



Cogent Sector Skills Agreement Yorkshire and Humber

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Competence

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Sustainability



Improving business performance through *skills* development

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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 Yorkshire and Humber 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 Yorkshire and Humber 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
- Oil and Gas UK
- 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 Yorkshire and Humber 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 Yorkshire and Humber region.

The industries referred to in this report provide direct employment for approximately 41,000 people, structured around some 1,700 businesses in the Yorkshire and Humber. The Cogent sector contributes £2bn to the region's GVA (excluding oil, gas and nuclear) while employing approximately 2% of the region's workforce.

The nuclear industry is not readily identifiable from national sources. However, Cogent has identified an employment base of approximately 56,000 in the UK. However, it must be noted that there is very little nuclear activity in the Yorkshire and Humber region.

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 year¹ and is ranked eleventh globally in terms of crude oil production². The industry has an employment base of

253,000, including direct supply chain employment, across approximately 500 employers nationally.

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 1,800 employees involved in the manufacture of refined petroleum products in the Yorkshire and Humber region.


The chemical and polymer industry definitions are based on the manufacture and processing of chemical and polymer products. These industries are largely characterised by SMEs. However, there are several substantial sites and multinational operations within the region, including a large chemical facility at Saltend. The chemical and polymer industries form the largest employment base in the Yorkshire and Humber employing 11,700 and 18,800 respectively. Whilst small, the pharmaceuticals industry accounts for approximately 4,100 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 Yorkshire and Humber, and makes a substantial contribution to all parts of the UK. In many cases, its location is of strategic importance to

¹ Annual Business Inquiry 2005 – data released Nov 2006, ONS

² Oil and Gas UK <http://www.oilandgas.org.uk/index.cfm>



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 (i.e. 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 Yorkshire and Humber economy and labour market. An initial discussion of key policy initiatives will be followed by detailed industry analysis. Where possible specific comment regarding Yorkshire and Humber 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 Yorkshire and Humber region which have a direct impact on Cogent employers.

The Yorkshire and Humber policy context

It is important to recognise the wider social and political context in which the Cogent sector is positioned in the Yorkshire and Humber. 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.

Yorkshire Forward, the Regional Development Agency (RDA) is the driving force behind economic development and regeneration, delivering a positive change that will make a positive difference to people, businesses and the environment. Yorkshire Forward is

responsible for implementing the following objectives through its Regional Economic Strategy (RES):

- Supporting higher levels of business enterprise
- Enhancing business productivity and competitiveness
- Skilled people benefiting business
- Connecting people and good jobs
- Improving transport, infrastructure and the environment
- Supporting stronger cities, towns and rural communities.


Further policies for sector and skills development are highlighted below.

2.2 Policies for sector development in the Yorkshire and Humber

Through its Cluster Strategy, Yorkshire Forward provides specific business support to the chemical cluster in the region. The RDA aims to ensure that the chemical and associated industries demonstrate accelerated economic growth and higher value-added business through continued investment.

Yorkshire Forward has made significantly investment in the chemical cluster, thereby recognising the strategic importance of this sector within the regional economy. Yorkshire Chemicals Focus and Humber Chemicals Focus were established by the RDA to support and promote the region's chemical sector. They work in partnership with members across industry and with public sector organisations to encourage growth and increase the competitiveness of the sector.

These strategies provide the main policy drivers which have substantial and direct impact on the Cogent sector within the



Yorkshire and Humber region. Cogent's priority sectors for the Yorkshire and Humber include the chemical, polymer and petroleum industries, and therefore directly link to the strategies of the RDA and cluster support organisations.

2.3 Policies for skill development in the Yorkshire and Humber

In addition to the strategies listed above, there are several documents which are particularly important to skills development in the Yorkshire and Humber. These are detailed below.

