18 year olds in jobs without training. The overall figure of 10% varies greatly by local areas from around 3% in Gloucestershire, to 14% in Devon and Cornwall. Evidence also suggests that the numbers of young people engaging in employment without training appear to be growing.

Geographically, the South West is the largest of the nine English regions but it is only the sixth largest by population size. Approximately 60% of the region's population lives in local authority districts that are designated as being rural in character and 25% of the population lives in hamlets, isolated dwellings and villages. There is evidence of lower participation in sparsely populated areas than in urban areas but other factors are also important, including employment patterns, economic activity rates and relative deprivation levels.

In 2004/05, attainment of level 2 by age 19 stood at 74% compared with 70% nationally. Achievement was lowest in Devon and the West of England local area showed the greatest progress. Reflecting level 2 positions, attainment of level 3 by age 19 is higher in the South West than in England according to LSC data.

In the South West, there are 2.32 million economically active adults of whom 73.2% are qualified to at least a level 2. Just over a quarter (26.6%) or 622,000 are without a level 2. The South West has a higher proportion of economically active adults qualified to level 2 than the England average (71.5%). In comparison to other regions, the South West has the second



highest proportion of economically active adults qualified to level 2.

Furthermore, the proportion of those without a level 2 has been steadily falling from 31% in 2000/01 to 26.6% in 2005. LSC data suggests that greater proportions of economically active adults without level 2 are found in the 35-64 age groups.

Across the working age population, the South West has a better qualified adult population than the England average. Out of the 9 English regions, the South West has the second highest proportion of working age adults qualified to level 2. Between 2000/01 and 2005, there has been a 3.5% point growth in the proportion of adults qualified to level 2 (66.4% to 69.9%); a marginally higher rate than the England average (3.2% points).

However, the potential demand for the level 2 entitlement remains high however. In the South West, there are about 892,000 adults of working age who are qualified below Level 2.

The 2003 National Skills for Life Survey undertaken by the Department for Education and Skills highlights the level of literacy and numeracy skills needs on a regional and local LSC basis. According to the report, 14% of people aged between 16 and 64 in the South West are currently Entry level 3 or below in literacy, equivalent to 421,400 people. The scale of need for numeracy is much greater - 49% of people in the South West are currently Entry level 3 or below in numeracy, equivalent to 1,475,000 people. The survey also found that 2% of the population (aged 16-64) are people whose first language is not English, equivalent to approximately 60,000 people.

The National Employer Skills Survey 2005 (NESS) found that there were 62,474 vacancies in the South West during the middle of 2005 (2.9% of all jobs in the region, see the table below). This is slightly higher than the English average of 2.7% of jobs being vacant.

However, the NESS found that employers within the South West do not find vacancies as hard to fill as England as a whole. In addition, the South West has a lower proportion of all vacancies being unfilled because of a shortage of skills than England (18% against 25%). However, within the region there is a greater variation with the proportions of skill shortage and hard-to-fill vacancies.

Across the region, the number of staff with a skills gap has reduced by 40%. This may be due to the slowing economy combined with an increase in migrant labour making it easier to find job applicants with the required skills. Also, as the number of vacancies has decreased, employees have stayed longer with their employer, increasing their skills and experience.

In 2005, the majority of employers reported that the main reason for skills gaps was due to a lack of experience by their employees. Only 15% of South West employers reported that skills gaps amongst their employees were due to a lack of training.

In terms of future demand, the LSC estimates that 101,000 new jobs are expected to be created over the next ten years. This increase is in addition to those that need to be replaced through natural wastage (replacement demand). Key growth sectors include hospitality, transport, retail and construction. However, in manufacturing there is an estimated loss of 40,000 jobs over the same period. Further examination of forecasts by occupational groups indicates that there will be significant growth for managers and senior officials, associate professionals and technical group occupations.

### 3. Size and shape of the sector

#### 3.1 Size and shape of the sector in the South West

The South West region hosts 7% of the overall employment within the Cogent sector which is a smaller proportion than the region represents for employment across the whole economy which stands at 9%. Sectoral employment in the region is dominated by the nuclear and polymer industries. Oldbury, Hinkley Point A & B and Berkeley Nuclear Power Stations are within the region. However, only two are still generating power, the remaining activities are focused upon decommissioning of facilities, apart from Devonport dockyard where nuclear submarines are serviced.

One of the region's priority sectors is travel and tourism. The rural filling station infrastructure is vital in supporting this key sector.

The table 1 below shows us that nine per cent of GB sectoral employers are in the South West region. This region shows the second highest proportion of micro-businesses for the sector (after London) standing 4% above the sectoral average. The sectoral trend for comparisons against the regional economy also hold in that there are lower proportions of micro-companies and higher proportions of all other company sizes.

Table 1: Cogent employers in the South West of England by employer size-band

Employers by size-band						
	1-10 Employee s	11-49 Employee s	50-199 Employee s	200+ Employee s	% of Total Employer s	Total Employer s
Cogent – South West	72%	21%	5%	2%	9%	1,700
Cogent – Great Britain	68%	23%	7%	2%	100%	18,500
Regional Economy	84%	13%	3%	1%	100%	204,450

Source: Annual Business Inquiry (2004) ONS Crown Copyright

#### Workforce Profile

In terms of age profile of the workforce for the South West, data from the Labour Force Survey presents quite varied results even when averaged over a four quarter period. This is a result of the low sample size for the sector within the region.

Figures available over rolling annual periods between quarter 3 2003 through to quarter 2 2005 show that while the proportion of workforce aged 45 and over ranges between 36% to 40%, it remains lower than the regional economy standing at 41%, and broadly in line with the Cogent national picture (38% of the workforce aged 45 and over).

A breakdown of the regional Cogent workforce by gender finds that between 73% and 76% of the workforce are male. This percentage is slightly higher than the profile shown for the UK Cogent sector (72% male in 2004). The representation of females within the regional Cogent workforce is far lower, at approximately 47%.

Further examination of workforce diversity is made by looking at the ethnicity profile of the region's sector workforce. In comparison to the Cogent UK sector it would seem there is under representation of non-white Cogent sector workforce in the South West, where whites make up 97-98% of the workforce in the region compared to 94% in the UK sector. However in comparison to the overall economy in the South West shows that the Cogent sector is in line with the overall workforce profile within the region where it is also reported the 97% of the workforce is white.

Table 2 illustrates the qualification profile of the Cogent sector workforce in the South West compared to the UK sector workforce and that of the overall South West economy. The evidence shows that the workforce in the region hold higher levels of qualification than for both the overall sector and the region. Unfortunately breakdowns for other qualification levels are not available due to the low sample size for the survey in the region drawn from the Cogent sector.

