Grant Thornton

West Cumbria Spatial Master Plan

Baseline analysis: Working Paper 1

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Final Report

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1 Introduction

1.1 Background

West Cumbria, encompassing the districts of Copeland and Allerdale, is a sub-region of England's north west, which has for many years under-fulfilled its potential, both for reasons of geography and due to the decline of the iron and steel, shipbuilding and chemical industries.

Grant Thornton has been commissioned by the West Cumbria Strategic Forum to develop an economic and spatial master plan for West Cumbria which brings about transformational solutions to create a sustainable social and economic future for the area over the next 20 years. This work has been initiated following the announcement of the decommissioning of nuclear sites within the UK, especially at Sellafield, and the establishment of the Nuclear Decommissioning Authority based in West Cumbria.

Cumbria Vision on behalf of the West Cumbria Strategic Partners, Cumbria Partners has commissioned this study, which is funded in part by West Lakes Renaissance (through the North West Development Agency) and the Nuclear Decommissioning Authority. The creation of the masterplan is being led by Grant Thornton and its partners, which include Experian Business Strategies, Steer Davies Gleave, Lumis, the Leisure and Tourism Organisation and Quo-Tec.

1.2 This report

The purpose of this report is to set out the evidence base for West Cumbria, drawing together the strengths, weaknesses and key issues. It also sets out existing projects and programmes and polices for the future. The role of this research is important to the developing masterplan as it provides the evidence base for making policy decisions, the development of the strategy and the testing and examination of the potential impact of policy interventions. Without adequate evidence the masterplan would be created in a vacuum.

The report is structured as follows:

- Chapter 1 - General baseline position
- Chapter 2 - Energy, nuclear and technology
- Chapter 3 - Tourism
- Chapter 4 - Skills, enterprise and knowledge
- Chapter 5 - Property and Land Market
- Chapter 6 - Social and wider issues

In addition, transport issues are discussed in the Steer Davies Gleave report, more detailed nuclear and energy issues are discussed in the report jointly produced by Lumis, Grant Thornton and Quo-Tec and the econometric baseline forecasting model is discussed in the Experian working paper.

2 Economic overview

2.1 Key economic issues

The West Cumbria economy has been in decline since the 1990s though it has experienced of relative stability between 1996 and 2002/03. Gross Value Added (GVA) declined by 2.6% between 1998 and 2002 compared to a UK growth rate of 21.6% making the region the poorest performing sub regional economy. West Cumbria was one of only four sub regions in the EU where the economy is in absolute decline.

Recent data analysis (CRED September 2005) indicates further net job losses over the last couple of years. The September 2005 issue of Cumbria Economic Bulletin reported that for the second bulletin period in a row, proposed job losses were in excess of new jobs being created (1,388 over 914). Job losses in the two years to September 2005 total 5,000. 75% of the reported job losses have occurred in manufacturing, with 55% of the manufacturing losses relating to the restructuring at Sellafield.

The growth in the corresponding period has had been more in the wholesale and distribution, and hotels and restaurants sectors rather than manufacturing. The economy is dependent upon a small number of large employers – key examples being BNG, Iggesund (paperboard) and Innovia Films, AlcanPackaging (packaging). A majority of these firms are externally owned.

Key factors behind that the widening gap in the sub-regional GVA and national averages are:

- A key reason for this decline has been the region's dependence on the manufacturing industry, which has been in decline nationally.

- An increasing proportion of part-time employment, and the area’s poor relative levels of new firm formation.

- The changing pattern of the industrial structure, and industry composition presents risks: The GVA is heavily dependent on industry – 46% as compared with 24% in the UK. Over 70% of industrial employment in West Cumbria (c. 12,000) is reliant on the nuclear industry and 46% of all employment in Whitehaven relates to the sector. The business and financial services sectors, the fastest growing in the UK, are underrepresented in Cumbria (representing about 10% of employment compared with 20% in England and Wales).

- Average wages are relatively low: Average wages in West Cumbria are below the national average. Aside from process, plant and machine operators (probably reflecting high paid jobs at BNFL Sellafield), most occupations in Cumbria are paid less than their English counterparts. Industry structure also reduces average wages, with relatively low proportions of people in managerial, professional, technical and administrative occupations and more people in 'elementary occupations', hospitality and skilled trades.

- The population is shrinking and ageing: West Cumbria's population has fallen by 2.8% between 1991 and 2001 and has suffered from a disproportionate loss of young people with 30% of young people lost over the same period.

- High value employment losses are imminent: Current forecasts estimate that employment in the nuclear sector will drop by 8,000 by 2021. These jobs are generally better paid relative to other employment in the industry exacerbating the challenge.

- Business growth rates are static: Copeland has experienced a considerable 21% fall in business registrations over the period from 1998 to 2002, only marginally offset by growth of 22% for Allerdale.

There are however numerous trends which appear positive. The past five years have seen employment growth and earnings remain above regional averages. Despite some hidden unemployment (suggested by the numbers on incapacity benefit and levels of enrolment within government training schemes) and locally isolate instances of significant deprivation, official unemployment levels are at an all time low.

However, the positive economic situation is largely based on the benefits derived from the nuclear industry and public sector activities. Future changes in both of these leaves the Cumbria economy vulnerable. The nuclear industry in particular has protected the sub regional economy from Industrial closures, which, in recent years, have not been matched by growth of existing firms or new investment. Growth in employment at Sellafield has, over the years, offset redundancies elsewhere within the economy. ERM economics illustrated the impacts that the employment of around 12,000 BNFL, Agency and Contractor staff at Sellafield had on the local economy. In employment terms, the figure is equivalent to over 70% of total manufacturing employment within West Cumbria.

2.2 Population

In West Cumbria, population has fallen by -2.2% between 1991 and 2003, contrasting with the County as a whole, which has experienced a population growth of 0.7%. There is a divide within West Cumbria itself, with levels of population decline in Copeland higher than in Allerdale (-2.9% compared to -1.7%). Overall, the North West region's population has fallen very slightly (-0.6%).

Figure 2-1: Total Population Change ('000s) 1991-2003

	North West	Cumbria	West Cumbria	Allerdale	Copeland
1991	6843.0	486.3	167.6	96.1	71.5
1992	6841.0	487.2	167.4	96.1	71.3
1993	6846.7	487.2	166.4	95.4	71.0
1994	6838.9	487.0	165.9	95.2	70.7
1995	6827.9	486.8	165.4	94.9	70.5
1996	6809.6	486.7	165.0	94.5	70.5
1997	6794.4	488.2	165.1	94.7	70.4
1998	6792.2	489.0	164.8	94.8	70.0
1999	6773.1	488.1	164.0	94.1	69.9
2000	6774.2	487.6	163.0	93.6	69.4
2001	6773.0	487.8	162.8	93.5	69.3
2002	6783.5	487.8	162.8	93.7	69.1
2003	6804.5	489.8	163.9	94.5	69.4
Net change	*-38.5*	*3.5*	*-3.7*	*-1.6*	*-2.1*
% change	*-0.6*	*0.7*	*-2.2*	*-1.7*	*-2.9*

Source: ONS Population mid-year estimates

A major contributor to the overall downward trend in the population of West Cumbria relates to the disproportionate loss of local young people that is not counter-balanced by in-migration.

This results not only in a fall in total population, but also an "aging" population structure. This can be seen by a much steeper decline (-25.3%) in the population of those aged 15-29 than for the population as a whole during the same period. This is undoubtedly part of a wider regional trend, but the decline in West Cumbria is far more severe than the regional average (-15.6%). As a consequence of this trend, the proportion of the population in this age group has fallen from 20.5% in 1991 to only 15.7% in 2003.

2.3 Employment

West Cumbria remains dependent on a narrow range of industrial sectors and particular firms. Three quarters of West Cumbria's workforce are employed within manufacturing, distribution/hotels/restaurants or public administration/education/health. When compared to national averages West Cumbria is heavily over represented in manufacturing, while it is under represented in transport and communications and banking, finance and insurance.

The data shows that there are 16,751 employees in manufacturing industry of which around 12,000 workers (including local contractors) work at Sellafield, which represents over 70 percent of all industrial employment in West Cumbria.

Figure 2-2: Total Employment by Sector 2003

	Great Britain		North West		Cumbria		West Cumbria	
	No	%	No	%	No	%	No	%
Energy and water	172,840	0.7	9,580	0.3	1,268	0.6	328	0.5
Manufacturing	3,236,419	12.7	432,777	14.5	40,074	19.4	16,751	26.7
Construction	1,139,576	4.5	139,780	4.7	9,597	4.6	3,187	5.1
Distribution, hotels and restaurants	6,345,828	24.9	743,873	25.0	64,173	31.0	16,152	25.7
Transport and communications	1,540,702	6.0	182,493	6.1	9,909	4.8	1,909	3.0
Banking, finance and insurance, etc	5,086,244	20.0	526,375	17.7	20,901	10.1	6,908	11.0
Public admin, education & health	6,642,210	26.1	802,558	27.0	50,487	24.4	14,357	22.9
Other services	1,326,452	5.2	138,667	4.7	10,442	5.0	3,192	5.1
Total	25,490,270	100.0	2,976,103	100.0	206,851	100.0	62,785	100.0

Data from the New Earnings Survey (NES) shows that average earnings in West Cumbria in 2003 were 6.6% higher than the average for the North West region and only 1.5% below the UK average, a trend typical of previous years.

When considering average earnings by type of occupation it seems that while managers and senior officials and professional occupations have generally lower earnings than the North West regional figures, earnings of workers in skilled trade occupations and process, plant and machine operatives are considerably above averages for other areas.

Figure 2-3: Average Levels of Earnings by Workplace (Gross Weekly £)

	UK	North West	Cumbria	West Cumbria	WC % dif. to NW	WC % dif. To UK
1999	400.09	373.79	361.67	399.27	+6.8	-0.2
2000	418.08	388.99	371.97	417.61	+7.4	-0.1
2001	442.25	408.16	381.28	426.30	+4.4	-3.6
2002	462.46	426.57	401.58	448.43	+5.1	-3.0
2003	473.76	437.56	413.22	466.44	+6.6	-1.5

Source: NES via NOMIS

2.4 New business formation

The rate of new firm formation per head for West Cumbria over the past ten years has been consistently lower than the rate for Cumbria and considerably below the average for the North West region.

Further investigation reveals that not only does West Cumbria experience low rates of new firm formation, but also that new registrations are generally matched by the number of de-registrations (business closures), resulting in a generally static stock of businesses. This contrasts with the North West region and Cumbria as a whole, which have both seen an increase in their total business stock in the same period.

Figure 2-4: VAT Registration Rates (per 10,000 resident adults)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Allerdale	29.7	25.6	24.5	30.8	27.1	23.8	27.4	27.3	33.8	32.2
Copeland	20.9	18.1	21	21	25.9	23.1	24.2	13.6	19.4	27.8
West Cumbria	26.0	22.4	23.0	26.6	26.6	23.5	26.0	21.5	27.7	30.3
Cumbria	32.2	28.6	28.9	32.5	30.7	28.7	30.9	30	35.2	36.1
North West	30.9	30.5	31.1	33.9	33.7	32.2	32.4	30.5	32	34.7

Source: NOMIS

3 The Nuclear and technology sector

3.1 Characteristics of the West Cumbria nuclear sector

Within West Cumbria, 12,000 direct jobs and 2,630 indirect jobs are dependent upon the nuclear industry. This amounts to 22% of West Cumbria's workforce, and 47% of Copeland's. Around £200-£250m is spent each year with local suppliers and estimated £300m in employee spending power.