Yorkshire Forward aims to raise aspirations and achievements whilst at the same time meeting employer needs and helping individuals realise their potential. Through the RES, the RDA will work towards four key objectives:

- Create a culture where education, learning and skills are valued by all
- Improve educational attainment and vocational skills amongst labour market entrants
- Raise the skills and flexibility of the region's workforce
- Increase the quality, flexibility and responsiveness of education, learning and skills provision.

In addition to the RES, skills development is further supported by the Yorkshire and Humber Regional Skills Partnership (RSP) which aims to bring together the key agencies and sectors in the region; to work in partnership; to give collective leadership to the skills agenda in Yorkshire and the Humber; to improve skills outcomes and productivity for the region, on a demand led basis, aligned with the RES.

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

- Raising the quality and improve the choice of learning opportunities for young people
- Raising skills by giving employers and individuals the skills they need to productivity, employability and social cohesion
- Raising performance and ensure the skills system is responsive and provides choice
- Raising contributions to economic development.

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 Yorkshire and Humber

There are several key issues currently affecting the skills base across all sectors within the Yorkshire and Humber region. The LSC Regional Strategic Analysis for the Yorkshire and Humber shows consistent under achievement in the level of skills attainment. Despite recent improvements, the region remains last out of the nine English regions in terms of skills attainment.

This is characterised by the high incidence of young people leaving school at 16 with no qualifications. On average, 1 in 25 students leave school at 16 with no qualifications compared to the

national figure of 1 in 38 students³. At GCSE level, the LSC predicts that 39% of the region's pupils achieved five or more GCSEs grades A to C in 2004/5, compared to the national average of 45%. Furthermore, recent regional indicators suggest that there are over 13,750 young people not in education, employment or training (NEET).

Yorkshire and Humber's level 2 performance has improved over the period 2003 to 2005 but remains 3% below the national average. In volume terms, 21,400 young people aged 19 had not achieved level 2 in the year 2004/5⁴. The region is the poorest performing region in terms of level 2 attainment at 19. Similarly, the region is well below the national average for level 3 attainment at 19, reflecting the poor level 2 performance at age 16. The LSC predict that 37,827 young people aged 19 were without level 3 qualifications in 2004/5.

Adult participation in learning is also below the national average at all levels of learning. The LSC estimate that there are nearly 590,000 adults with entry level literacy and 870,000 with entry level numeracy skills. Recent estimates show nearly 1.2 million people of working age without level 2 qualifications in the Yorkshire and Humber. A more detailed examination shows that the region also has a higher rate of working age population with no qualifications, compared to the national average (16% compared to 14%)⁵.

Regional performance hides significant variations at sub-regional level. Both South Yorkshire and the Humber have 42% of their populations without level 2 whilst North Yorkshire has the lowest proportion at 34%. At a sector level, the LSC predicts that the

Cogent sector has 36% of its regional workforce below the level 2 threshold. The figure is higher than that of the national average for the sector, which stands at 30%.

Table 1: Employees of working age below level 2 in Yorkshire and Humber

Employees in Cogent sector below level 2				
	Employees in sector	Employees below level 2	% below level 2	
			YH	England
Cogent	47,263	16,914	36%	30%
Total	1,995,996	587,344	29%	28%

Source: LSC Regional Strategic Analysis (2006)


The region performs better in terms of adults qualified to level 3, highlighting a significant shortfall between entry level and higher level skills. In 2005, 48% of economically active adults of working age were qualified to level 3 or above in the Yorkshire and Humber and approximately 26% were qualified to level 4 or higher. However, the region performance at higher levels remains below the national average of 50% at level 3 and 29% at level 4 or above.

Turning to skills shortages, the National Employer Skills Survey (NESS) 2005 highlighted that 26% of vacancies in the region were considered by employers to be skill shortage vacancies. These skill shortage vacancies were most prevalent in skilled trade occupations. In contrast to the national trend, the region has seen a fall in the proportion of employers experiencing filling vacant posts. Despite improvements, the region ranks first in terms of the largest proportion of employers with vacancies, hard-to-fill vacancies and skill shortage vacancies. Those industries experiencing a higher than average incidence of skill shortage vacancies tend to be the manufacturing and primary industries. This relatively high proportion of employers with hard-to-fill and

³ LSC Regional Strategic Analysis for Yorkshire and Humber (2006)

⁴ LSC Regional Strategic Analysis for Yorkshire and Humber (2006)

⁵ Office for National Statistics (2006)



skill shortages vacancies will in turn have a long term impact on the region's economic growth.