Table 2: Qualification level of workforce in the South West of England

Qualification level of workforce			
	VQ3 and above	VQ2	VQ1 and below
Cogent – UK	52%	27%	20%
Cogent – South West	55%	*	*
Economy – South West	52%	30%	17%

\*Data suppressed

Source: Labour Force Survey (q1 2005 – q2 2005)

### Regional Skill Issues

One fifth of employers in the South West have vacancies of who 6% find their vacancies hard to fill. Skill shortages - where vacancies are hard to fill for reasons relating to job applicants lacking the appropriate skills, qualifications or experience – make up 14% of all vacancies and are experienced by 4% of employers. The issue of skill shortage is thought to be less of an issue in the South West than for sector employers across England<sup>4</sup>.

Skills gaps are experience where employers find that some employees do not have the level of skills required to be fully proficient in their current job role. In England 8% of the Cogent sector workforce is reported as experiencing a skills gap while only 5% of employees are reported to have skill gaps in the South West<sup>5</sup>.

Employer consultation interviews were undertaken as part of the Sector Skills Agreement process across the South of England. Discussions about skills gaps touched upon cross sector skills such as basic, language and IT skills. The findings from interviews in the South cover London, South East and South West of England. In terms of basic numeracy and literacy skills over half of the employers interviewed reported none of their staff had problems in this area. Of those reporting difficulties it was estimated this affected up to 20% of the workforce.

<sup>4</sup> National Employer Skills Survey (2005)

<sup>5</sup> National Employer Skills Survey (2005)

Three quarters of employers consulted reported that none of their workforce speak English as a second language. For those reporting ESOL it was noted that this did not necessarily pose a problem as the language skills of some were extremely high. Half of the 30 employers interviewed in the “South” reported that their workforce either only partly or did not have the IT skills required to do their jobs.


One of the means by which employers can tackle the issue of skills gaps is through training. 73% of employers participating in the National Employer Skills survey in 2005 reported having funded or arranged training for their staff in the last 12 months covering on average a high 91% of their workforce. This is a greater incidence of training than recorded on average for the sector across England.

### Future skills needs and employment patterns

Employment levels in the region are forecast to decrease over the next ten years by an estimated 4,000 employees. The figures indicate that the rate of decline is steady with an estimated decline of 2,000 between 2004 and 2009 and a further 2,000 decline between 2009 and 2014.

The fall in regional sector employment represents a fall in traditional employment. This in turn, is not entirely off set by the expansion in other areas of employment such as the expansion of strategic industries like nuclear. The decommissioning of nuclear plants may have a significant impact on the Cogent workforce, along with the decline in bulk chemical production and the overall decline in the UK manufacturing base.

The gender split within the region is forecast to remain stable with very little shift. The figures suggest that between 2004 and 2014 there is likely to be very little change in the male and female workforce proportions. However there does appear to a shift from full-time employment to part-time employment with a projected increase of 3.2% in the latter in the next ten years.



The occupational shift in the South West is quite significant. The figures forecast an estimated increase in management occupations from a 14% share of employment to an estimated 17% share. Over the same time period the proportion of operatives within the regions workforce is projected to decline from a 17% share of employment to an estimated 11%: a significant shift in occupational composition.

Although the occupational shifts within the region are significant the overall replacement demand in the region is comparable with other regions. The total requirement for the region is an estimated 7,000 employees between 2004 and 2014 which is 7% of Cogent's estimated total UK requirement.

#### Action Plan arising from the Sector Skills Agreement

As outlined above, the SSA development process raised a number of issues of concern to employers. These issues were derived directly from interviews and group meetings, and existing available research. These were then represented to the wider employer population to test their veracity. This was coupled with outline action plans to address specific issues. The resulting endorsements then led to the further development and testing of action plans with both employers and stakeholders, and the development of the SSA. The emergent actions are detailed in section 4 of this report.

### **3.2 Drivers of change**

An analysis of the external factors affecting the sector identifies five key factors driving change. The following section investigates these factors in relation to the Cogent sector in more detail.

#### Legislative

Over recent years the changes in Health, Safety & Environment related directives from Europe and regulations and legislation in the UK has placed significant requirement for additional processes and monitoring upon employers. This is particularly an issue for smaller employers large enough to be subject to these provisions but with the need to make significant investment in

time and resources in meeting them. While industry recognise the requirement and welcomes better regulation, there is concern about the: volume; administrative burden and; potentially conflicting or repetitious aims of Health, Safety & Environment regulation coming from the EU and various UK government departments. This has serious implications for the competitiveness of the UK sector in terms of costs, investment and innovation. The main directives and legislation include:


- REACH (Registration, Evaluation and Authorisation of Chemicals)
- COMAH (Control of Major Accidents and Hazards) and the application such regulations
- The UK Greenhouse Gas Emissions Trading Scheme, established in 2002, and is applicable to chemical manufacture and processing.

The recent public consultation on the Future of Nuclear Power and any subsequent Government legislation will have a significant impact on the nuclear industry both nation-wide and in the South West. The possibility of new nuclear build projects within the South West needs to be acknowledged as this will drive further demand for skills and qualifications relevant to the industry.

#### Economic

Chemicals and pharmaceuticals are among the most globalised manufacturing industries. This ever increasingly complex business environment has led to a worldwide distribution of a multicultural workforce and there is continued consolidation among companies on a global level. Companies will invest wherever, when and if it makes economic sense.

In the UK the Pharmaceutical Price Regulation Scheme (PPRS) ensures the NHS has access to good quality branded medicines at reasonable prices, and promotes a healthy, competitive pharmaceutical industry.



Within the oil and gas industry, the UK Continental Shelf (UKCS) faces significant challenges as the province matures. In future its ability to compete will depend critically on rapid and continual improvement in performance. This in turn will depend on greater collaboration to ensure this performance can be delivered with the resources available. The UK still has substantial recoverable reserves of oil and gas potentially exceeding the amount already produced. However, many existing large fields are now past their peak production level and discoveries of oil and gas are smaller than those found in the elephant fields of the late 1960 and 1970s, creating other associated technical challenges.

### Social

Many chemical based products are essential to how modern society operates. However, public perception continues to deteriorate. The primary reason is thought to be the perceived impact of chemical products on health and environment. Impact of public perception and industry reputation has led to consumer opinion driving new product development. Increasing importance is being placed on high technology products that have little or no harm on either individuals' health or the environment.

There is increasing demand for "healthcare" and therapies products. The public drives this demand in the pursuit of healthier lifestyles. Product development and innovation to meet demand drives change in the UK industry. The pharmaceutical industry interfaces with the public via both the full-cost "healthcare" products and the more readily identified prescribed medication products.

### Technology

The report 'Trends and Research Priorities for the Chemical Industry – Looking to the Future' (which makes explicit reference to both chemical and pharmaceutical industries), provides market information and intelligence on research and development needs and issues. The primary science and technology research priorities can be placed into the broad headings:

- Pacing Technologies e.g. Bioscience, Catalysis, Combinatorial Technologies, Nanotechnology and Process Intensification
- Key Technologies e.g. Computational Technology, Environmental Technology, New Materials Research, Measurement Sciences, Formulation and Separation Sciences
- Platform/Base Technologies e.g. each division of chemistry and chemical engineering and their interface with additional disciplines (for example, materials and biotechnology). This is an area of significant growth. The report highlights high-growth areas (e.g. pharmaceuticals and high value added chemicals) should be given future support. In addition, there will be increasing importance placed on speciality or 'effect' chemicals.