It is estimated that Sellafield contributes 22% of Cumbria GVA, 40% of West Cumbria GVA[1]. The shift to decommissioning is likely to lead to the replacement of high wage jobs within the industry with low wage jobs in lower value added sectors.

3.1.1 Employment

The progressive run down in operations at Sellafield will have a major impact on the local employment market. The impact of the job losses will be mitigated by the fact that much of the decline in employment can, according to the NDA and BNG, be accommodated via retirements and natural staff turnover. The current age of the Sellafield workforce is 42 years with an average length of service of 15 years[2] so this is a realistic suggestion.

While this may appear to limit the impact in so far as it will result in fewer forced redundancies than would otherwise be the case, the effect on economic activity and the loss of spending power will not be ameliorated. Furthermore, the availability of fewer future employment opportunities is likely to exacerbate the current trend whereby young people leave the area, perhaps to continue education, and tend not to return to work in the area.

Employment within Sellafield has clearly had a huge impact on local labour markets and while much analysis of the effect of Sellafield on the local economy focuses on beneficial impacts, it has produced some difficulties. For example, local business owners have to compete with Sellafield for staff and find it difficult to afford the wages and other benefits that the nuclear industry can offer. A local business owner recently indicated that *all* of his employees had submitted applications to work at Sellafield and that he simply could not compete with the wages they offered, even for staff without any official qualifications.

The declining level of labour demand is also likely to lead to lower wages which will further constrain the spending power of lower total employment levels. Sellafield's lifetime plan 2006 estimates a budget decline of £640m over the next 10 years with employment decline of 3000. This corresponds to a loss of £60m in wages.

The recruitment drive at Sellafield also suffers due to the perception of an industry in decline.

3.1.2 The nuclear supply chain

The impacts form the nuclear industry go beyond direct employment. Nuclear Opportunities suggested in 2005 that BNG expenditure benefiting West Cumbria firms amounted to £36m during 2002-2003 and involved 298 companies. The expenditure is spread beyond the nuclear sector as it impacts engineering, construction, chemicals and services (transport,

[1] *All figures in this paragraph are drawn from 'REVIEW OF THE ECONOMY OF WEST CUMBRIA, June 2005'. Prepared by CRED in association with CEIP (PECK AND CO)*
[2] *ERM. Socio-Economic Study: West Cumbria – 2003 update*

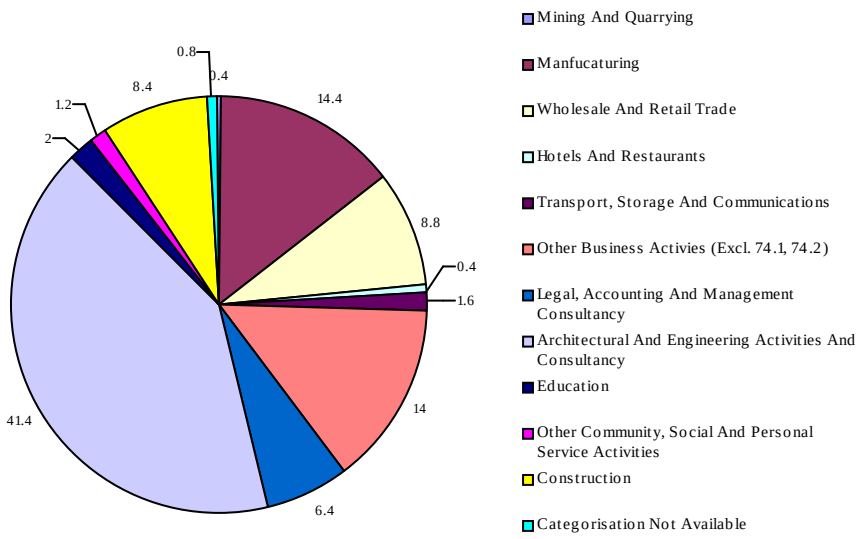
hotels, restaurants etc.). ERM economics found that 41% of these businesses relied on BNG for at least 50% of their business. Even where employment is not directly linked to BNFL expenditure, it tends to be very dependent on the local spending power which is created by it. The extent to which the local economy is dependent upon BNFL is evidenced by the fact that 72% of respondents to the ERM survey of a wide range of firms indicated that their business depended upon purchasing power generated by employees of BNG

Businesses within West Cumbria are highly dependent upon the spending power derived from nuclear activities. This takes the form of both direct Nuclear expenditure within the supply chain to procure products and services and the stimulus to local businesses from nuclear employees spending (their relatively high) earnings on goods and services.

Local companies have, over the years, developed specific expertise, skills and capacity to serve the nuclear industry. With the evolution to decommissioning underway, it is not clear the extent to which these companies will easily be able to adapt their businesses to serve different requirements partly as a result of decommissioning but also due to the change and reduction in spending power created by Sellafield employment.

The local supply chain will need to realign itself to serve the new environment. Sellafield expenditure within the supply chain in 2004/5 in Cumbria amounted to over £100m (representing around 1/6th of total supply chain expenditure)[3].

Figure 3-1: Mapping the regional supply chain, % share by sub sector



Source: West Lakes Renaissance Database (reproduced from 'Mapping the Nuclear Supply Chain', ERM Economics July 2005)

Within region, four sub sectors are of particular relevance for the Nuclear industry. These are engineering and related technical consultancy, fabricated metals, machinery equipment and remediation services collectively supply much of the project management, design engineering and instrumentation services required. The Sellafield site dominates regional nuclear demand, representing 83.6% of all spending within the Near Term Work Plans (NTWP).

[3] *Sellafield - Socio Economic Plan 2006/2007.*

Figure 3-2: Near term work plans spend by regional sites

Site	Spend £m, NTWP Period (2005/06)	Spend £m, NTWP Period (2007/08)	Absolute Change £m over NTWP period	Percentage Change over NTWP period
Sellafield	1,016.90	994.8	-22.1	-2.8
Calder Hall	24.3	17.7	-6.6	-27.2
Drigg	19.3	16.7	-2.6	-13.5
Springfields	145.8	92.1	-53.7	-36.8
Capenhurst	25.5	8.5	-17	-66.8
Windscale	27.5	25.6	-1.9	-7
Total	1,259.20	1,155.30	-103.9	-8.25%

Source: Mapping the Nuclear Supply Chain, Final Review report. July 2005

Although over the long term demand derived from the nuclear sector is projected to be worth around £38bn, there is an anticipated decline of around 8% in the period 2005-2008. The largest decline in terms of categories of expenditure is anticipated within commercial operations, waste and nuclear materials management, and support services.

The NTWPs to 2008 do not reflect the increasing proportion of expenditure allocated to decommissioning within the LCBLs (life cycle baselines). Across the six sites, regional expenditure rises slightly from £1.26bn in 2005/06 to £1.28bn in 2006/07 before decreasing to £1.16bn in 2007/08[4].

BNG's Sellafield procurement plan anticipates the increasing usage of a smaller number of suppliers acting as tier 2 suppliers. Although there is a decrease in overall expenditure over the medium term this does not necessarily imply decreased opportunities for the regional supply chain. The new opportunities offered by decommissioning, and changes in BNG procurement strategy, will result in increases in the value of services being carried out.

Figure 3-3: Near term work plans spend by regional sites

		2005 Estimated Supply Chain			2008 Estimated Supply Chain	
	NTWP 2005 Spend	% Spend Supply Chain	Supply Chain Spend £M	NTWP 2008 Spend	% Spend Supply Chain	Supply Chain Spend £M
Commercial Operations	359.3	50	179.6	310.5	53	164.6
Site Support	309.1	30	92.7	315.5	74	233.4
Waste And Nuclear Materials Management	276.2	42	116	241.7	60	145
New Build	122.8	73	89.6	130.8	75	98.1
Support Services	94.7	20	18.9	74	20	14.8
Decommissioning	56.2	67	37.7	51.4	90	46.2
Transition	19.5	14	2.7	12.8	14	1.8
Stakeholder Support	21.4	0	0	18.6	0	0
Total	1259.2	42.7	537.2	1155.3	60.9	703.9

Source: Mapping the Nuclear Supply Chain, Final Review report. July 2005

[4] *Figures from 'Mapping the Nuclear Supply Chain', ERM Economics, July 2005.*

The largest increase in expenditure to 2008 is seen within site support (an increase of £140.7m , followed by decommissioning and waste and nuclear materials management categories).

Sellafield - summary of main changes in expenditure 2005 - 2008[5].

- The largest absolute falls in spending to 2008 are anticipated to be on 'Waste and Nuclear Materials Management' (£19.3 million) and 'Support Services' (£14.1 million).

- 'Site Support' is due to receive the largest increase in spending

- 'Commercial Operations', 'Site Support' and 'Waste and Nuclear Materials Management' the largest current areas of expenditure;

Supply chain impacts of structural changes within the nuclear sector

- BNG adoption of EU procurement rules will result in increased interest and competition for securing contracts. The movement to the new system will result in increases in the time taken to contract, impacting companies in the supply chain

- BNG and UKAEA aim to reduce the number of direct relationships they manage. The strategy is based on concentration of most service areas with a small number of tier 2 suppliers. The tier 2 suppliers will, in turn, be expected to integrate with tier 3 and tier 4 suppliers to deliver contract requirements.

- Changes in reporting requirements being driven by the NDA will increase demands on internal systems and require improvements in project and programme management systems (the Earned Value system). These developments will cascade down the supply chain.

- BNG will increasingly move towards e-commerce and has implemented procedures to reduce the burden for potential contractors, for example by removing the requirement for every tender to be supported with firm financial information.

A key issue for the region's companies is the extent to which they can adapt to ensure they retain market shares as competition increases and as the composition of demand changes. It has been suggested that one of the key factors indicating the extent to which companies may be able to adapt is their previous exposure to electronic procurement, contracting and project management systems. Evidence suggests that companies with lower exposure to these procedures and practices cannot adapt as quickly as those with higher exposure[6].

An increasing proportion of the work contracted by Sellafield is being let by competitive tendering procedures under European regulation. The new entrants are challenging the entrenched local business stock in serving the nuclear industry. The growth in competitive pressure is likely to continue which could have adverse impacts on businesses profit margins. The need for local business to respond to this threat could force them to become more competitive and, potentially, become a driver of future growth and economic regeneration.

[5] *figures taken from Sellafield NTWP*
[6] *Mapping Nuclear Skills report, pVIII*

3.1.3 Diversification and start up activity

West Cumbria's has a particularly poor record in terms of the business start up rate. While numerous factors contribute to this, the opportunities and expenditure derived from Sellafield and the nuclear industry have been described as a "security blanket" or "comfort zone". One of the reasons given for the low start up rate is the fact that employment opportunities within the nuclear industry are comparatively attractive (in terms of earnings, security, type of work etc.). Unfortunately, this does not necessarily imply that start ups numbers will increase significantly as employment opportunities decline within Sellafield as developing an entrepreneurial culture will require more than a lack of alternative opportunities.