Skills gaps affect only a minority of employers across the region, with 23% of employers reporting skills gaps according to the NESS 2005. Employers reported 8% of the workforce to be affected by skills gaps. Increasingly, employers cite the lack of staff experience as the main reason for skills gaps, along with lack of training available and the inability of the workforce to keep up with change.

Predictions of the region's future skills needs suggest that management training to level 3 or 4 is a priority for employers in the Yorkshire and Humber. Technical, marketing and customer service skills along with ICT competence also require improvement if regional employers are to meet their business needs over the next year.

Where employers do engage their workforce in training, company size is a key determinant of the likelihood to train. Whilst 64% of regional employers had provided training in the last year, only 53% of the smallest companies (5 employees or less) had not provided any training compared to 24% of those with 5 to 24 employees⁶. Managers are the most likely occupational group to have received off-the-job training. Provision of on-the-job training is most likely to occur among the lower skilled occupational groups, reflecting the national trend.

In conclusion, there continues to be a high proportion of employers who fail to respond to skills needs within their companies, or where employers do not perceive their workforce in need of skills improvement. A more detailed analysis of Cogent

sector-specific skills issues is outlined in the next section of this report.

⁶ National Employer Skills Survey (2005)

3. Size and shape of the sector

3.1 Size and shape of the sector in the Yorkshire and Humber

Research LMI collated as part of the original SSA shows that Yorkshire and Humber holds 8% of the Cogent sector employment, in line with the whole economy. Employment within Cogent sector in the region is dominated by the chemical and polymer industries with strong clusters around West Yorkshire and Humberside. Two oil refineries are also situated in the region along with a number of distribution terminals.

This region accounts for 9% of all sector employers. These 1,700 companies employ just below 41,000 people. The structure of employment by employer size is shown in Table 2 below. Comparisons with the sectoral structure of employment across the country show that the regional structure is in line with the national picture. However, there are slightly fewer micro-companies (64% in the region to 68% in Great Britain) and more small companies within the 11 to 49 size-band (25% to 23%).

Table 2: Cogent employers in the Yorkshire and Humber by employer size-band

Employers by Size-band						
	1-10 Employees	11-49 Employees	50-199 Employees	200+ Employees	%of Total Employers	Total Employers
Cogent-Yorkshire and Humber	64%	25%	8%	2%	9%	1,700
Cogent - GB	68%	23%	7%	2%	100%	19,000
Regional Economy	81%	14%	4%	1%	100%	170,650

Source: Annual Business Inquiry (2004) ONS Crown Copyright

Making the comparison within the region between the sectoral structure of employment and the regional economy shows similar

findings to the other regions where there are fewer micro-companies and a higher proportion of companies in the other size bands. The volume of large employers within this region is not as pronounced as for the North East or North West however.

Workforce Profile

In terms of age profile of the workforce for Yorkshire and Humber data extracted from the Labour Force Survey (LFS) presents quite variable results. The Cogent regional results show consistently lower proportion of the workforce in the 45 plus age group than for the overall regional workforce. Likewise, the figures for this age group are lower than the Cogent sector UK average suggesting that there is a younger workforce within the sector in Yorkshire and Humber.

Looking at the breakdown from LFS of the workforce by gender the results are more variable. The Cogent workforce in the region varies from 71-80% male while the regional overall workforce is 54% male. In comparison to the Cogent national workforce gender profile, the region's workforce may have a greater gender bias. The UK sector is made up of 72% males.