### Environmental

Industry has made a commitment to performance improvement through the International Responsible Care programme. A membership prerequisite of the Chemical Industries Association is a self assessment against the responsible care criteria enabling consistent measurements. Environment related measures and targets are:

- Improve energy efficiency and reduce emissions. The industry has a climate change agreement to reduce energy consumption by 35% between 1990 and 2010 thereby reducing CO<sub>2</sub> emissions
- Reduction in waste disposal. The industry is working to increase the level of recycling and reduce use of land fill disposal. This includes process R&D to reduce waste and reprocessing of waste
- Reduction in water usage. Target to reduce use by 20% by 2010.



### 3.3 Implications for skills and employment

Given the factors of global competition, advancing technology, changing working practices etc; workplace activities, skills and working practices are changing at a pace. Managers and leaders require the skills to be able to cope with change and lead their organisations through it. This ongoing process of change also drives the requirement for the overall workforce to increase their skills levels. Leaders and managers across the industry have a role to play in encouraging and supporting workforce development associated with change and motivating their teams.

Future scenarios point to a continuation of the current trend away from bulk manufacture, towards higher added value, or speciality chemicals – that is, those sold on quality and effect. This will drive a need to invest in research and development and, in turn, higher level skills development, in order to maintain a competitive advantage.

Whilst the employment base is not expected to rise, there remains a significant demand for workforce to replace leavers (either retirements, transfers from UK sector to international operations, transfer to other UK domestic operations in different industries etc.) at all occupational levels. There will also have to be a step change in the skills levels of employees, to reflect the advances in technology and product lines. Greater emphasis for employability is being placed upon 'softer skills'. In the face of stringent Environment, Health & Safety requirements, the drive to reduce costs through more efficient and less wasteful operations and the push for higher quality outputs, employers are recognising that behavioural aspects of the job role are extremely important. The ability to work effectively as a member of a team, using initiative in problem solving skills and fault diagnosis are highly valued by employers.

Skills gaps are a greater issue for employers in the sector than skill shortages however, shortages of suitably skilled applicants serves to exacerbate the gaps where non-proficient personnel are recruited. Cogent employers reported that less than a quarter of

their recent recruits had all or most of the skills they required and over one third had none or few of the skills required and would need significant development<sup>6</sup>. Induction training and setting clear training and development plans is becoming increasingly important for the sector.

### 3.4 Assessment of current provision

The industries covered by the Cogent footprint have access to a wealth of education and training provision, from National Vocational Qualifications, through to Honours and Masters Degrees.

What the industries do not have, however, is a clearly defined pathway through the range of sector-specific and generic qualifications, to enable them to plan progression as both employers and employees. The sheer number of opportunities in some areas, such as higher education provision in Chemistry is not reflected in the potential articulation routes, such as NVQs, HNC, HND or foundation degrees.


This has led to a lack of engagement between employers and providers, with the employer view of need not being clearly articulated (or uniformly expressed) to the providers. In turn, providers have addressed course content by expanding choices to reflect the perceived need of learners, with little input from industry.

There are, in contrast, a number of examples of successful co-operative developments between industry and provider, which has benefited all parties, not least the learners, who have entered or enhanced their role within industry by having the most appropriate range of skills and knowledge.

The key issues emerging from the assessment of provision fall into four broad categories: attracting people with the right skills, meeting the needs of current employees (upskilling and

---

<sup>6</sup> National Employer Skills Survey (2004)



progression), sources of information on access and quality of provision, and issues related to decline in student numbers.

These issues will be addressed through the development of Cogent's Sector Qualifications Strategy (SQS), a key supporting pillar of the Sector Skills Agreement. The SQS will set out Cogent's approach to rationalising sector qualifications, working in conjunction with QCA and approved awarding bodies to ensure that current and future provision meets the needs of sector employers.

The SQS seeks to incorporate the following principles within its vision:

- The Cogent Gold Standard
- Useable National Occupational Standards
- Fit for purpose, modular training
- Recognition of other learning
- Credit accumulation and transfer
- Sector-wide skills
- Innovative assessment and delivery methods
- Securing high quality provision through National Skills Academies (NSAs)
- Information, advice and guidance
- Appropriate funding systems.

In delivering the SQS, Cogent will develop detailed action plans by early 2008, which will incorporate a regional dimension to qualification reform across the UK. The NSAs will also go some way to improving provision in the Cogent sector through the development of regional centres of provision for the nuclear and process industries.

### **3.5 Provision – issues affecting the Cogent industries**

The Cogent sector depends on entry level qualifications related to Science, Engineering and Technology, as well as English, Maths etc. In general, the number of students choosing to study these

subjects beyond compulsory levels is in decline. This is affecting the recruitment pool available to enter employment at operator level, and into apprenticeships.


The numbers moving into apprenticeships specific to Cogent are relatively small when compared to other sectors – for example only around 70 to 80 candidates per year pass through the chemical framework. The anticipated employer demand for current and future process and maintenance employees to be skilled to levels 2 and 3 provides a potential audience for these qualifications.

Although achievement of a level 2 qualification e.g. 5 GCSEs at grades A to C, is broadly acknowledged as an entry requirement to the sector, employers have reported that attainment of this still leaves applicants lacking for some of the skills expected of those who enter the industry. There has been a particular decline in the number of applicants with practical or 'hands on' skills, which are highly valued by employers. This may have been due to health and safety regulations limiting the scope of provision. There is a need for some form of vocational element to be built into school level qualifications.

In response to national policy the new Diplomas in Engineering and Manufacturing will provide significant pockets of new provision for young people and potential new entrants to the Cogent sector, focusing on applied and work-related learning.

The range of opportunities available within some areas of education is narrow, with the decline in HNC and HND offerings being most noted by employers. Only a limited number of foundation degrees have been developed to fill this emerging gap in England, leading to an overall need to develop or redevelop qualifications reflecting industry needs.

The opposite picture has emerged for undergraduate opportunities in chemistry and related subjects (around 400 Bachelors degrees throughout the U.K.). A trend towards joint honours degrees has led to confusion among employers as to



graduate skills and knowledge, with relevance to industry. There is no common industry standard of chemistry-related content recognised across the spectrum. The increase in the number of offerings has not been matched by an expansion in student numbers – fewer students (in relation to overall student numbers) are studying an expanded number of courses.