Inward investment again has tended to be more of the prospective nuclear supply chain and includes offices of larger companies. Attraction of inward investment in other innovative sectors has remained a challenge.

Enterprise needs the full mix of land, skilled labour, top management, investment funds and increasingly knowledge. West Cumbria does not as of now offered the diversified mix of the above requirements.

The primary issue for West Cumbria, in terms of non-nuclear innovation and technology, is the domination of the nuclear sector and the relatively low levels of R&D intensity outside of it. The successful exploitation of innovation and technology is likely to depend on a combination of maximising the potential of existing capacity and on capturing spin-out opportunities arising from nuclear technologies

3.1.4 University Sector

Considering research in the university sector, strengths in regional universities (including the University of Central Lancashire, the University of Lancaster, and the University of Manchester / Dalton Institute) have been well characterised, but there is little university research capacity in the sub-region itself. The emerging University of Cumbria (and any future University of West Cumbria) is expected primarily to have a teaching remit, with relatively little IP-generating research.

Westlakes Research Institute, now part of the University of Central Lancashire, has well-established capabilities in environmental science, health and epidemiology. However most of its research is conducted under contract to commercial clients, with most of the associated IP in turn held by those clients.

Two attempts at setting up incubation centres have failed. Any further innovation support needs to consider why. Is it the lack of attractive deal flow due to factors identified above or was it a flaw in the mechanism of support.

The main issues for West Cumbria are:

- Capitalising on its Nuclear strengths and exploiting the benefits from decommissioning and,
- Diversifying the economy to be less dependant on a single industry and the resultant impacts of its ups and downs
- to move towards a knowledge economy in its businesses and work force in order to remain competitive in the developed world.

3.1.5 Nuclear Spin-Out

In terms of opportunities arising from the nuclear sector, a proposed Nuclear Institute, based at the West Lakes Science and Technology Park, would bring world-class nuclear-related research to the sub-region and would link to a technology centre at Sellafield. It would complement the work of Westlakes Research Institute, and would enhance the development of the Science Park. Sellafield itself has world-class research facilities (operated by Nexia Solutions). The NDA have also suggested the possibility of 'National Nuclear Laboratory'. Historical attempts to exploit technology from Sellafield for non-nuclear applications have met with limited success, but it is expected that the level of NDA investment will lead to significant future opportunities for spinout activity.

3.2 Decommissioning: initiatives and actions

From West Cumbria's perspective, the objective of the decommissioning intervention has to be to minimise the economic losses of the transition and maximise the benefits and opportunities that are being made available. With the citing of the Nuclear Decommissioning Agency in Cumbria in Cumbria, its scheduled workplan and planned initiatives it is a real opportunity for West Cumbria to become a world leader in decommissioning and environmental restoration activities.

Decommissioning will result in new contract opportunities both within the UK and internationally. The NOG group highlights that it is critical to use the next 10-15 years of decommissioning expenditure within the local west Cumbria economy to grow the capacity and effectiveness of the local supply chain in order to remain their competitiveness. As local opportunities diminish, the expertise built up has to be exploited both elsewhere in the UK and internationally. There is currently an opportunity for West Cumbria to become a Centre of Excellence for decommissioning.

NOG's vision is for this centre of excellence to be developed around the establishment of a mature cluster as West Cumbria responds to the challenges of decommissioning.

The NDA is supporting this vision and has made significant contributions including g £20m support for the National Nuclear Skills Academy, £10m for the Nuclear Institute and funding for a chair of Epidemiology. *"A Nuclear Institute based at the West Lakes Science and Technology Park in Whitehaven will bring world class scientific research to West Cumbria and link to a technology centre at Sellafield. This project involves a funding partnership between the NDA and the Dalton Institute which is part of the University of Manchester. £10million of the £20million capital cost is being funded by the NDA as a result of savings made to the Sellafield decommissioning programme by contractor British Nuclear Group"*[7]

The Dalton institute provides the focal point for Manchester University's nuclear research activities and coordinates the Nuclear Technology Education Consortium which collectively represents 90% of nuclear postgraduate teaching expertise in the UK. There are plans for the institute to establish a northern research base at the Westlakes site - but it is not clear how this is to happen.

These initiatives are supporting existing infrastructure and training provision, such as WLRI, West Lakes College and private sector providers. A gaps and overlaps exercise must be undertaken.

[7] *NDA website.*

3.2.1 Skills requirements

Decommissioning consists of three major categories. They are: (i) remote handling high dose work; (ii) semi-remote; (iii) manual tasks requiring hands on removal of low level and alpha contaminated waste. The main skills that are required to support this include:

- Programme and project management
- Technical: Safety case authors, discipline engineers – mechanical, process, electrical and civil, Design engineers, Control and instrumentation engineers, Health Physics, support and specialist remote handling robotics engineers
- Blue Collar Workers: NVQ trained decommissioning workers and construction support trade skills, scaffolders, builders, electricians etc.

3.2.2 Global opportunities

Decommissioning represents a major global opportunity, with 50% of the world's civil reactors forecast to be decommissioned by 2016[8]. In order to capture the opportunities available, the UK needs a strong nuclear supply chain. The civil global reactor market is estimated to be worth £30 billion per annum over the next 30 years. A DTI market assessment study found that UK businesses saw the USA as the most attractive market for their future operations (not including the UK), followed by France and Germany.

The capacity of the supply chain is currently insufficient to meet global demand for decommissioning services in coming years, which is likely to lead to new market entrants. A lack of market awareness was seen as a barrier for existing companies to exploit the forthcoming opportunities.

New technologies related to decommissioning also offer opportunities for the sector. Key areas of interest for these emerging technologies lies in:

- Decontamination and strippable coatings
- Sludge treatment
- Radiological characterisation
- Size reduction and cutting technologies
- Ultrasonic algae control
- Contaminated ground characterisation, sampling and analysis

There are a number of international companies offering market proven technologies that are yet to be employed within decommissioning. The application of these technologies could provide servicing opportunities for UK companies. However, the DTI has highlighted that there is a shortage of capability in many of the areas that will be required in the early stages of decommissioning. Specific areas to be addressed included: nuclear ventilation, asbestos removal, effluent treatment and utility fabric upgrading. Other areas of concern were identified within health physics and nuclear decontamination services, contaminated coolant treatment, remote handling and ILW process and design packaging.

[8] *DTI study on international opportunities, referenced within GENECON …*

Decommissioning experience and expertise could also be applied to other sectors that have long term decommissioning requirements (for example oil and gas). Skills that could be transferred from the nuclear supply chain to other sectors include project management, asbestos removal, chemical decontamination services, construction, design, demolition and mechanical services.

One fifth of global reactor decommissioning expenditure will be spent in the UK in the next 30 years.

3.2.3 Procurement Issues

The introduction of new NDA procurement procedures over the past year has led to a reduction in the number of Tier 2 contractors and a decrease in Tier 2 local companies' market share. This has been based on both a loss of previously held contracts to new international entrants and a failure to capture new contracts. Local contractors have lost out to high quality international bids who are more sophisticated in their approach to partnering. The West Cumbria supply chain project is seeking to address some of these issues facing local businesses. At the same time, new partnerships are being formed and increasing numbers of international companies are establishing a base in West Cumbria in preparation for submitting bids for future contracts.

3.2.4 Summary and priority actions

The procurement arrangements that have been put in place by the NDA introduce new challenges for the local supply chain. The local supply chain has been accustomed to contracting directly with BNFL and will now have to adjust to contracting with tier 1, tier 2 and tier 3 suppliers.

The NDA has the challenging task of delivering socio-economic gains and yet delivery value for money and cost reduction as required by its Public Service Agreement targets. We believe that looking at other regions that have experienced closure of dominant industry and resultant socio-economic projects should be considered. We also believe that advise on socio -economic aims being reflected through procurement should be sought from DG competition as well as the Office of Government Commerce (OGC).

The NDAs requirements for excellence in contract and project management will flow down the supply chain to impact the local SMEs. These SMEs may have to change their working methods in order to be successful under the new arrangements.

If West Cumbria is to develop as a world leader in decommissioning & environmental clean up then it is important that local businesses grow by expanding into non-nuclear markets and non-UK markets to reduce their dependence on Sellafield.

To create business growth and become a world leader in this field, several gaps need to be addressed. This existing Sellafield workforce needs to be retrained from a background of operating a facility to the skills necessary for successful decommissioning. This is being addressed via the initiative to create a National Nuclear Skills Academy in West Cumbria. Additional skills and R&D requirements are being addressed via the Dalton Nuclear Institute. It is critical to understand exactly how these new initiatives will work and how do they take existing provision like the courses offered by West Lakes Research Institute.

The key priority actions are:

- Secure NNSA and define what it does and in what time frame.

- Provide additional support to local SMEs – additional funding, encourage/compel assistance from tier 1 and tier 2 suppliers.

- Diversification – increase efforts to identify new markets and to provide support to help local businesses to exploit these opportunities.

- Undertake learning from regions that have experienced decline of dominant industry E.G. West Midlands and Rover.

- Look at how procurement can bring about socio-economic change. A policy used by the new build of Atlanta airport required contractors and sub-contractors to use black local labour. A similar clause has been employed in the contract for the extension of the East London tube Line in London ie 25% of work force of contractors and sub-contractors needs to be local. This will encourage local operations of global players and spawn new opportunities for regional businesses.

- Obtain legal guidance on procurement and OJEC rules. Consult with OGC regarding the dilemma of balancing socio-economic aims with value for money in Government contracts.

- Diversification – encourage/compel diversification activities via tier 1 and large tier 2 players who have experience in this field. Encourage these players to relocate to West Cumbria and use this as a base from which they will supply not only Sellafield but also new sectors and new markets. Target:

  - environmental clean up markets
  - nuclear power station outage support contracts
  - nuclear power station life extension support contracts
  - diversification – encourage/support increased commercialisation of new ideas.

3.3 Nuclear waste

The total volume of radioactive waste which exists today is 2.3 million cubic metres[9]. Although some has been processed and is being held in storage, the majority is contained within nuclear reactors. the main opportunities for supporting waste management in the short term are within the construction industry as new storage facilities will be required.

CORWM have indicated their preference for geological deep storage but their official recommendations are scheduled to be published in July 2006. A further issue results from the contamination of large volumes of land on some sites which have become contaminated by leaks of radioactive liquid. This presents opportunities in optimising the characterisation of contaminated land to minimise long term storage and disposal costs.

The continued management and storage of much of these wastes within West Cumbria provides significant economic benefit to the area. Although a long term solution to storage (depository) may not be operational for several decades, there will be opportunities in R&D into all aspects of geological disposal and interim storage and management of wastes.

Cumbria, Allerdale and Copeland councils have responded to CoRWMs' draft recommendations. Their principle comments were:

[9] *Genecon report*

- There should be a commitment by UK Government to intensive R&D into all aspects of geological disposal, interim storage and other options not completely ruled out by CoRWM.