Data from the LFS extracted to the review the ethnicity profile of the workforce finds that in the region Cogent sector employees are slightly more diverse than the overall regional workforce. Where 93% of Cogent sector employees are white, of the overall regional workforce 94% are white. The ethnicity profile of the sector's regional workforce is in line with the sector overall where 94% of the workforce are white. Unfortunately further breakdown of the non-white workforce is not possible due to low sample sizes.

Table 3 illustrates the level of qualification held by the sector's regional workforce compared to the sector nationally and also the

overall workforce in the region. As can be seen there is a significantly lower proportion of the workforce qualified at level three and above among the sector's regional workforce compared to both the UK sector. This figure is also lower than the regional profile. There is also a higher proportion of the workforce within the lower qualified group. Approximately 24% of the Cogent regional workforce do not possess level 2 qualification, making them eligible for Skills for Life or first level 2 funding via the Train to Gain and Skills Pledge services.

Table 3: Qualification level of workforce in Yorkshire and Humber

Qualification level of YH workforce			
	VQ3 and above	VQ2	VQ1 and below
Cogent – UK	52%	27%	20%
Cogent – YH	47%	29%	24%
Economy YH	49%	31%	20%

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

Overall in terms of the diversity and age profile of the sector's workforce in the Yorkshire and Humber region the news is positive. However the qualifications profile is less positive. Using qualification level as a proxy measure for skills, this may impact upon the ability of the sector within the region to meet the challenge of producing higher quality/value added products with the implied demand for a higher skilled workforce.

Regional Skills Issues

In the 2005 National Employer Skills Survey 20% of Cogent sector employers in Yorkshire and Humber reported having vacancies, this was higher than the England average of 17%. Of these vacancies, 10% of employers stated that some vacancies were hard to fill, probed further for the reasons for this 4% identified that it was skills related. The proportion of employers in


the region reporting skill shortages is the same as the proportion across England (4%) meaning that the higher occurrence of hard to fill vacancies in the region (compared to the England average at 7%) is for reasons not related to skills, for example, difficulties attracting applicants, lack of awareness, attractiveness of the industry.

Across the UK, employers in the Cogent sector report having issues with skills gaps, where employers report 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 affecting 20% of the employers.

Employers in Yorkshire and Humber have a significantly greater issue with skills gaps with just below one third of the sector employers reporting skills gaps affecting 13% of their employees⁷. This supports the evidence relating to the qualification profile for sector employees in the region.

Employer consultation interviews were undertaken across the North of England as part of the SSA process. Discussions covered a variety of topics including skills gaps and cross sector skills. Across the North of England (North East, North West and Yorkshire & Humber) employers were the least likely to report problems with basic numeracy and literacy. This seems to be at odds with the qualification profile findings for Yorkshire & Humber where there is a high volume of employees without lower level qualifications. Of those employers reporting staff with literacy and numeracy skill gaps it was said to affect up to 19% of their workforce however. Deficiencies were thought to affect machine operators and related more to numeracy than literacy skills.

⁷ National Employer Skills Survey (2005)



In terms of English as a second language, employers in the North of England were once again least likely to report having ESOL staff with 79% reporting none of their staff in this group. Two thirds of employers participating in the consultation interviews reported that their staff had the IT skills required for their job roles although there is some recognition that given the pace of change there is a need for continuous improvement in IT skills.

One of the means by which employers can tackle the issue of skill gaps is through training. In Yorkshire and Humber 76% of employers reported having arranged or funded training for their employees in the last 12 months. However, this covered only a reported 37% of staff, lower than the England average of 69%⁸. Employers have been asked in previous surveys if they experienced any barriers to training their workforce. Only 21% reported no barriers, a smaller proportion than reported by Cogent employers across England (26%). Of those citing barriers, lack of time and cover for training were the most frequently cited. High staff turnover was also reported as an issue for employers in Yorkshire and Humber, significantly more so than average (27% compared to 16% across England)⁹.