However, the same is not true of provision for *specialist* areas and a range of specialist industry-specific courses are provided by a number of CoVEs, private and work-based training providers. However, there is no provision for the nuclear industry other than one offering specific decommissioning studies. This reflects the needs of the industry, which recruits via more general degrees (such as Chemistry, Physics), utilising Masters and CPD to add the necessary knowledge and understanding of nuclear technology.

There is a need to establish a common understanding on employer expectations, and to reflect this in vocational elements of further and higher education provision.

A range of vocational qualifications has been designed in conjunction with industry, based on National Occupational Standards. Uptake of these in some cases has been extremely low (less than 10 candidates per year), raising questions concerning employer buy-in. In the longer term, this will affect Cogent's ability to update and refresh the related standards, and to ensure that the qualifications remain in the national frameworks.

The alternative accessible qualifications (such as HNCs) are reported to be valued by industry, however this is not reflected in uptake (for example, entry to HNCs in Chemical, Process and Energy Engineering has declined from an already low level of 15 per annum in 2002/03 to 10 in 2004/05). Foundation degrees, which can be a factor in decline of HNC and HND numbers, have not been accessed as a method of up-skilling employees – only three industry-specific foundation degrees have been developed, with entry numbers similar to those of the HNCs and HNDs. The

foundation degrees delivered out with industry (i.e. in colleges, with work-related element such as Fd Sc Chemistry) have higher entry rates, but also have high attrition levels.

Employer engagement in the design and delivery of foundation degrees presents an opportunity to have in place qualifications reflecting the reported need to up-skill employees to meet advances in technology. This is equally true of vocational qualifications, and the standards on which they are based.

Development and progression within the industries is also achieved through employers accessing private training provision. Employers value this type of provision because of the flexibility in delivery methods and their ability to tailor courses to suit their exact needs. However, there are large number of providers and courses on offer for each of the industries. This can make the selection of appropriate training difficult as there are currently no quality standards attached to this type of provision. There is also no system currently in place that standardises achievement of a private training course across the sector, in terms of the ability and competence of the employee following completion.


Further details and an in depth analysis of current provision is available in our stage 2 SSA report, An Assessment of Current Provision in the Cogent Sector.

### **3.6 Identified gaps – meeting future needs**

Through the SSA process, Cogent has identified a series of gaps affecting the sector. To meet future challenges and future needs, a number of issues will need to be addressed, relating to all occupations in the workforce. A breakdown of identified gaps by industry is provided below.

Chemicals (including manufacturing of pharmaceuticals):

- There is an insufficient intake of apprentices throughout the industry to meet replacement demand

- 
- There are no clear routes and pathways for continuing development and no recognised standard across the sector
  - There is no common approach to demonstration of competence of the directly employed workforce
  - There are no common standards applied to recognise skills and knowledge of the contractor workforce.

#### Nuclear:

- Apprentices need to be expanded in both content and number to reflect need
- Skills related to project management are insufficient to meet employer need
- There is no common approach to demonstration of competence of the directly employed workforce
- There is no existing contractor passport scheme accepted by industry
- Careers in the industry are not understood and the industry does not attract a broad spectrum of applications for careers in the industry.

#### Petroleum:

- There is no defined programme for the upskilling of those currently employed in operator/technician roles
- There is no common approach to demonstration of competence of the directly employed workforce
- Careers in the industry are not understood and the industry does not attract a broad spectrum of applications for careers in the industry.

#### Polymers:


- Careers in the industry are not understood and the industry does not attract a broad spectrum of applications for careers in the industry
- There is no defined programme for the upskilling of those currently employed in operator/technician roles

- Business management improvement is key to the business transition and growth of the sector but there is no recognised provision directed at the polymers industry.

#### Oil and Gas:

- Contractors report no issue with attraction but there is an issue with the technical skills of those people trying to enter the industry
- There is no singular industry scheme for upskilling workers from other industries yet there are many successful examples of company specific schemes
- There is a clear need for a comprehensive industry wide supervisory and leadership training and development programme
- The global nature of the industry means that skilled workers frequently move out of the UK basin and transfer to international operators. This creates a constant backfill challenge.

Addressing these gaps would enable the industries to achieve their aims of expanding the customer base and product portfolio, enhancing international competitiveness, improving business and manufacturing processes (e.g. lean manufacturing) and developing domestic strengths into commercial opportunities – developing business acumen skill and links between research spin out companies and industry. Cogent has now developed a suit of proposals to address these gaps, which are set out in the next section of this report.



## 4. Action Plans - filling the gaps

### The Big Ticket Items

The extensive research carried out throughout the Sector Skills Agreement development process raised a number of issues of concern to employers – these issues were derived directly from interviews and group meetings, and existing available research. These were then represented to the wider employer population to test both their veracity and overall importance. This was coupled with outline action plans to address specific issues. Each of the issues has been categorised under one of four main headings:

- Innovation and business improvement techniques
- Change and project management
- Health and safety
- Management and leadership.

The SSA has also confirmed that with an ageing workforce demand for new recruits during the next ten years will be high, and employers will need to look beyond the traditional pool of candidates to find the talented people they need. The following Big Ticket items have been developed in conjunction with Cogent sector employers and have received the approval of our four strategic councils:

- Chemicals and Pharmaceuticals Advisory Council
- Polymer Leadership Council
- Nuclear Advisory Council
- Downstream Oil Distribution Forum

### 4.1 Cogent Career Pathways

Cogent has developed a one-stop-shop web based careers information advice and guidance centre which holds information on career progression, jobs and training. We have defined the

career pathways and key roles, as well as the skills standard for each of the roles. We will identify the provision to achieve the standards as well as the providers capable of delivering this training. Cogent Careers Pathways can be accessed through: <http://www.cogent-careers.com/>


In addition to the Cogent Career Pathway proposal, the Offshore Petroleum Industry Training Organisation (OPITO) will carry out actions specific to the oil and gas industry. The oil and gas industry portal [www.oilandgas4u.com](http://www.oilandgas4u.com) (designed and maintained by OPITO) includes a degree match facility linking degrees to job roles and an online testing tool which links existing skills sets to job roles and employers currently recruiting. The Opportunities page of the portal is aimed at all ages.

### 4.2 Cogent Apprentices

Cogent has developed an apprenticeship framework to meet the needs of the operating companies in our sector, with the flexibility to meet the specific needs of individual industries. The framework addresses the unique process operations and process management in our high hazard industries and is therefore differentiated from other available frameworks. The framework has been devised as a programme-led model.

The framework has been submitted to the Apprenticeship Approval Group and has now been formally approved. We are now in the process of developing appropriate regional and industry approaches to increase the supply of future technicians to our industries through this new framework.

In addition to the Cogent Apprentice framework proposal, OPITO has developed the oil and gas industry Upstream Modern Apprentice Scheme and framework. This scheme and framework is managed on behalf of employers by OPITO and continues to effectively deliver the skills, knowledge and understanding needed in the offshore workplace. The scheme is in its sixth year and has approximately 750 registered trainees. Industry



investment in the scheme exceeds £100m. Completion rates are high (96%), making the scheme an exemplar in the UK when measured against other Apprenticeship schemes.