- ILW - interim storage of ILW should be as close to the place of origin as possible. They are opposed to centralising ILW storage at Sellafield.

- Concerned that if one central repository (HLW/ILW) is recommended it will be by default in West Cumbria.

- Support the concept of volunteerism by local communities.

- Support the principle of support for communities that bear the burden of nuclear waste facilities.

3.3.1 Low level waste

The key issues are:

- The Drigg LLW facility's capacity expires in 2008. The Drigg Lifetime Plan proposes additional capacity (vault 9) to extend operations to 2050

- A public consultation process (led by DEFRA) on a policy for the long term management of solid LLW in the UK is in progress.

- Cumbria, Allerdale and Copeland councils have responded (May 2006) to the public consultation process on LLW management.

3.3.2 Priority actions

The priority actions are:

- Come to an agreed position regarding West Cumbria and Waste Repository

- Consider boldly in advance of the CORWM report, the position on community volunteering - Yes or NO but agree a party line

- Agree the price tag on volunteering, if appropriate

- Maintain/ develop relationships with CoRWM (and others) to influence the preparatory R&D that will be required over the next 10-20 years.

- Develop capabilities to maximise probability of local businesses, benefiting from this preparatory R&D.

- Presence of National Nuclear Laboratories in West Cumbria will assist in R&D work coming to West Cumbria.

3.4 Reprocessing

Fuel reprocessing offers significant opportunities. The THORP & Sellafield MOx Plant (SMP) have the potential to generate very significant revenues in the West Cumbria region. With the present plant capacity annual revenues of £500m - £600m are forecast if the plant is used to its capacity.

There is also the prospect of expanding plant capacity to exploit the world situation where demand for reprocessing services exceeds supply. BNG has been asked by the NDA to complete a feasibility study into the use of THORP& SMP. Keeping these facilities operational (at full capacity?) would safeguard 6,000 jobs (including support jobs) in West Cumbria.

This would make a significant difference to the Sellafield jobs profile as shown in the Sellafield Lifecycle baseline plan. THORP has a lifetime to around 2020. The reprocessing business stream could be maintained by extending this lifetime or building a replacement THORP (the construction phase in itself would create significant new jobs in West Cumbria).

Key issues:

- The issue of the continued use of THORP & SMP is likely to be controversial.

- Any decision regarding the future operations will be made by the UK Government and may be influenced by its wider energy policy which is to be published in July 2006.

- The continued operation of THORP & SMP could have a negative impact on the accelerated clean-up programme at Sellafield. Operations type jobs at THORP & SMP would be continued and therefore the resources could not be redeployed to clean-up activities. There would therefore be a requirement to attract new resources into West Cumbria – whilst this would benefit the local economy, BNG reports that it has had difficulties in the past in recruiting certain skill types for clean-up activities.

- A decision on the future of THORP is required within 2 years otherwise it will become more difficult to restart the plant.

- An immediate investment of £5-10mn will be needed to enhance effective operation and life of Thorp.

- The NDA is presently engaged on a study to make recommendations on the options for using or disposing of the nation's uranium and plutonium stocks. The outcome of this study may have an impact on the future of THORP & SMP.

- Fuel reprocessing and fuel manufacture is a huge "swing" issue in the economic future for West Cumbria. Keeping THORP & SMP operational will not only safeguard many jobs for at least 20 years but will also send important signals that Sellafield has a future as an operational site. This may be helpful in attracting people into the region.

Priority actions include the following:

- Complete feasibility study

- Agree position

- Political decision: timing, how to influence?

3.5 New build possibilities[10]

Whether new build nuclear takes place in the UK will be a political decision in the first place and then a commercial one by the developers of a project. The conclusions of the government's energy review will be known within the timeframe of this assignment so the implications for West Cumbria can be updated accordingly.

Assuming the energy review is supportive of new build, we expect that a number of enabling measures will be put in place to improve the prospects for new build (licensing, planning, market etc.) but that the government will expect the electricity market participants to build, own and operate the stations with limited or no subsidy.

Although new build at Sellafield does not appear to be a primary objective for the sub-region (at least from our discussions to date), it should at least be considered as one of a number of possible investment options which could assist the regional economy.

A new power station would represent a substantial value injection into the local economy during the construction phase followed by sustained employment for around 600 direct staff for the lifetime of the plant (minimum 40 years) along with the associated indirect benefits. We are not aware of any plans to build a new nuclear plant at Sellafield. In the past BNFL conducted a series of studies into the feasibility of new build and did identify a suitable site at Sellafield and recently a study has been undertaken by Westlakes Renaissance. (ERM Report)

Sellafield is one of a number of potentially viable sites for nuclear new build in the UK (and the only one in Cumbria). It is not commercially optimal due to issues of connecting to the national grid.

New build would provide 7,000 person years of employment. Once operational a twin reactor would employ around 600 people directly, with total job creation of around 1,000. The ERM report touched upon the opportunity to build a reactor which would burn Mox fuel as a means of processing the UK's inventory of civil plutonium stored at Sellafield. If a policy decision were to be made to follow the Mox route, Sellafield would be the preferred site.

Sellafield could also be a site for a prototype Pebble Bed Modular Reactor (PBMR) under development in South Africa. There are issues around the economics of PBMRs.

This possibility is likely to be diminished with the recent sale of Westinghouse to Toshiba.

3.5.1 Key issues, options and enablers

Sellafield has a number of positive attributes as a potential site for a new nuclear station (working assumption is for a twin 1000 MW station – size largely driven by economics):

- Available land (we propose that the identified site should be protected from other uses to retain the new build option)
- Existing licensed nuclear facility
- Supportive local community (for nuclear but not transmission!)

[10] *summary of points from Potential New Build in Cumbria (final report), ERM, 2006 (report for Cumbria County Council, Allerdale Borough Council and West Lakes Renaissance)*

- Workforce

- Ownership – Sellafield is one of only a few UK sites not owned by British Energy and could be of interest to potential investors (EdF, RWE, EON).

As a site for new build, Sellafield also has some significant challenges as highlighted in the ERM report:

- Inadequate transmission (a substantial quantity of the power would need to be shipped out of the region) - we believe the primary obstacle would be the ability to obtain planning permission for a new transmission line.

- Relatively high Transmission Use of System charges due to distance from demand puts the Sellafield site at a relative economic disadvantage to other UK sites.

The conclusion from our consultation is that, all things being equal, Sellafield will not figure as a new build site option in the near term if left entirely to the market.

Despite this, other new nuclear build options could be considered for the Sellafield site, for example:

- Gen IV prototype (Sellafield does have a heritage for prototype reactors) – link to role as National Nuclear Laboratory site

- PBMR – Westinghouse sale may have ruled this out

- Hydrogen production reactor

- Pu burning reactor

It is expected that Sellafield would rank well below the best sites for new build in the UK however it could be an option. Sellafield's contention for new build receives more buy-in when viewed within the wider context of skills and knowledge and the waste issues

If a National Nuclear Laboratory (NNL) is established in West Cumbria, and if it has some remit for new reactor development, then the potential for a new generation of reactor to be built on the Sellafield site would be enhanced.

3.5.2 Gaps and possible actions

- Inadequate transmission – could commission transmission study (routes, costs and planning feasibility)

- Local demand – unless linked to an enterprise strategy of attracting large energy users to the region

- Competitive position versus other UK site options - produce a single document outlining potential of new build at Sellafield and details of the site (we expect that nearly all of the material already exists). This document would be targeted at potential investors.

3.5.3 Preliminary conclusions

Given some of the inherent obstacles in the short term, we be surprised if new build forms a cornerstone of a near term nuclear regeneration strategy. We believe that it is an option for the future but would need some degree intervention to make it commercially feasible.

West Cumbria should be looking longer term at supporting the research into new generations of nuclear reactors which are expected to be commercially developed after 2020.

A new reactor fleet in the UK is an opportunity for West Cumbria even if a new reactor is not built in the region. It prolongs the life of the nuclear industry and will create opportunities in fuel fabrication, spent fuel management and possibly reprocessing all of which could benefit the Sellafield site.

3.6 New grid capacity

Any new build scenario in Cumbria will have to consider the issues around Grid Capacity. Sellafield is only one of a number of potentially viable sites for nuclear new build in the UK although it is not commercially optimal. Sellafield is far from the national electricity transmission grid (a line runs down the centre of Cumbria). A new plant at Sellafield would require a lengthy connecting line across West Cumbria. A northern route, connecting to the grid close to Carlisle, would be the most likely to receive planning authority consents: it could largely be built along the route of existing overhead electricity lines.

Connection charges would be significant: it is estimated that costs would be of the order of £70 - £150 million. This would add approximately 5-10% to capital costs.

However, our consultations have suggested that looking at this problem in the larger context of a nuclear zone, i.e. with decommissioning, community volunteering for waste and the need to diversify into new energy sectors (as the grid constraints would affect alternative energy sources trying to feed into the national grid) makes the problem seem not so severe.

Extra investment required for the power lines and the waste water line sea extension are about an additional £150 million. This cost is more than recovered if the new build offers storage of fuel and undertakes manufacturing from Plutonium and Uranium stocks thereby saving on transport costs and other logistic issues. Using the Mox plant and burner to turn stocks to fuel would work a macro economic view was taken. The revenues offset the costs.

The Steering group needs to consider this issue as part of the new build argument.

3.7 Nuclear centre of excellence

West Cumbria is already a nuclear centre of excellence with a rich tradition in nuclear development and operations. The issue faced by West Cumbria is how to maintain this position in spite of the shift of emphasis from operations to decommissioning. The NDA has made a commitment to supporting a Centre of Nuclear Centre of Excellence. The reasons for doing this are obvious:

- to preserve the high quality jobs the nuclear industry has provided for many decades
- to position West Cumbria to be a prime beneficiary of any future resurgence in the global nuclear industry.

The challenge faced by West Cumbria and Sellafield is not unique. Some reasonably close comparisons can be drawn with other major nuclear installations which have gone through a similar transition and have emerged successfully from this process. Some of the best

examples of this can be found at a number of major US nuclear sites (e.g. Hanford, Idaho etc). The experience at these sites is a good starting point for Sellafield/West Cumbria and it is also worth noting that many of the new entrants into West Cumbria (Fluor, CH2M Hill, and Battelle) have been involved at these US sites for many years and subsequently have much to offer in transferring their experience to the Sellafield situation.