Future skills needs and employment patterns

In the Yorkshire and Humberside region employment levels are forecast to decline by an estimated 3,000 employees. The decline is forecast to be small between 2004 and 2009. However it is estimated to decline at a faster rate 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. The fall in traditional employment can be attribute to a decline in bulk chemical production and the overall decline in the UK manufacturing base.

The gender split in the region is also forecast to shift. Although the Cogent workforce will remain male dominated the percentage share will decrease by just over 3%. This is a positive projection and illustrates an increase in the regional female workforce.

The occupational composition in the Yorkshire and Humberside region is fairly typical of other regions. The proportion of employment within the management occupations is forecast to increase from 14% to 16%, whilst the proportion of employment within the lower level occupations (machine operatives and elementary occupations) is projected to decline over the next 10 years from a 40% share to 35% overall within the Cogent sector. Net changes within the region are relatively low. However, replacement demand within the region is higher especially within the machine operative occupations, which is estimated to be 5,000 over the next ten years. The overall total requirement within the region is 13,000 across all occupations. This accounts for over 10% of the total UK Cogent 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.

⁸ National Employer Skills Survey (2005)

⁹ National Employer Skills Survey (2003)



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.

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 CO2 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 development¹⁰. 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.

¹⁰ National Employer Skills Survey (2004)


What the industries do not have, however, is a clearly defined pathway though 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 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 National Skills Academy for Process Industries will also go some way to improving provision in the Cogent sector through the development of regional centres of specialist provision for the 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.

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 (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 was developed in consultation with the Yorkshire and Humber Chemicals Skills Group and the regional provider network. 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. A regional launch of the tool is planned in Yorkshire and Humber for 2007 and 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 the first 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 Yorkshire and Humber 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 five actions have strategic importance for the Cogent sector in the region and are being put forward as priorities for consideration at the action planning phase.

Furthermore, Cogent will continue to work with the National Skills Academy for Process Industries (NSAPI) to ensure that the regional action plan is aligned to the NSAPI Business Plan. Cogent will continue to support NSAPI on the development of the Academy's delivery network. We will also work with the RDA, Yorkshire Chemical Focus and Humber Chemical Focus on the development of regional solutions to regional skills needs across the Yorkshire and Humber.

5. Reaching Agreement in the Yorkshire and Humber

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 Yorkshire and Humber.