#### 4.3 Competence Assurance

It is clear that companies manage competence in a variety of ways with varying degrees of success. In response to this Cogent has developed a universal competence assurance framework which will enable companies to assess their management of risk, benchmark competence standards and promote best practice. Cogent will continue to work with regional clusters of employers to encourage participation. The Competence Assurance benchmarking tool can be accessed at: <http://www.cogent-competence.com/>

In addition to the Cogent Competence Assurance proposal and specific to the oil and gas industry, OPITO will maintain and continually develop its existing Competence Management System (CMS) guidelines and approval system. The OPITO approval system enables employers to independently assess their training systems, processes and procedures against a framework of good practice as agreed by industry. OPITO undertakes these assessments on behalf of employers. Used extensively in the UK, it is also widely implemented globally in line with the global nature of the oil and gas industry.

#### 4.4 Cogent Industry Passports

The skills base of the contractor workforce was identified as a concern through the SSA. We will introduce contractor passport schemes for the industries within the sector as required. The National Skills Academy for Nuclear will develop a Passport with a focus on the nuclear industry, where a particular need has been expressed. We will build on what already exists by developing industry specific material such as Nuclear Site Induction. This programme will share the Upskill IT Platform.

In addition to the Cogent Passport proposal and specific to the oil and gas Industry, OPITO will continue to manage the VANTAGE Passport Scheme on behalf of the oil and gas industry. This is a comprehensive passport system which has been in operation for five years and receives significant investment from employers (in excess of £7m). The scheme is applied to every UK offshore oil and gas worker and is also used extensively across the globe in various operating regions.

#### 4.5 Upskill

This focuses on addressing the skills gaps identified through the SSA. Through the careers pathways project, we are developing the skills standard for the key roles. Upskill will then provide the mechanism to take individuals from their current skill level to the industry standard, via a modular approach. This will require the accreditation of existing skills and then the modular accreditation of new skills as they arise. A new platform will be developed to enable progression and CPD. Cogent recently issued an invitation to tender to develop this platform and is currently considering five responses. On a regional level, Cogent is currently progressing discussions with South West partners to facilitate the delivery of pilot activity in the region.

In addition to the Cogent Upskill proposal and specific to the oil and gas Industry, OPITO will continue with its Workforce Capacity and Capability analysis to ensure it understands the key issues and takes collaborative action to address them e.g. The industry will continue to develop and promote the industry Skilled Entrant Scheme under its Accelerated Technician Transfer - Re Engineer programme.

All of the above actions have strategic importance for the Cogent sector in the region and are being put forward as priorities for the action planning phase. Cogent will continue to work with the National Skills Academy for Nuclear (NSAN) and the National Skills Academy for Process Industries (NSAPI) to ensure that the regional action plan is aligned to the NSAN and NSAPI Business Plans. Cogent will continue to support the NSAs on the



development of their delivery networks and the development of regional solutions to regional skills needs across the South West.

## 5. Reaching Agreement in the South West

The table below illustrates the proposed strategic actions being developed by Cogent. The table also provides evidence of employer commitment to these actions and shows how the actions relate to the strategic policies and priorities of the key stakeholders in the South West.

Cogent Big Ticket Items	Proposed Activities	Evidence of Employer Commitment (uk-wide)	Stakeholder	Mapping to Policies and Priorities
<b>Cogent Career Pathways</b>				
<p>A web-based 'one-stop-shop' for careers in Cogent sector industries aimed at young people and career changers alike. It will develop future careers information system that will give clear information about the range of career opportunities available in Cogent sector industries and the requisite entry qualifications required. Diversity and equal opportunities issues will also be positively addressed</p>	<ul style="list-style-type: none"> <li>Carry out a review of what is currently in place</li> <li>Develop an interactive web-based resource</li> <li>Populate resource with what is currently in place to recognise qualifications most valued by industry</li> <li>Development of a career route map and qualification requirements</li> <li>Design and develop a progression framework populated with accredited qualifications</li> <li>Roll out the tailored BIT training and qualifications to promote best practice</li> <li>Development and setting of benchmark for job roles (i.e. Gold Standard)</li> </ul>	<p>Pathways is a number one priority for both Nuclear and Chemical employers:</p> <ul style="list-style-type: none"> <li>89.6% <b>Nuclear</b> employers support this proposal.</li> <li>85.7% of <b>Chemical and Pharmaceutical</b> employers support this proposal</li> </ul> <p>68.8% of <b>Polymers</b> support the proposal with a significant 96.9% of employers supporting the need for more clear information.</p> <ul style="list-style-type: none"> <li>Linpac Plastics "A clear career pathway will help attract more young people into the polymer sector)</li> </ul> <p>Although a lower priority for <b>Petroleum</b> employers 64.3% employers are still in support of the Cogent Career Pathways project.</p>	Regional Development Agency	<p><b>RES 2006-2015</b>            Deliver skills for the economy –the economy depends on a skilled and versatile workforce, so building a better skills base remains a key priority.</p> <ul style="list-style-type: none"> <li>Reduced number of adults in the workforce lacking NVQ2 or equivalent qualifications</li> </ul> <p>Increased levels of participation in higher education            Environmental Technologies priority area</p>
			Regional Skills Partnership	<p><b>Skills Strategy 2006 – 2009</b>            Develop all IAG services to deliver high quality advice on routes to, and progression within employment and learning, particularly vocational routes.</p>
			Learning and Skills Council	<p><b>South West Regional Commissioning Plan 2007-2008</b></p> <ul style="list-style-type: none"> <li>Seeks to raise the quality and improve the choice of learning opportunities for all young people to equip them with the skills employment, further or higher learning, and for wider social and community engagement.</li> </ul> <p>Regional LSC priorities: (important sectors that have a high need for skills at level 3or below and a high percentage of the regional workforce is employed in the sector)  <b>Engineering/manufacturing is one of these priority areas</b></p>
			JobCentre Plus	<p><b>JCP + Key Objectives</b></p> <ul style="list-style-type: none"> <li>Increase the effective supply of labour by promoting work as the best form of welfare and helping unemployed and economically inactive people move into employment</li> <li>Work towards parity of outcomes for ethnic minority customers</li> <li>Provide high-quality and demand-led services to employers, which help fill job vacancies quickly and effectively with well-prepared and motivated employees</li> </ul> <p>Help people facing the greatest barriers to employment to compete effectively in the labour market and remain in work</p>