3.7.1 What is a "nuclear centre of excellence?"

What is unclear so far is what does this Centre of Excellence mean? It is helpful to look elsewhere at other regions/installations that are perceived to be nuclear centres of excellence and understand if there are any common characteristics that underpin their status. The US provides us with the best examples. At a number of sites (Hanford, Idaho National Laboratory, Oak Ridge National Laboratory etc) there would appear to be a number of common characteristics:

- A strong background in nuclear (military and civil)
- Decommissioning acts as a trigger event to start the transition
- A "cornerstone" research facility established and generally funded, at the outset, by the Federal Government (often the US Department of Energy). Although nuclear is the dominant theme, the labs generally don't have the word nuclear in their title as the remit is wider (is there a lesson for the UK?)
- Private sector companies (Fluor, Battelle etc) brought in to manage the decommissioning activities and to run the government-owned laboratories on a commercial basis i.e. a "GOCO" model
- Strong partnerships developed with universities
- Increased commercialisation and diversification encouraged: spin-offs, IPR development, technology transfer encouraged, seed and venture capital sources
- Research often extended beyond nuclear (e.g. hydrogen economy, new energy sources, national security applications e.g. detection equipment)
- Over time facilities become increasing self funding and less reliance on government programmes (we understand that now only 7% of Hanford's funding comes from government)
- Presence of "centre of excellence" attracts support businesses and infrastructure into the region
- Strong remit for, and track record of, regional development
- Transition takes time 10-15 years

It is interesting to compare this to the position now reached in West Cumbria and Sellafield. There is some evidence that a number of the key building blocks exist that would together make this region a centre of nuclear excellence in the future:

- Sellafield is on the same scale as many of the US nuclear sites in terms of jobs and investment. New entrants will emerge as the Tier 1 and other decommissioning

contracts are let or BNG is sold; as a result there will be some natural inward investment into the region.

- There are a number of important education and training initiatives in place or planned such as the National Nuclear Skills Academy and "Nucleus", the Dalton Institute, West Lakes College etc.

- Research and Development is being conducted or planned at a number of locations (BNFL Technology Centre (Sellafield) - operated by Nexia Solutions, the Dalton Institute at West Lakes Technology Park etc.)

These are considered as important, yet probably insufficient, components of a "nuclear centre of excellence" for West Cumbria. In our view it is essential that West Cumbria is chosen as the site if a National Nuclear Laboratory (NNL) is established in the UK as this would provide the cornerstone asset required give the region critical mass and attract the best talent and public and private capital. Likewise, failure to attract the NNL would be a threat to the region as centre of gravity could shift elsewhere in the UK.

The Steering group needs to consider the proposed Centre of excellence and the National Nuclear Lab (see below) together and identify action is defining what this clearly could be.

3.7.2 National Nuclear Laboratory

The attractiveness of the NNL to this region is highlighted in a number of the documents provided to us but the status of government considerations are unclear. We understand that the DTI are leading this initiative and have established a working group including Deloitte & Touche to consider the issues. We do not know what the DTI are thinking the NNL would cover in terms of R&D, if they are considering specific locations or whether they even have the concept of a single location or a "virtual" Laboratory with pockets around the UK.

One of the concerns, albeit with little hard evidence, would be that the DTI are not considering this on a sufficiently large scale (e.g. compared to US labs) and may be thinking about a network of R&D centres rather than a "hub" location. Public sector funded nuclear R&D is very limited in the UK and perhaps it is unreasonable to expect the government will move to a high funding scenario in single step.

We understand that the DTI has already been sent a proposal to site the NNL in West Cumbria by the NWDA. We understand that the existing BTC facility at Sellafield has been recommended as the basis for the NNL. We believe this is a sensible approach given the investment in the facility, the quality of the facility and its position on the Sellafield site.

The BTC could be expanded/adapted as required to fulfil its new charter as the NNL. We have not considered who should own or run the NNL but we would expect that it would probably be based on a government owned and commercially operated model "GOCO". Battelle have considerable experience on running similar laboratories in the US for the government and could provide useful guidance on many issues associated with a UK NNL; clearly they would also be one of the organisations who would be interested in running such an operation as well.

The other extraordinary position is that the NNL is being considered by the Energy team within DTI. All government operated pure research facilities in UK are funded by Research Councils. We do not believe that there has been a great deal of dialogue with either CCLRC or EPSRC, the relevant research councils. The NNL needs to be a multidisciplinary research

centre that is multi-faceted to cover all accepts of nuclear issues. we would in fact take it a step further and consider a National Energy Lab (see next section) that diversifies the future.

We would like to get feedback at this meeting on whether there is a collective view on whether the NNL is one of the cornerstone projects for the region.

If this is the case we would suggest examining following issues in greater detail:

- Review the BTC facilities
- Consider potential research activities for the NNL (new build (e.g. Gen IV, waste/repository, fuel, decommissioning, non-nuclear clean up, Hydrogen economy research etc)
- Linkages to the existent research infrastructure
- Commercial arrangements (management, sources of revenue)
- Costs of establishing NNL
- Interaction with/implications for other local research organisations
- Commercialisation infrastructure (development capital, IPR capture)
- Compare to other models
- Consider within the context of Centre Of excellence which is a larger concept that includes cluster companies and infrastructure.

3.8 Future energy centre

Establishing a national centre for alternative/future energy development and research is mentioned in a number of documents but we cannot find evidence that concept has been further developed.

Although West Cumbria is a natural location for nuclear development, the region does not have the compelling rationale for attracting alternative energy sources and development. It has some wind resources, but no more than other regions and certainly less than Scotland. It has no coal or gas generation (other than Fellside CHP) and we have not seen any evidence of alternative energy development or research in the region (hydrogen, fuel cells, renewables, energy efficiency etc).

West Cumbria would face stiff competition from other UK locations better know for alternative energy (offshore – Aberdeen and East Anglia, tidal and wind, Scotland). It could even be the case that, given its nuclear tag, West Cumbria could even be considered an unattractive location for alternative energy research particularly renewable energy. Having said this, AEA Technology have successfully moved into renewables and provide commercial consultancy services within the sector, with much of their resource based out of Dounreay. We also note that most, if not all, of the US laboratories incorporate nuclear and wider energy research.

Perhaps a more realistic way forward would be to establish the NNL and, from this base, use it as an opportunity to diversify into other energy technologies where there is some connection to nuclear, for example hydrogen and fuel cells.

3.9 Diversification

Previous studies have considered the potential for sub-regional companies in the nuclear supply-chain to diversify into other sectors. A BNFL study identified historical activities to encourage diversification and grouped them into 3 broad categories:

- 'direct diversification' in which a company encourages the exploitation of technology, IPR and other assets to develop non core businesses;
- 'less direct diversification' in which a company supports employees in establishing new businesses and suppliers in developing new products and services for existing and new customers and markets; and
- 'area diversification' in which a company supports local regeneration and economic development initiatives.

BNFL's support for these 3 categories of diversification have met with limited success. This is due in part to the low level of innovation which is characteristic of a local economy dominated by a major employer, but also to other regional economic factors and the limited number of alternative activities. BNFL identified a number of success factors for future diversification activities, based on their experience and other success stories, including:

- the use of strategic partnerships to ensure a commercial perspective in exploiting proprietary technologies;
- acceptance of a greater responsibility where firms are dominant employers within an area;
- taking early action ahead of restructuring and run down in employment;
- working through partnership with local authorities and other agencies to ensure initiatives are responsive to local need and opportunity;
- building on technological strengths and skills to attract new industries; and
- supporting a wide range of initiatives to create strength through diversity.

3.9.1 Non-nuclear decommissioning

Previous reports, including the Nuclear Opportunities Group Strategic Action Plan 2006-09, have identified an opportunity for West Cumbria to become a Centre of Excellence for nuclear decommissioning. An opportunity also exists for the sub-regional skills and capacity for decommissioning and remediation work to be applied to other non-nuclear applications.

The three decommissioning markets that offer greatest potential are offshore installations, fossil power generation and MOD/defence facilities (with the Derwent Forest remediation project as an example of the latter). There is also potential for the UK to develop a long term UK green ship recycling industry, but this would require high investment and could face significant planning and public concerns.

To date, the support for diversification and innovation has been mixed with limited opportunities in the exploitation of IP and in establishing new spin out enterprises. BNFL has tended to undertake research in house, with contracted work undertaken on a "build to print" or "supply to specification" basis. As such much of the IP and know how has been retained within BNFL[11]. Spin out support schemes offered by BNFL have had some limited success and some businesses have been set up by former employees of the nuclear industry. For example they established the 'New Horizons' Scheme to support employees starting up businesses at the time that THORP was scaling back operations. A number of the initiatives supported by BNFL failed with the main reasons given as their focus on core business and the limited applicability of nuclear technology to other industries.

Some issues were identified by BNFL report on diversification opportunities, which resulted in suggested actions. These included

- The ownership of IPR should be made clear between NDA and other parties.
- Public agencies such as NWDA should enhance linkage with NDA/BNFL and its industry clusters.
- That consideration should be given to explore the feasibility of engaging a major partner organisation to assist in the commercial exploitation of technologies outside the industry.

3.9.2 SWOT analysis

We have undertaken an initial SWOT analysis of what the potential for diversified technologies looks like.

Strengths

- Environmental sciences
  - Geological / hydrological services
  - Air pollution / atmospheric dispersion modelling
  - Marine and freshwater quality monitoring
  - Radiological emissions
  - Waste management
- Healthcare sciences
  - Radiation genetics
  - DNA / plasma sampling
  - Epidemiology
  - Population monitoring
  - Occupational health and medical statistics
  - Sickness absence
- Fabrication capability for a highly controlled environment
- Non-nuclear decommissioning and remediation
- Automation and robotics
- Remote monitoring
- Industrial processing capability
- Security
- Industrial safety
- Nuclear industry IP portfolio

[11] *Nuclear Opportunities Group, 2006-2009 Strategic Action Plan.*

- Risk assessment
- Westlakes Science Park (as an accessible business venue outside of the Sellafield security zone)

Weaknesses

- Track record in new ventures and incubators
- Nuclear industry culture of spinning-in and 'nuclearising' technologies, rather than developing and exploiting own IP
- Lack of widespread fast internet access
- Retention of IP through nuclear sector procurement
- Culture of 'containment'
- Non-nuclear research dominated by contract research
- Diversification as a 'forced' or 'coping' strategy

Opportunities

- Continuing technical excellence
- Changes in nuclear sector procurement practices
- NDA IP Commercialisation and 'Spin-Out' support projects
- Learn from US success stories eg Hanford
- Remote monitoring centre of excellence
- Renewable energy centre of excellence
- Improvements to fast internet access (including Project Access) and exploiting digital projects that overcome access barriers.

Threats

- Continuing dependence on nuclear sector
- Complex support scheme landscape
- Nuclear security stifles movement of people and ideas
- Mismatch between timings of initiatives and market opportunities

3.9.3 Relevant strategies and initiatives

NWDA - The RES identifies environmental technologies as one of the potential transformational projects for the region and NWDA is seeking to support growth in this area. There is a sense of reluctance amongst local companies within the supply chain to export their services which is a threat to the vision of promoting West Cumbria as a long term centre for decommissioning.

3.9.4 Renewable Energy

The NWDA Science Strategy identifies renewable energy as a major opportunity for the Northwest in general, pointing to Renewables North West Ltd as a vehicle for developing the links between the science base and industry in this field, and the establishment of the National Energy Research Centre in the UK as a major opportunity for the region.

One possibility would be to establish a renewable energy demonstration facility in West Cumbria, to complement the capabilities of the New and Renewable Energy Centre (NaREC), one of 5 centres of excellence set up by OneNorthEast. This could take the form of a 'Future Energy Resource Centre' – a Government established and industry sponsored facility that becomes a national centre of excellence for research and development into future

energy solutions such as hydrogen, renewable energy (wave/tidal), next generation nuclear power, micro-generation and energy efficiency.