Cogent Big Ticket Items	Proposed Activities	Evidence of Employer Commitment (UK-wide)	Stakeholder	Mapping to Policies and Priorities
Cogent Career Pathways				
<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"> Carry out a review of what is currently in place Develop an interactive web-based resource Populate resource with what is currently in place to recognise qualifications most valued by industry Development of a career route map and qualification requirements Design and develop a progression framework populated with accredited qualifications Roll out the tailored BIT training and qualifications to promote best practice Development and setting of benchmark for job roles (i.e. Gold Standard) 	<p>Pathways is a number one priority for both Nuclear and Chemical employers:</p> <ul style="list-style-type: none"> 89.6% Nuclear employers support this proposal. 85.7% of Chemical and Pharmaceutical employers support this proposal <p>68.8% of Polymers support the proposal with a significant 96.9% of employers supporting the need for more clear information.</p> <ul style="list-style-type: none"> Linpac Plastics "A clear career pathway will help attract more young people into the polymer sector) <p>Although a lower priority for Petroleum employers 64.3% employers are still in support of the Cogent Career Pathways project.</p>	Regional Development Agency	<p>RES 2006-2015</p> <p>Objective three: Skilled people – benefiting business</p> <p>1. Create a new enthusiasm for learning and increase attainment by:</p> <ul style="list-style-type: none"> Increasing the take-up of subjects linked to economic success including ICT, Maths, Science, Technology and languages Reducing the number of young people not in education, employment or training and improve progression routes into/between all levels of learning Making information on job/learning opportunities better integrated and easier to access and understand
			Regional Skills Partnership	<p>Regional Skills Delivery Plan</p> <p>Theme One: Employability</p> <ul style="list-style-type: none"> Enhance the employability of individuals Improve regional performance in the attainment and progression of 14-19 year olds
			Learning and Skills Council	<p>Regional Commissioning Plan 2007-8</p> <p>Priority 1: Raising the quality and improving the choice of learning opportunities for young people to equip them with the skills for employment or further learning</p> <ul style="list-style-type: none"> Ensuring all 14-19 year olds have access to high quality, relevant learning opportunities by: Providing a range of opportunities to better prepare young people for the world of work
			JobCentre Plus	<p>Business Plan 2007-8</p> <p>Objective One: Increase the effective supply of labour by promoting work as the best form of welfare and by helping people to move into employment</p> <p>Objective Four: Help people facing barriers to employment to compete effectively in the labour market and to move 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"> Develop a programme led apprenticeship model and develop pathways from this into industry led apprenticeships Develop a model for adult entry to frameworks 	<p>Petroleum employers ranked Apprenticeships as the 2nd highest priority. 92.9% of Petroleum employers support the action. Polymer employers also ranked Apprenticeships as the 2nd highest priority with 68.8% of employers supporting the action.</p> <ul style="list-style-type: none"> Geberit – ‘We need Apprenticeship programmes that are directly relevant to the polymer industry’ <p>Nuclear and Petroleum employers ranked the proposal 3rd. 77.1% and 69.1% of employers supporting the idea respectively.</p> <ul style="list-style-type: none"> 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. <p>Employer Financial commitment to the NSAPI is substantial.</p>	<p>Regional Development Agency</p> <p>RES 2006-2015 Objective three: Skilled people – benefiting businesses</p> <ol style="list-style-type: none"> Create a new enthusiasm for learning and increase attainment by: <ul style="list-style-type: none"> Improving the educational and training provision to raise the number of young people gaining qualifications Increasing the take-up of subjects linked to economic success including ICT, Maths, Science, Technology Improve basic skills and skills for employability by: <ul style="list-style-type: none"> Encouraging the take up of level 2 qualifications Improve skills for technicians, crafts people and managers to: <ul style="list-style-type: none"> Ensure appropriate skills for employability and suitable career progression routes Make the most of apprenticeships and pilot adult apprenticeships in key sectors Improve the skills of the current and future workforce by: <ul style="list-style-type: none"> Meeting the needs of employers and individuals in growth businesses
			<p>Regional Skills Partnership</p> <p>Regional Skills Delivery Plan</p> <p>Theme One: Employability</p> <ul style="list-style-type: none"> Enhance the employability of individuals <p>Theme Two: Higher Level Skills</p> <ul style="list-style-type: none"> Support delivery of regional innovation and enterprise strategies through higher level skills development
			<p>Learning and Skills Council</p> <p>Regional Commissioning Plan 2007-8</p> <p>Priority One: Raising the quality and improving the choice of learning opportunities for young people to equip them with the skills for employment or further learning</p> <ul style="list-style-type: none"> Ensuring all 14-19 year olds have access to high quality, relevant learning opportunities by Providing a range of opportunities to better prepare young people for the world of work Develop and promote a suit of Apprenticeships and improve quality and success rates <p>Priority Two – Raising the skills of the nation, giving employers and individuals the skills they need to improve productivity</p>