Cogent Apprentices				
<p>A Cogent apprenticeship framework setting a clear and understood standard for our industries with an appropriate balance of generic and industry specific skills. Develop a programme led apprenticeship alongside existing employer-led schemes</p>	<ul style="list-style-type: none"> <li>Develop a programme led apprenticeship model and develop pathways from this into industry led apprenticeships</li> <li>Develop a model for adult entry to frameworks</li> </ul>	<p><b>Petroleum</b> employers ranked Apprenticeships as the 2<sup>nd</sup> highest priority. 92.9% of Petroleum employers support the action.</p> <p><b>Polymer</b> employers also ranked Apprenticeships as the 2<sup>nd</sup> highest priority with 68.8% of employers supporting the action.</p> <ul style="list-style-type: none"> <li>Geberit – ‘We need Apprenticeship programmes that are directly relevant to the polymer industry’</li> </ul> <p><b>Nuclear and Petroleum</b> employers ranked the proposal 3<sup>rd</sup>. 77.1% and 69.1% of employers supporting the idea respectively.</p> <ul style="list-style-type: none"> <li>British Energy asked Cogent to review its apprenticeship schemes with the aim of developing a unified apprentice scheme, responding to international nuclear power training standards. That could become the kernel of a nuclear power apprenticeship.</li> </ul> <p>Employer Financial commitment to the NSAPI is substantial.</p>	<p>Learning and Skills Council</p>	<p><b><u>South West Regional Commissioning Plan 2007-08</u></b> Stimulate demand and promote Apprenticeships through skills brokers for better promotion of Apprenticeships.</p>
			<p>Regional Development Agency</p>	<p><b><u>RES 2006-2015</u></b> Deliver skills for the economy –the economy depends on a skilled and versatile workforce, so building a better skills base remains a key priority.</p> <ul style="list-style-type: none"> <li>Reduced number of adults in the workforce lacking NVQ2 or equivalent qualifications</li> <li>Increased levels of participation in higher education</li> </ul>
			<p>JobCentre Plus</p>	<p>Provide high-quality and demand-led services to employers, which help fill job vacancies quickly and effectively with well-prepared and motivated employees</p>



Competence Assurance : <i>making it safe</i>				
<p>A competence assurance framework that enables companies to assess their systems and procedures against an industry standard and to assess and understand their level of competence. This will be approved by HSE and industry as <b>the</b> standard. The product will be available at different levels with a web-based initial assessment, with potential company specific follow-up and assessment against the standard with accreditation/certification. The competence assurance framework will be developed for Cogent's process industries in the first instance</p>	<ul style="list-style-type: none"> <li>• Develop a common template model for use by all. The template will be web-based to allow easy self-assessment. There will also be provision of individual follow-up evaluation</li> <li>• There will be an extension of the model of health&amp; safety induction for tanker drivers standard, to all other staff involved in distribution of petroleum/hazardous goods.</li> </ul>	<p>Competence assurance is particularly relevant for the <b>Petroleum and Chemicals</b> industry and support a common competence assurance framework is high with 57.1% and 72.7% of employers respectively supporting the action.</p>		
		<p>Competence assurance is also important within the <b>Nuclear</b> industry and is gaining employer commitment:            'The NDA is gaining adherence to a single job role categorisation for the whole of their 20+ sites, employing directly and indirectly some 12000 people, expected to rise to 18000 within 10 years. This will lead to common job role descriptions, a CF and common training requirements.'</p>		



Passports				
<p>An industry standard passport scheme rolled out across the industry, owned and managed by Cogent. The passport will address the transient contractor workforce and induction level industry specific skills.</p>	<ul style="list-style-type: none"> <li>• Development of a passport system acceptable to employers covering common induction and areas of commonality</li> <li>• Establishment of a platform to monitor and maintain, with roll out of system to pilot group prior to full implementation</li> </ul>	<p>The action is highly supported by employers in the <b>Nuclear</b> industry with 85.4% committing to the development of a passport scheme for the mobile workforce:</p> <ul style="list-style-type: none"> <li>• 'At least 3 of the six major nuclear employers are working on multisite passports for nuclear induction. The NDA, which employs 2 out of the 3 under contract, is very keen to see a cross-industry scheme. Those 3 employers themselves have said that they will cooperate on an industry wide scheme.'</li> </ul> <p><b>Chemicals</b> employers have demonstrated substantial commitment to the Passports project with 58.9% showing their support.</p> <p>The <b>Petroleum</b> industry is also in support of a Passport scheme with half of the employers supporting the action.</p>		



Upskill				
<p>A clearly defined product and methodology that allows existing employees' skills to be easily recognised, and skills gaps to be addressed, in order to allow accreditation against national standards. The scheme will be managed nationally by Cogent and offered to our employers providing a simple route and access to funding for achievement of N/SVQ's or equivalent qualifications. This should include level 2, 3 and 4 with simple and well defined progression routes to promote and encourage upskilling and continuous learning.</p>	<p>Develop an APL model for entry qualifications matching "similar" relevant qualifications.</p> <p>Development of an industry approved and supported technician programme leading to an accredited qualification</p> <p>Development of a modular route leading to a foundation degree</p>	<p>An Upskill programme is important for all industries and has gained strong support from employers across the Cogent footprint:</p> <p><b>Polymer</b> employers believe this is the number 1 priority in their industry with 81.3% employers showing their support:</p> <ul style="list-style-type: none"> <li>Polypipe - "This is the No1 important item for our industry" Ian Tanser Group Operations Director</li> <li>"We just cannot get skilled technicians in this area, so have to up-skill our own people" Jim Fletcher Managing Director Marshall Tufflex</li> <li>"Skilled and qualified technicians are the key to making a continuous improvement programme live and be sustainable" Chris Horton Group Operations Director Linpac Plastics.</li> </ul> <p><b>Petroleum</b> employers are committed to the upskilling action especially with regards to the technological advances within the industry (78.6% of employers)</p> <p><b>Nuclear and Chemical and Pharmaceutical</b> employers have demonstrated huge commitment to the upskill agenda. 81.3% and 80.4% respectively supporting the action.</p> <ul style="list-style-type: none"> <li>Endorsement from the regional employer Executive Forum</li> </ul>	<p>South West Regional Skills Partnership</p>	<p><b><u>Skills Strategy 2006-2009</u></b>            Raise demand and take-up of higher level skills (Level 3 and above) and support employer investment. Support the development of effective partnerships to deliver Foundation Degrees</p> <p>Deliver a tailored supply of skills training and development – recognising the differing labour markets within the region – to meet the needs of businesses and people, particularly those based in rural areas, whilst ensuring the needs of the employer are the priority.</p> <p>Deliver skills for the economy –the economy depends on a skilled and versatile workforce, so building a better skills base remains a key priority.</p> <ul style="list-style-type: none"> <li>Reduced number of adults in the workforce lacking NVQ2 or equivalent qualifications</li> <li>Increased levels of participation in higher education</li> </ul>
			<p>Learning and Skills Council</p>	<p><b><u>Regional Commissioning Plan 2007-08</u></b>            Work with partners to contribute to the restructuring of the economy by stimulating demand for higher level skills (Level 3, foundation degrees)</p>
			<p>Regional Development Agency</p>	<p><b><u>RES 2006-2015</u></b>            Successful, competitive businesses create the wealth that is at the heart of the region's prosperous and sustainable future. They offer more jobs at higher levels of pay; they make full use of the regions</p>




		and Networks within the <b>Polymer</b> industry. Primary outcome from the regional SNA and specific actions feature in the Forum/Network plans going forward.		
--	--	---	--	--