Potential models for the facility might include the National Biomanufacturing Centre, and the Welsh Technium concept.

- The NWDA Regional Economic Strategy identifies two transformational actions which are of particular relevance to the sub-region, namely the development of cluster programmes in priority areas, and the development of an integrated economic plan for West Cumbria (with Cumbria Vision & West Cumbria Task Force tasked with delivery).

- NWDA has identified 6 key sectoral areas and we have highlighted the opportunities for West Cumbria:

  - Biomedical: biotechnology, pharmaceuticals and medical devices
  - Energy and Environmental Technologies
  - Advanced Engineering and Materials: Chemicals, Aerospace, Automotive, Advanced Flexible Materials
  - Food and Drink
  - Digital and Creative Industries
  - Business and Professional Services

- Of particular relevance are the Energy and Environmental Technologies sectors. In April 2006 NWDA produced the 'Northwest Nuclear' report, which included a recommendation to help companies to diversify out of the nuclear sector.

- The NorthWest Science Strategy, in addition to the references to Renewable Energy mentioned above, also considers Environmental Technologies. The report tasks the North West Environmental Alliance with becoming a world leader in key areas of environmental science and technology, and with transferring knowledge and technology to the regional sector. The report suggests an early focus on environmental modelling and monitoring, and also covers Cleaner Technologies and Regeneration.

3.9.5 DTI Technology Strategy

The DTI's Technology Strategy is a programme that supports Business R & D collaborations in prioritised research areas. The most recent announcement in April 2006 has identified six priorities which will receive R & D funding on a competitive basis. Below are highlighted the relevant technologies and specific areas suited to the sub-region.

- Advanced Materials
  - Materials for energy production and distribution (re conventional and sustainable energies)
  - Materials in the development of sensors and diagnostic technologies
  - Multifunctional materials, including damage tolerant, self-diagnostic, self-healing materials
- Information and Communication Technologies
  - 'Key developments in telecommunications' and 'Information Security' (re any remote monitoring capability)
- Electronics and Photonics
  - Advances in sensor technology for security, and 'Environmentally, electronic and photonic technologies will provide solutions to climate and pollution monitoring.'

- Sustainable Production and Consumption
  - Resource efficiency, waste and pollution
  - Water and wastewater (including desalination technologies)
- Design Engineering and Advanced Manufacturing
  - Design, simulation and modelling, validation and advanced engineering research
  - Advanced manufacturing technologies and processes (including robotics)
- Bioscience and Healthcare
  - Improved diagnostic and therapeutic equipment and techniques (with possible relevance to epidemiology and other healthcare science strengths)

The Technology Programme also includes regional support in the following areas:

- Regional support for Technology Programme Implementation, including support for capital programmes and specialist demonstrator facilities

- Regions as Partners in the Technology Programme, particularly for projects showing relevance to regional objectives

- National-regional collaborations, including regional support for projects such as:

  - Astraea unmanned aerial vehicle project
  - Materials Knowledge Transfer Network

We believe that the West Cumbria should engage in the national strategic direction and adopt synergistic priorities pursuing funding associated with them.

3.9.6 Inward Investment

In recent years, there have been considerable efforts to promote West Cumbria as a location for international businesses, especially those from the US12. This has resulted in an initial wave of companies looking to set up in the area. These are companies seeking to play in the decommissioning market. In the short term there is a requirement to ensure that support services are available for companies looking to operate in West Cumbria. Over the longer term, it will be necessary to ensure that inward investment strengthens the industry supply chain and supports the wider goal of establishing west Cumbria as a centre of excellence in decommissioning and environmental restoration and in fact exports out of the region and country. It is important that all the above initiatives are considered for their inward investment and enterprise potential.

3.9.7 Priority Actions

Based on our initial assessment of non-nuclear technologies in the sub-region, we have identified the following potential themes for further consideration and development, along with the associated tasks:

- Spin-Out and IP Commercialisation Support
  - To consider what changes are needed in order to increase the rate of formation and success of spin-outs from the nuclear industry
  - To include a review of existing nuclear IP
  - To consider the optimum environment for opportunities from future nuclear IP to be exploited
- Renewable Energy Centre of Excellence (as previous section)
  - To consider potential demand and existing capacity eg NaREC

[12] *Based on GENECON report …*

  - To consider potential operating models – see case studies at Annex.
- Non-Nuclear Decommissioning
  - To consider the range of potential markets and priorities
  - To consider the actions required to stimulate the supply chain to diversify into these markets
- Remote Monitoring Centre of Excellence
  - To review existing remote monitoring capabilities and IP from the nuclear sector
  - To consider alternative markets for these capabilities, that could be serviced from West Cumbria
  - To consider the wider potential for an e-business Centre of Excellence
- Security
  - To review existing sensing technologies arising from the nuclear sector
  - To evaluate their relevance to other security applications eg Homeland Security
  - Fabrication for a highly controlled environment
  - To review the nuclear supply chain and identify companies who could apply their experience of closely regulated processes and attention-to-detail to other sectors
- Automation and robotics
  - To assess the progress of previous BNFL spin-out companies and identify success factors
  - To review other relevant nuclear sector IP
  - To consider market requirements and existing supply
  - Processing
  - To evaluate the industrial processing capability in West Cumbria, arising from the chemicals and steel sector, as well as the nuclear supply chain.
  - To consider possible mechanisms for exploiting this capability.
- Industrial Safety
  - To assess safety-related technologies arising from the nuclear sector
  - To consider the potential for application in other sectors.

3.9.8 Next steps

The Steering group should consider the above and identify priorities. On establishing priorities we believe that the next steps to a diversified technology plan needs to be created based on the following:

- Structured mini-brainstorm – conduct an in-house brainstorm on options and ideas for West Cumbria, considering potential additions and modifications to the existing technology themes

- Prioritisation – using Quo-Tec's Innovation Tool, each of the potential technology themes will be assessed and ranked, in order to select a sub-set for further development

- Scenario development – the selected technology themes will be developed in more detail, using the OSI Sigma and Delta Scan databases to explore relevant future trends and issues.

- Action and implementation plan development

3.10 Conclusions

The West Cumbria economy has for years been dominated by Sellafield. As operations are run down in the coming years and decommissioning gets underway, the area faces a range of challenges associated with declining employment levels and the threat of lower value added as the jobs lost are replaced with jobs of lower quality.

Concurrently, the transition provides opportunities for the local economy to exploit and offers opportunities for the area to become a centre of excellence in decommissioning and clean up. The challenges faced will force a response from the supply chain as contracts are increasingly open to international competitors. Conversely, local suppliers who have developed expertise within the area could be a driver of growth if they are able to successfully export their services overseas as there are likely to be very significant opportunities in the US, France and in fact the rest of the world. Additionally, there are a wide range of potential spin off benefits which can allow diversification of the local economy and support long term growth, eg. transferring skills and expertise/experience to non-nuclear decommissioning.

Key issues:

- Capitalising on its Nuclear strengths and exploiting the benefits from decommissioning and,

- Diversifying the economy to be less dependant on a single industry and the resultant impacts of its ups and downs

- to move towards a knowledge economy in its businesses and work force in order to remain competitive in the developed world.

4 Tourism

4.1 Characteristics of the West Cumbria tourism industry

Tourism is an important industry in West Cumbria and makes a significant contribution both economically and socially to West Cumbria. There is a direct and indirect economic contribution from the visitor economy, a sense of pride that outside recognition brings and enhancements to quality of life from visitor infrastructure with events such as cafes, restaurants and festivals.

4.1.1 Visitor numbers/spend

Data for Allerdale and Copeland shows that Allerdale has a larger visitor economy, and its performance has been stronger than that of Copeland. Allerdale's performance has broadly followed that of Cumbria as a whole. Copeland has experienced declining tourism revenue and only modest growth in tourist numbers.

Allerdale has almost twice as many tourist days, and almost three times the level of total tourist revenue compared with Copeland. Allerdale's strong performance reflects the strong tourism offering around Keswick. The challenge is to spread the visitors further to the west.

The table below summarises the key characteristics of tourism in West Cumbria. Data is for 2004 unless otherwise stated.

Figure 4-1: Key tourist indicators

	Allerdale	Copeland	West Cumbria	Cumbria
Tourism Revenue (£m)	216.8	77.7	294.5	1,119.0
Change in Revenue (2000 - 2004)	12.8%	-3.9%	7.9%	15.1%
Tourist Days (m)	6.0	2.5	8.5	29.5
Change in Tourist Days (2000-2004)	8.1%	0.2%	2.4%	17.5%
Tourist Numbers (m)	2.7	1.7	4.4	15.8
Change in Tourist Numbers (2000-2004)	13.5%	4.3%	10.0%	12.6%
Av. length of stay	2.2	1.5	2.0	1.9
Employment (FTEs)	5,311.0	1,903	7,214	25,909
Change in employment (2000-2004)	10.7%	2.1%	8.3%	12.0%
Contribution to tourism employment in region	20.5%	7.3%	27.8%	100.0%
Proportion tourist bedspaces	22.3%	7.4%	29.7%	100.0%

Source: Scarborough Tourism Economic Activity Monitor (STEAM), Cumbria Tourist Board.

4.1.2 Visitor profile

Allerdale attracts a predominately day visitor market, approximately 58% of all tourists who visited in 2004 were day visitors. Of staying visitors, 22% stayed in serviced accommodation, 14% in non-serviced accommodation and 5% with friends and relatives.

Visitors staying in serviced accommodation have the highest daily spend (at almost £70 per day), while those in non-serviced accommodation spend the most overall, reflecting their longer stay (£216 per stay, compared with £148 per stay for serviced accommodation). However, both categories of staying visitors spend far more than day visitors (£23 per visit).

The key to driving greater tourism revenues is to encourage greater staying visitors.

The socio economic profile of visitors to the region varies. The region attracts a range of visitors. Operators thought that the largest group are white, salaried, middle class, 40+.

4.1.3 Festivals

There are a number of festivals in West Cumbria: These festivals make an important contribution to civic pride for residents of West Cumbria. They also raise the profile of West Cumbria.

The largest is the bi-annual Whitehaven Festival. There is also the Maryport Blues Festival, and the Keswick Jazz Festival. These festivals are creating an important visitor following and provide an ideal opportunity to showcase the region.

Other events include the World Mountain Running Championships in Keswick.

These events have the potential to grow and create a greater profile for West Cumbria. However, a key challenge is turning these festivals into repeat/staying visitors to the region.

4.1.4 Top visitor attractions

Some of Cumbria's top visitor attractions are within Allerdale and Copeland. Of the top, 20 attractions for Cumbria[13], 8 are within West Cumbria. The top visitor attractions in West Cumbria and visitor numbers for 2005 are as follows:

- Ravenglass and Eskdale Railway - 125,374 (the 5th most popular attraction in Cumbria)
- Sellafield Visitor Centre - 96,694
- Muncaster Castle - 85,433
- Cumberland Pencil Museum - 78,745
- Priests Mill - 68,160
- The Teapottery - 55,360
- The Beacon - 53,364
- Lake District Coast Aquarium - 45,520

However, by far the most popular attraction for Cumbria is Windermere Lake Cruises, with 1,282,702 visitors in 2005. The Ravenglass and Eskdale Railway, the most popular attraction in West Cumbria (according to available data), is the fifth most popular visitor attraction in Cumbria.