				<ul style="list-style-type: none"> • Making learning truly demand-led to better meet the needs of employers, young people and adults: • Identifying opportunities to support key RES clusters throughout the roll out of SSAs • Identifying priority sectors for level 3 support
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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 <i>the</i> 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"> • 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 • There will be an extension of the model of health& safety induction for tanker drivers standard, to all other staff involved in distribution of petroleum/hazardous goods. 	<p>Competence assurance is particularly relevant for the Petroleum and Chemicals 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 Nuclear 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>	Regional Development Agency	<p>RES 2006-2015 Objective two: Competitive businesses</p> <p>1. Apply best practice for business success and to recruit and train good staff through the:</p> <ul style="list-style-type: none"> • Promotion of healthy and safe workplaces to boost productivity <p>Objective three: Skilled people – benefiting businesses</p> <p>1. Improve the skills of the current and future workforce by:</p> <ul style="list-style-type: none"> • Working with business, employers and unions to increase employer resources invested in workplace training <p>2. Improve skills for technicians, crafts people and managers by:</p> <ul style="list-style-type: none"> • Identifying and addressing priority areas of business where skills shortages are affecting productivity
			Regional Skills Partnership	<p>Regional Skills Delivery Plan Theme Three: Business Support</p> <ul style="list-style-type: none"> • Provision of integrated support to businesses • Innovative partnership approaches to business delivery



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"> Development of a passport system acceptable to employers covering common induction and areas of commonality Establishment of a platform to monitor and maintain, with roll out of system to pilot group prior to full implementation 	<p>The action is highly supported by employers in the Nuclear industry with 85.4% committing to the development of a passport scheme for the mobile workforce:</p> <ul style="list-style-type: none"> '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.' <p>Chemicals employers have demonstrated substantial commitment to the Passports project with 58.9% showing their support.</p> <p>The Petroleum industry is also in support of a Passport scheme with half of the employers supporting the action.</p>	<p>Regional Development Agency</p>	<p>RES 2006-2015 Objective three: Skilled people – benefiting businesses</p> <ol style="list-style-type: none"> 1. Improve skills for technicians, crafts people and managers by: <ul style="list-style-type: none"> Identifying and addressing priority areas of business where skills shortages are affecting productivity 2. Improve the skills of the current and future workforce by: <ul style="list-style-type: none"> Working with business, employers and unions to increase employer resources invested in workplace training Meeting the needs of employers and individuals in growth businesses



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>Polymer 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"> • Polypipe - "This is the No1 important item for our industry" Ian Tanser Group Operations Director • "We just cannot get skilled technicians in this area, so have to up-skill our own people" Jim Fletcher Managing Director Marshall Tufflex • "Skilled and qualified technicians are the key to making a continuous improvement programme live and be sustainable" Chris Horton Group Operations Director Linpac Plastics. <p>Petroleum employers are committed to the upskilling action especially with regards to the technological advances within the industry (78.6% of employers)</p> <p>Nuclear and Chemical and Pharmaceutical 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"> • Endorsement from the regional employer Executive Forum 	<p>Regional Development Agency</p> <p>RES 2006-2015 Objective three: Skilled people – benefiting businesses</p> <ol style="list-style-type: none"> 1. Improve skills for technicians, crafts people and managers by: <ul style="list-style-type: none"> • Identifying and addressing priority areas of business where skills shortages are affecting productivity 2. Improve the skills of the current and future workforce by: <ul style="list-style-type: none"> • Meeting the needs of employers and individuals in growth businesses 3. Improve higher level skills to capture the potential of people with degrees: <ul style="list-style-type: none"> • Through the development of programmes to retain more graduates in the region • By expanding HE provision, including Foundation Degrees
			<p>Regional Skills Partnership</p> <p>Regional Skills Delivery Plan Theme One: Employability <ul style="list-style-type: none"> • Enhance the employability of individuals Theme Two: Higher Level Skills <ul style="list-style-type: none"> • Support delivery of regional innovation and enterprise strategies through higher level skills development </p>
			<p>Learning and Skills Council</p> <p>Regional Commissioning Plan 2007-8 Priority Two – Raising the skills of the nation, giving employers and individuals the skills they need to improve productivity:</p> <ul style="list-style-type: none"> • Making learning truly demand-led to better meet the needs of employers, young people and adults • Identifying opportunities to support key RES clusters throughout the roll out of SSAs • Encourage the attainment of first full level 2 qualifications • Identifying priority sectors for level 3 support