Cross –Cutting Themes				
<i>Management &amp; Leadership</i>	Development of bespoke modular action learning based on industry best practice, utilising regionally clustered groups of employers, creating via these clusters an innovation culture through excellence in management and leadership		Regional Development Agency	<b>RES 2006-2015</b> Promote innovation –knowledge drives successful businesses. Encouraging a culture of innovation and better links to research and development is key to achieving this. <ul style="list-style-type: none"> <li>Improved levels of innovation and ICT take-up in South West businesses and organisations</li> <li>Increased levels of collaboration between the region’s knowledge base and businesses.</li> </ul>
<i>Innovation</i>	Development of sector specific centres of excellence linking material research, design and process technology		Regional Development Agency	<b>RES 2006-2015</b> Innovation – where people put innovation, creativity and enterprise at the heart of the regions’ businesses and organisations.

### The way forward

Cogent is developing an action plan for the South West region with key partners such as the LSC and will continue to work with regional employers, providers and stakeholders to progress our Big Ticket items throughout 2008. The action plan will provide a coordinated approach to delivery for partners working towards agreed priorities. Cogent has also highlighted a need to undertake additional research on regional employer skills needs in the South West. We will achieve this through the completion of the Skill Profiling project and additional research undertaken by the National Skills Academy for Nuclear (NSAN) and the National Skills Academy for the Process Industries (NSAPI).

Cogent will also utilise the RSP and Sector Operations Group (SOG) as a means to drive the SSA forward in the region. Cogent looks forward to continuing to work with South West partners to ensure the SSA action plan is driven forward to meet the key skills challenges facing our employers in the region.



Cogent contacts in the South West:

Mike Lynham  
Skills Director for South West  
Tel: 07795 505350  
Email: [mike.lynham@coagent-ssc.com](mailto:mike.lynham@coagent-ssc.com)

Lindsay Mennell  
Stakeholder and Policy Manager  
Tel: 07825 547015  
Email: [lindsay.mennell@coagent-ssc.com](mailto:lindsay.mennell@coagent-ssc.com)

Brian Murphy  
Research Director  
Tel: 07825 547209  
Email: [brian.murphy@coagent-ssc.com](mailto:brian.murphy@coagent-ssc.com)

## 6. Appendix

### COGENT SIC CODES

Division (2digit)	Class (4 digit)	Description
11		<b>Extraction of Crude Petroleum and Natural Gas; Service Activities Incidental to Oil and Gas Extraction Excluding Surveying</b>
	11.10	Extraction of crude petroleum and natural gas
	11.20	Service activities incidental to oil and gas extraction excluding surveying
23		<b>Manufacture of Coke, Refined Petroleum Products and Nuclear Fuel</b>
	23.10	Manufacture of coke oven products
	23.20	Manufacture of refined petroleum products
	23.30	Processing of nuclear fuel
24		<b>Manufacture of Chemicals and Chemical Products</b>
		<b>Manufacture of basic chemicals</b>
	24.11	Manufacture of industrial gases
	24.12	Manufacture of dyes and pigments
	24.13	Manufacture of other inorganic basic chemicals
	24.14	Manufacture of other organic basic chemicals
	24.15	Manufacture of fertilisers and nitrogen compounds
	24.16	Manufacture of plastics in primary forms
	24.17	Manufacture of synthetic rubber in primary forms
		<b>Manufacture of pesticides and other agro-chemical products</b>
	24.20	Manufacture of pesticides and other agro-chemical products
		<b>Manufacture of pharmaceuticals, medicinal chemicals and botanical products</b>
	24.41	Manufacture of basic pharmaceutical products
	24.42	Manufacture of pharmaceutical preparations
		<b>Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations</b>
	24.51	Manufacture of soap and detergents, cleaning and polishing preparations
	24.52	Manufacture of perfumes and toilet preparations
		<b>Manufacture of other chemical products</b>
	24.61	Manufacture of explosives
	24.62	Manufacture of glues and gelatine
	24.63	Manufacture of essential oils
	24.65	Manufacture of prepared unrecorded media
	24.66	Manufacture of other chemical products not elsewhere classified
25		<b>Manufacture of Rubber and Plastic Products</b>
		<b>Manufacture of rubber products</b>
	25.13	Manufacture of other rubber products
		<b>Manufacture of plastic products</b>
	25.21	Manufacture of plastic plates, sheets, tubes and profiles
	25.22	Manufacture of plastic packing goods
	25.23	Manufacture of builders ware of plastic
	25.24	Manufacture of other plastic products
50		<b>Sale, Maintenance And Repair Of Motor Vehicles And Motorcycles; Retail Sale Of Automotive Fuel</b>
	50.50	Retail sale of automotive fuel

**Provision within the Cogent sector**

**Source: Cogent Draft Sector Qualification Strategy, examples of provision within the Cogent sector**

Type	Level		Title
	NQF/FHEQ	SCQF	
GCSE	1 or 2	N/A	Science Maths
Standard Grade	N/A	Access 3/ Level 4/Level 5	Science Maths Technological Studies
NVQ/SVQ	1	4	Processing Operation: Hydrocarbons Chemical, Pharmaceutical and Petro-Chemical Manufacture Polymer Processing and Related Operations
VRQ	1	N/A	Certificate in Laboratory Technical Skills
NQ Units	N/A	1-5	Introduction to Quality Polymer Processes Introduction to oilfield production Safe working practices in hazardous environments Operational Procedures: Basic Processing Repairing and Maintaining Plant and Equipment
NVQ/SVQ	2	5	Process Engineering Maintenance Chemical, Pharmaceutical and Petro-Chemical Manufacture Safety Services Oil and Gas Extraction Well Services Bulk Liquid Warehousing Nuclear Technology Decommissioning
VRQ	2	N/A	Certificate in Process Technology Certificate in Self-Adhesive Signmaking Certificate in Petrol Forecourt Safety
National Course	N/A	5	Technological Studies
Apprenticeship	2	N/A	Process Operations Process Engineering Maintenance Laboratory Operations Signmaking Polymer Processing
NVQ/SVQ	3		Process Engineering Maintenance Chemical, Pharmaceutical and Petro-Chemical Manufacture Refinery Field Operations Polymer Processing and Related Operations Business Improvement Techniques
VRQ	3	N/A	BTEC National Cert/Diploma in Polymer Processing and Materials Technology Certificate in Signmaking Certificate in Process Technology
Advanced Apprenticeship	3	N/A	Process Operations Process Engineering Maintenance