Overall, West Cumbria appears to have a number of good visitor attractions. However, consultation suggests that these could be improved. The consultation also suggests that these attractions offer little for repeat visitors, with the offering changing little over time.

There is also some distance between the central Lake attractions and those on the West Coast. Nevertheless, the region is not maximising the potential from visitors to these attraction by encouraging them to stay within the region.

[13] *Only includes visitor attractions providing data for 2005, and those allowing figures to be published.*

4.1.5 Accommodation stock

The consultations have identified a need for improvements in the quality of the accommodation stock needed to retain people in the region.

There are 464 serviced accommodation establishments in Allerdale and 133 in Copeland, with a total of 5,059 rooms and 10,000 bedspaces.

This accounts for 27% of the total accommodation stock in Cumbria, and 29% of all rooms.

In addition to serviced accommodation, there is a large stock of non-serviced accommodation, comprising houses and chalets, caravans and camping, and hostels. Total bedspaces at these establishments exceed 23,000 (7,584 at houses and chalets, 14,433 at caravans and camping and 1,321 at hostels).

Occupancy rates exhibit seasonal variations. In August, around 90% of self catering units are occupied, compared with 28% in January.

Occupancy rates for serviced accommodation show less seasonal variation - slightly over 70% in August, and down to 35% in January. A longer time series of occupancy rates is available for serviced accommodation. Since 1999 there has been a gradual increase in occupancy levels, notwithstanding a dip in 2001 due to the impacts of foot and mouth disease. In 1999 average occupancy was 49%, and in 2005 this stood at 56%. Similarly to self-catering accommodation, there was a slight fall in occupancy between 2004 and 2005.

Despite the apparent hotel capacity, there are also areas with accommodation shortages, and gaps in the market. For instance, there is a lack of accommodation within Whitehaven and Maryport. A key gap in the market is the provision of high quality hotel accommodation for business and leisure tourists.

4.1.6 Public realm/tourist infrastructure

There are currently shortages of key visitor infrastructure. For instance, towns in West Cumbria lack the infrastructure required for a visitor economy (a high quality public realm, good standard toilets, cafes, shops).

4.2 Key projects

There are a number major projects being progressed by local partners and the private sector. These have the potential to act as a catalyst to the development of the visitor offering in West Cumbria. There is no shortage of projects being taken forward in the region, which presents optimism that a step change may be possible over time. Individually these projects may produce incremental benefits, but with coordination and garnering private sector momentum, there is the potential for significant growth in the tourism industry overtime. These projects are at different stages of development. Projects include:

- Derwent Forest
- Derwent Valley Project
- redevelopment of Workington Town Centre
- Development of the Port of Workington (cruise terminal option)
- Maryport harbourside visitor attraction
- Cockermouth market redevelopment
- Lowca Valley (private sector)
- Hadrian's Wall
- Silloth
- Whitehaven regeneration

- Market Town Renewal Initiatives

There are a number of tourism strategies relevant to West Cumbria.

- North West Development Agency. The North West Development agency has nine core programmes. The first of these is the star brand approach. The focus is on the development of "attack" brands (ie. central lakes), with the Western Lakes forming a slipstream brand. The vision is for Hadrian's Wall to also reach attack brand status, with potential implications for roman sites and the Hadrian's Wall interpretative project along the west coast.

- Allerdale Borough Council. There are a number of strands to the Allerdale tourism strategy: the development of Derwent Forest as a catalyst to the enhancement of visitor economies in West Cumbria; active tourism through the development of cycle paths; Destination Maryport and other programmes as outlined above to improve Maryport's offering; Hadrian's wall and roman ruins

- Copeland Borough Council. The New Copeland Economic Strategy and Action Plan contained a number of actions for tourism including: Whitehaven coastal fringe, Industrial safari feasibility study. Roman Cycleway, Cycle hub feasibility. Whitehaven Tall Ships, Circular Cumbria Rail Trail Feasibility Study, Marketing Steam Railway

- Silloth AONB. The strategic management plan (2004-2009) contains a range of initiatives to produce outputs to assist the enjoyment of Silloth all year round. Themes include passive leisure (walking, birdwatching, horseriding, windsurfing) - including guides for walks, flowers, birdwatching, environmental management and combating erosion, Hadrian's Wall (including the reconstruction of Mile fort 21 and interpretation at various sites of interest), signposting of points of interest (eg. Maryport, Whitehaven) and traffic management.

In addition, Allerdale BC commissioned BDP to undertake the West Allerdale Regeneration Strategy. The covers the development of Workington and Maryport. That study determined that Maryport was the key town for the development of tourism and housing for nearby workers, and Workington a key centre for enterprise and retail. A business plan has been developed for Project Columbus - The Tall Ships in Whitehaven.

There are also a number of projects in the pipeline that have the potential to catalyse an increase in tourist numbers and therefore an improvement in the visitor economy. This will be important both for attracting tourists, but also attracting and retaining businesses and their workers. Below we discuss a number of these developments that could have significant impact on the West Cumbria visitor economy.

4.2.1 Derwent Forest

Derwent Forest is considered to be a key project to develop the visitor economy of West Cumbria. The 1,050 acre site at Broughton Moor was formally the Royal Naval Armaments Depot. It is positioned between Maryport, Workington and Cockermouth providing excellent access to West Cumbria. The site is contaminated and decontaminating the site is the first step in the process of the development. Funding is being sought from the NWDA in order to undertake this decontamination and release the site for private sector development. The site contains one third of all derelict land in West Cumbria.

The nature of the development is still being determined, with a number of expressions of interest received from the private sector. At this point in time, the development of Derwent Forest could involve both the development of second homes in a parkland setting, as well as the development of a PGA championship golf course with associated club house, hotel and conference centre. There would also be an element of high quality public open space with marked walking and cycling pathways to enhance the leisure offering for local residents.

A development at Derwent Forest would be strategically important in placing a visitor market at the edge of the West Cumbria coastal strip. Therefore the project has the potential to provide the impetus to the development and enhancement of nearby towns, such as Whitehaven and Maryport.

4.2.2 Destination Maryport/Harbourside development

The development of an additional attraction at Maryport is likely to provide a critical mass for the town. Destination Maryport involves the development of a concert centre on Maryport Harbour. Current plans include the development of a heritage attraction within the centre, as well as tourist information.

A key issue for the town is a lack of accommodation. Maryport Regeneration is hoping to attract a number of new hotels to the town centre and harbour. There is also some interest in the development of cafes in the town.

Work is also being undertaken on developing gateways to the town and developing pathways to attractions (including the Senhouse Museum). Cycle ways are being developed to provide additional active options for visitors.

4.2.3 Hadrian's Wall/Roman Heritage

The world heritage area of Hadrian's Wall extends south to Maryport (covering historically significant roman forts extending down the coast from Bowness-on-Solway to Maryport). There are also isolated sites covered by the listing, and these include the dramatically positioned Hardknott Fort near Ravensglass.

In Maryport, there are plans to link the marina with the Senhouse museum through a boardwalk. A decision is being made on this proposal on Monday 19 June. The museum itself needs to be upgraded, and there are proposals to enhance the display. There are also plans for the trust to purchase adjacent land and undertake an archaeological excavation of the site (which is undiscovered and potentially has important roman artefacts and structures).

Linked to this are plans to reconstruct the Mile Fort 21, 3 kms north of the Senhouse Museum. This attraction would be linked to Senhouse by footpath, and a lookout at Senhouse would provide a view of the reconstructed fort. Plans include a circular walk and cycle way to assist visitors to experience the site.

Together these attractions at Maryport create a potential critical mass of activities to attract visitors to the town. With accommodation, and café options in place, Maryport's visitor economy has potential for development.

4.2.4 Market Town Initiatives (MTIs)

These initiatives have been improving the physical environment of key market towns within West Cumbria.

Cockermouth is a key town with an attractive setting, as well as historical sites, including Wordsworth's birthplace. A proposal is being developed to renovate the historic market square for the town. This would provide an additional central attraction for the town.

Both Egremont and Millom MTIs have tourism action plans, which are designed to attract higher numbers of visitors to these towns.

4.2.5 Whitehaven

There are a number of initiatives within Whitehaven that have the potential to add to the visitor experience.

Branded accommodation has been identified as a key need, and Copeland Council and funding agencies have been working with the owner of key sites on the harbouriside to progress this issue.

A funding package is being sought to undertake a major redevelopment of the Beacon. The redevelopment will involve increasing the collections on display, providing better interpretive displays and presentations and widening public access. The redevelopment will involve the development of improved educational programmes and facilities.

The reconnection of the town centre and the harbour is a priority. Expansion of the harbour itself is the subject of on-going work. Providing a permanent base for Tall Ships has been the subject of a study "Project Columbus", although funding was not secured for this attraction and the ships have been sold. There are some discussions with the new owner to secure use of the ships at key times.

The development of the Haig Colliery Mining Museum (phase 2 development to the value of £4.1m) could provide a community facility and showcase the industrial heritage in a dramatic location overlooking the ocean. The site's lack of connection with the marina has led to suggestions for a train or funicular to take visitors from the marina to the museum.

The redevelopment and regeneration of the Whitehaven coastal fringe area is being progressed by West Lakes Renaissance and English Partnerships. There is the need for the development of land south of the harbour to the Museum to improve the public realm in this area, and make more of the coast. The development of paths around the harbour and a coastal walk to St Bees will assist in providing access to the coast.

4.2.6 Lowca Leisure Village

A private developer has expressed interest in developing a holiday and leisure scheme at Lowca, which would provide an idea base for exploring the west coast of Cumbria. The estimated capital value is around £90m.

4.3 Key tourism issues

There are a number of interlinked issues limiting the potential of the tourism industry in West Cumbria. These have emerged from the review of strategy documents, as well as consultations with private and public players in the region. The key issues are summarised below:

- West Cumbria has a low profile, and information and branding is limited/ineffectual;
- there is a lack of accommodation, and day visitors predominate;

- the tourism product requires development: there is the potential for the development of the "honeypot" destinations but these require public realm improvements and are lacking some of the basic visitor infrastructure;

- the region is relatively isolated, and access to the region is difficult. Public transport is limited, particularly for tourists - for instance the west coast rail line does not run on a Sunday;

- securing funding can be difficult given the myriad of partners involved in projects and the different output requirements of partners; and

- quality and customer service can be patchy.

These issues are broadly consistent with the findings of a survey of 300 tourism-related businesses in Allerdale in January 2005 by Allerdale Borough Council. The following themes were identified for the Council:

- basic infrastructure, such as car parks, toilets and signage;
- branding and marketing;
- lobbying to attract investment and raise the profile of the area;
- strategic project development, such as the development of Derwent Forest;
- an overall high-quality tourism experience;
- a single point of contact for the industry at Allerdale Borough Council
- Tourist information centres

4.3.1 Profile, branding and marketing

The key tourism issue for West Cumbria is attracting tourists west of Keswick.