		and Networks within the Polymer industry. Primary outcome from the regional SNA and specific actions feature in the Forum/Network plans going forward.		
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Cross –Cutting Themes				
<i>Management & 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	<p>RES 2006-2015 Objective two – Competitive businesses</p> <p>1. Apply best practice for business success and to recruit and train good staff by:</p> <ul style="list-style-type: none"> Developing a programme of business leadership training and promotion of best practice management techniques <p>Objective three: Skilled people – benefiting businesses</p> <p>1. Improve higher level skills through:</p> <ul style="list-style-type: none"> Fostering excellence in management and leadership skills
			Learning and Skills Council	<p>Regional Commissioning Plan 2007-8 Priority Three: Raise the performance of a world-class system that is responsive, provides choice and is valued and recognised for excellence:</p> <ul style="list-style-type: none"> Develop and implement programmes which address higher level management and business skills needs
			Regional Skills Partnership	<p>Regional Skills Delivery Plan Theme Two: Higher Level Skills</p> <ul style="list-style-type: none"> Contribute to the development of a management and leadership framework for the region
<i>Innovation</i>	Development of sector specific centres of excellence linking material research, design and process technology		Regional Development Agency	<p>RES 2006-2015 Objective two – Competitive businesses</p> <p>1. Support knowledge based regional cluster for Chemicals</p> <p>2. Foster innovation to develop new markets and products, including good links between business and HE institutions</p>



				<ol style="list-style-type: none">3. Better exploit the region's science and research base in business4. Promote knowledge and technology transfer5. Help businesses to innovate, to improve products/services and to cut waste through resource productivity
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The way forward

The Cogent Sector Skills Agreement for the Yorkshire and Humber will inform the basis of negotiations with regional partners in order to develop a detailed Cogent Regional Action Plan for the Yorkshire and Humber. The action plan will provide a coordinated approach to delivery for all partners working towards region-specific solutions and agreed priorities. Cogent are now looking to roll out the Big Ticket iwithin the region and will be promoting these solutions to employers and regional partners alike. Through bilateral discussions we will agree the action plan with all of our partners in the Yorkshire and Humber, ensuring that additional LMI and alternative sources of research evidence are taking into account when the action plan is developed. We will also continue to utilise the RSP as a means to drive the SSA forward. Cogent looks forward to continuing to work with Yorkshire and Humber partners to ensure the SSA action plan is driven forward to meet the key skills challenges facing our employers in the region

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6. Appendix

COGENT SIC CODES

Division (2digit)	Class (4 digit)	Description
11		Extraction of Crude Petroleum and Natural Gas; Service Activities Incidental to Oil and Gas Extraction Excluding Surveying
	11.10	Extraction of crude petroleum and natural gas
	11.20	Service activities incidental to oil and gas extraction excluding surveying
23		Manufacture of Coke, Refined Petroleum Products and Nuclear Fuel
	23.10	Manufacture of coke oven products
	23.20	Manufacture of refined petroleum products
	23.30	Processing of nuclear fuel
24		Manufacture of Chemicals and Chemical Products
		Manufacture of basic chemicals
	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
		Manufacture of pesticides and other agro-chemical products
	24.20	Manufacture of pesticides and other agro-chemical products
		Manufacture of pharmaceuticals, medicinal chemicals and botanical products
	24.41	Manufacture of basic pharmaceutical products
	24.42	Manufacture of pharmaceutical preparations
		Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
	24.51	Manufacture of soap and detergents, cleaning and polishing preparations
	24.52	Manufacture of perfumes and toilet preparations
		Manufacture of other chemical products
	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		Manufacture of Rubber and Plastic Products
		Manufacture of rubber products
	25.13	Manufacture of other rubber products
		Manufacture of plastic products
	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		Sale, Maintenance And Repair Of Motor Vehicles And Motorcycles; Retail Sale Of Automotive Fuel
	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

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Cogent	Draft Sector Qualification Strategy	Jul-07	http://www.cogent-ssc.com/area_of_interest/sectorQualificationStrategy.php
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