Type	Level		Title
	NQF/FHEQ	SCQF	
			Laboratory Operations Refinery Field Operation Signmaking Polymer Processing
Modern Apprenticeship	N/A	6	Oil and Gas Technician Process Operations Process Engineering Maintenance Laboratory Operations Refinery Field Operation Signmaking Polymer Processing
National Course	N/A	Level 6	Technological Studies
Scottish Group Award	N/A	Level 6	Engineering: Industrial Plant Support
National Course	N/A	Level 7	Technological Studies
Higher National Certificate	4	N/A	Chemical Process Engineering Polymer Technology Applied Chemistry
Higher National Diploma	5	N/A	Polymer Science and Engineering Chemical Engineering Pharmaceutical Chemistry
Higher National Certificate	N/A	7	Petroleum Engineering Nuclear Decommissioning Process Control
Higher National Diploma	N/A	8	Chemical and Process Technology Polymer Technology Petroleum Engineering
Foundation Degree	4-5	N/A	Chemical Technology Nuclear Decommissioning Polymer Technology
Bachelor's Degree	I/H	9/10	Chemistry Polymer Technology Mechanical and Offshore Engineering Petroleum Engineering
Master's Degree	M	11	Chemistry Chemical Engineering Polymer Science and Engineering
Doctorate	D	12	Chemistry

## A sample of non-framework provision in England and Wales

Course Title	
Chemical	
	Chemical Application Engineering Project Management Process Contracts Chemistry for Chemical Engineers Organic Synthesis Chemical Reactions
Nuclear	
	Radiation Safety practice Basic Radiological Protection Nuclear Engineering Atomic Structure Neutron Kinetics Reactor Technology
Petroleum	
	Petroleum Engineering Petrochemical Engineering Petroleum Economics Liquefied Petroleum Gas Gasoline Technology Fundamentals of Petroleum Refining
Polymers	
	Polymers Injection Moulding Advanced Plastics Product Design Polymer Technology (Introduction) Rubber Compound Design Mould Tool Maintenance Introduction to Polymer Nanotechnology

## 7. References

Author / Organisation	Title	Date Published	Web Address
Cogent	<b>A Skills Needs Assessment of the Cogent sector</b>	May-06	<a href="http://www.cogent-ssc.com/information/SSA/index.php">http://www.cogent-ssc.com/information/SSA/index.php</a>
Cogent	<b>An Assessment of current provision for the Cogent sector</b>	May-06	<a href="http://www.cogent-ssc.com/information/SSA/index.php">http://www.cogent-ssc.com/information/SSA/index.php</a>
Cogent	<b>Gap Analysis for the Cogent industries</b>	May-06	<a href="http://www.cogent-ssc.com/information/SSA/index.php">http://www.cogent-ssc.com/information/SSA/index.php</a>
Cogent	<b>A Sector Skills Agreement for the Chemicals and Pharmaceutical, Nuclear, Oil and Gas, Petroleum and Polymer Industries</b>	Oct-06	<a href="http://www.cogent-ssc.com/information/SSA/index.php">http://www.cogent-ssc.com/information/SSA/index.php</a>
Cogent	<b>Draft Sector Qualification Strategy</b>	Jul-07	<a href="http://www.cogent-ssc.com/area_of_interest/sectorQualificationStrategy.php">http://www.cogent-ssc.com/area_of_interest/sectorQualificationStrategy.php</a>
National Skills Academy for Nuclear	<b>NSAN Business Plan 2007-11</b>	Jun-07	<a href="http://www.nuclear.nsacademy.co.uk/">http://www.nuclear.nsacademy.co.uk/</a>
National Skills Academy for Process Industries	<b>NSAPI Business Plan 2007-11</b>	Jun-07	<a href="http://www.cogent-ssc.com/cogent_family/NSAPI.php">http://www.cogent-ssc.com/cogent_family/NSAPI.php</a>
Oil and Gas UK	<b>2007 Economic Report</b>	Jun-07	<a href="http://www.oilandgas.org.uk/issues/economic/econ07/index.cfm">http://www.oilandgas.org.uk/issues/economic/econ07/index.cfm</a>
South West Regional Development Agency	<b>Regional Economic Strategy 2006-15</b>	May-06	<a href="http://www.southwestrda.org.uk/what-we-do/policy/res-review2005/draft-res.shtm">http://www.southwestrda.org.uk/what-we-do/policy/res-review2005/draft-res.shtm</a>
South West Regional Skills Partnership	<b>Skills Strategy 2006-9</b>	May-06	<a href="http://www.southwestrda.org.uk/what-we-do/skills/fresa/index.shtm">http://www.southwestrda.org.uk/what-we-do/skills/fresa/index.shtm</a>
Learning and Skills Council	<b>South West Regional Commissioning Plan 2007-8</b>	Mar-07	<a href="http://www.lsc.gov.uk/regions/SouthWest/Aboutus/regionalannualplans/">http://www.lsc.gov.uk/regions/SouthWest/Aboutus/regionalannualplans/</a>
Learning and Skills Council	<b>Regional Strategic Analysis for the South West</b>	Nov-06	<a href="http://www.lsc.gov.uk/regions/SouthWest/Publications/Recommended/">http://www.lsc.gov.uk/regions/SouthWest/Publications/Recommended/</a>
National Learning and Skills Council	<b>National Employer Skills Survey 2003</b>	Feb-03	<a href="http://readingroom.lsc.gov.uk/pre2005/research/commissioned/national-employers-skills-survey-2003-main-report.pdf">http://readingroom.lsc.gov.uk/pre2005/research/commissioned/national-employers-skills-survey-2003-main-report.pdf</a>
National Learning and Skills Council	<b>National Employer Skills Survey 2004</b>	Feb-04	<a href="http://readingroom.lsc.gov.uk/lsc/2005/research/commissioned/national-employers-skills-survey-main-report-2004.pdf">http://readingroom.lsc.gov.uk/lsc/2005/research/commissioned/national-employers-skills-survey-main-report-2004.pdf</a>
National Learning and Skills Council	<b>National Employer Skills Survey 2005</b>	Feb-05	<a href="http://readingroom.lsc.gov.uk/lsc/2006/research/commissioned/nationalemployersskillsurvey2005mainreport-re-june2006.pdf">http://readingroom.lsc.gov.uk/lsc/2006/research/commissioned/nationalemployersskillsurvey2005mainreport-re-june2006.pdf</a>
Office for National Statistics	<b>Annual Business Inquiry 2005</b>	May-06	<a href="http://www.nomisweb.co.uk/">http://www.nomisweb.co.uk/</a>
Office for National Statistics	<b>Annual Business Inquiry 2006</b>	May-07	<a href="http://www.nomisweb.co.uk/">http://www.nomisweb.co.uk/</a>
Office for National Statistics	<b>Labour Force Survey</b>	Nov-05	<a href="http://nesstar.esds.ac.uk/webview/index.jsp">http://nesstar.esds.ac.uk/webview/index.jsp</a>