The western lakes have a low profile. The attractions do attract visitors, but the visits are often undertaken on a day trip basis from elsewhere in the Lakes. A key issue is a lack of accommodation to attract overnight visits.

There is no distinct branding for the Western Lakes and coast. This lack of branding is a key issue in attracting staying visitors. According to consultations, this has improved somewhat, but the area is still relatively unknown.

The region has an industrial heritage, linked to the coal and steel industries, now the nuclear industry. This is somewhat at odds with the pristine environment on the region's doorstep.

Most marketing efforts are through the Cumbria Tourist Board. Some operators felt that the marketing of West Cumbria did not create a distinct brand for the Western Lakes. In addition, concern was expressed at the way in which accommodation in the Western Lakes was promoted, with the perception that areas to the north and west of the central lakes are only promoted when accommodation in the south is fully booked.

However, few accommodation providers outside of Keswick market through the CTB, and as a result the region is not a focus for their efforts. Search functions on the CTB website for West Cumbria highlight Keswick, with accommodation options to the west of Keswick contained in the listings numbers 130-162 ie. at the back of the directory. Local operators instead use the Western Lake District listing facility.

Also an issue is the signage to the western lakes and the major attractions in the region. Distance between the attractions and the relative isolation mean that the existing AA signage guidelines (5 mile limit on signing) do not enable a clear signposting to attractions in the region. Innovative ways of improving signage is required.

4.3.2 Transport/accessibility

West Cumbria's geographic location at the western edge of the lake district presents a challenge enticing people to the region. This is made more difficult by transport links both to the region and within it. Road congestion around certain times is an issue.

Train services around the west coast are infrequent and do not cater for the tourism market, with no Sunday service. This limits the appeal of the region to visitors relying on public transport. Links between train stations and town centres are poor and often unattractive. Train stations themselves do not create a welcoming gateway to the coastal towns. There is the potential for the line itself to become an attraction, with dramatic scenery in parts, or provide a service for walkers undertaking coastal walks. However, the limited weekend service reduces this potential. There are no sidings on the line and this prevents the line being used to host visitor attractions.

To service business travellers and the business conference market air links to the region must be considered. However, regions to the north and south of the lakes are well served by air links limiting catchment areas for scheduled flights.

4.3.3 Public realm/visitor infrastructure (especially accommodation)

As well as raising the profile of the region and improving its accessibility, key to developing the visitor economy will be improving the visitor product. Only with a good quality product will a sustainable industry be created.

Accommodation is the most important issue in this regard. A broad range of accommodation is required for every visitor destination (both in terms of price and quality) insufficient quantum. Currently in West Cumbria there is a shortage of high quality accommodation. Therefore, there is a need to introduce new good quality developments as well as upgrade existing stock. While developer interest is being shown in the region, one barrier is the lower commercial returns from hotel development compared with residential development. There is also a greater risk from hotel development in an emerging tourist market as opposed to residential development where returns have been proven.

As well as accommodation for leisure visitors, the offering for business travellers is limited. The enhancement of the business tourism offering (accommodation and conference facilities) will improve the ability of the region to attract new businesses and their staff.

Staff within hotels must have the right training and approach to create a welcoming and positive visitor experience.

The public realm in West Cumbria is poor in areas, and certainly not as strong as in other Lake District towns. Progress is being made through renewal initiatives as well as public art. There is a need to develop the full range of infrastructure for a visitor economy (including for coach stops), including cafes, restaurants, public toilets, gift shops.

The creative potential of towns in the region, particularly Maryport should be exploited (potentially through a market) to enhance the visitor offering.

There has been a lack of private investment in West Cumbria. However, there has been some private sector interest being shown more recently. In particular, the private sector is showing interest in developing golf and hotel facilities, and a holiday package at Derwent Forest, accommodation in Maryport, a leisure village near Lowca.

4.3.4 Quality and customer service

Expectations of quality in the tourism industry have risen and providing that quality is a challenge to all businesses in Cumbria. Consultations suggest that there is the potential for improvement in the quality of the tourism offering and levels of customer service in West Cumbria. This is exacerbated by the prevalence of small lifestyle businesses, limited staff training and motivation and the low returns from upgrading the physical quality of the offering.

Low wages and low status is perceived as a barrier to encouraging excellence in the industry and entrepreneurial reluctance more generally, a barrier to new entry. As can be the case with small businesses across all sectors, generic issues such as limited career progression, limited delegation and trust can impede job satisfaction.

4.3.5 Industrial legacy

The region's industrial heritage is both a positive and a negative for the region. It provides a point of interest for tourists. However, it is also an issue for the perception of the region and the legacy of a number of derelict industrial sites reduce the appeal of the region. These include the former Albright and Wilson site south west of Whitehaven, the site of steel and railways manufacturing at Workington, Glatton industry estate in Maryport.

Some of these sites reduce access to the coastline and detract from its attractiveness.

However, their remediation will potentially involve considerable expense, with significant decontamination issues at the sites.

4.4 Opportunities

In many respects, the visitor economy in West Cumbria is starting from a low base, with considerable potential for development.

4.4.1 Using natural and heritage features

West Cumbria has impressive natural scenery with picturesque western lakes, coastal scenery, areas of natural beauty (AONB), historic and attractive towns and heritage sites. The region also hosts a number of festivals that attract visitors, and provide a platform for developing the region's profile.

Roman heritage and ruins provide a feature that can be exploited. Hadrian's Wall has become a prominent attraction and there is an opportunity to promote the roman features and heritage in West Cumbria.

There is an opportunity to improve access to the coast and to make more of the coastal features.

4.4.2 Accommodation development

There is currently private sector interest in developing accommodation - more interest than has been the case to date. The development of accommodation would enable an improved offering to leisure and business visitors.

There is currently gap in the provision of business accommodation and conference facilities. Decommissioning at Sellafield presents opportunities for developing an offering for business visitors. High quality hotels in town centres could provide a dual business and leisure quality hotel offering.

4.4.3 Transformational projects

A project such as Derwent Forest will provide an opportunity for a step change in tourism for West Cumbria. Key to the potential impact of the project is the prospect of a core of visitors on the divide between the lakes and the coast, providing a ready market of visitors. However, key to realising the potential will be attracting tourists to the towns in West Cumbria. A catalytical project will enable incremental improvements to gain momentum and achieve private sector buy-in. This momentum is crucial to developing the product in order to retain day visitors in the region.

Businesses within Whitehaven have responded positively to opportunities presented by a greater number of office workers within the town by increasing the number of day-time cafes in operation. This suggests that an increase in visitor numbers may have the impact of increasing the number of tourist shops and restaurants.

Other transformational projects, such as another Eden Project, have been mooted. Mixed feedback was received from consultees about the need for a flagship attraction. As noted above, the region currently has a large number of successful attractions, and a large number of visitors passing through the region rather than staying within the region. A flagship project may not change this issue. Instead, developing the quality of the environment may have a bigger impact on retaining visitors.

4.4.4 Drawing visitors west

There is a market of visitors at the central lakes, as well as in Carlisle (which is expected to grow given the city's ambitious development plans) and there is an opportunity to attract them for staying visits. One way of doing this is to develop "stepping stones" from the central lakes to the west coast, and developing a "string of pearls" along the coast.

Developing these stepping-stones and string of pearls involves incremental development of towns, activities and attractions.

This was backed up by a number of consultees who thought that the existing attractions should be developed and improved, alongside of improvements to the public realm and core visitor infrastructure. Providing a range of visitor experiences, for instance, cafes, shops and attractions may be the most effective way of building a quality environment for tourism and leisure.

Improving the quality of existing attractions and adding to the attractions in an incremental way will also enhance the visitor experience, particularly for repeat visitors to the region. Potential examples of enhancements include the Tall Ships at Whitehaven. Destination Maryport will also enhance Maryport's tourism offering.

Practical ways of attracting visitors to West Cumbria could include developing itineraries for the West Coast for different visitors - families and active visitors.

4.4.5 Trends in visitor patterns

Short breaks are becoming increasingly popular at the expense of mid- and longer breaks. Short breaks are more likely to use serviced accommodation.

Areas more remote, such as West Cumbria, face an additional challenge in attracting short break visitors.

Leisure tourism has been identified by the Cumbria Tourist Board as a growth market. The region has been developing cycle ways and marking walking trails to improve the visitor offering in this regard. The region is the beginning or end point for a number of cross-country trails. Bowness-on-Solway is the start of Hadrian's Way, St Bees is the start of the coast-to-coast walk, whilst cyclists begin the sea-to-sea path at Whitehaven. A number of walking and cycle paths are being developed down the coast, including a number of round walks and cycle paths. Providing information on marked trails, and improving the public realm in these areas, would help to attract walkers to the region.

In addition, the Locum Forecast Report suggested that the conference market was one with the potential for strong growth going forward. Key requirements to tap into this market will include accommodation, conference facilities and transport. All elements are currently missing and so a step change will be needed to capture this potential opportunity. Derwent Forest may provide this step change.

4.5 Emerging themes for tourism

In considering areas for intervention and action, key questions to ask are:

- what is going to draw more people to West Cumbria?
- how do you keep in the area for longer?
- how do you encourage them to spend more money in the area?

In order to address these issues, interventions in a range of areas are required. Together they have the potential to achieve substantial improvements in West Cumbria's visitor offering.

4.5.1 Transport/accessibility improvement

Transport improvements could be key facilitators of short break leisure visitors and the business conference market. Improvements to public transport (particularly the west coast line) could also assist tourists to explore the region.

Signage will also help improve accessibility to the region.

4.5.2 Development of visitor offering (including accommodation)

Development of stepping stone products from the central Lakes will enable a greater ease of accessibility and also develop a critical mass of visitor offerings for the area. Enhancing the visitor offering at each step will provide benefits to tourists and residents.

One issue in the past has been a fragmented approach to product development. The result has been a large number of towns with some limited improvements, but not a core of pristine towns welcoming for visitors. Coordination of the offering will enable the core features to be developed first, followed by secondary destinations with alternative offerings. Coordinated branding of the offering will also be important.

A key area of intervention will be facilitating the provision of accommodation, in particular higher quality branded accommodation - an identified gap. Derwent Forest, Whitehaven and Maryport are key sites. Using private and public sector support to leverage greater private sector investment in this area is key.

Getting the basics right, in terms of public realm and public toilet facilities at the key tourist towns will be essential. Enhancing the gateways to key tourist towns will be equally important. Improving and adding attractions and activities will also add to the visitor experience.

Exploiting strengths is important. For instance, creative talents in Maryport could be used to attract visitors to a craft market.

Derwent Forest will be a key project which could include the provision of conference facilities. Hotel developments in Whitehaven and Maryport may also assist provision for this market. The public sector needs to leverage investment into this market.

Improving the quality of the offering will contribute to the development of the visitor offering.

Innovative ways of delivering the "Welcome Host" programme in West Cumbria may enhance the visitor experience.

4.5.3 Branding and marketing

Improved branding and marketing of the region has the potential to raise the visitor profile of the region. An indirect benefit is an improved sense of place for local people.

There is a need for branding of the region, as well as the providing identities for the coastal towns. Clear branding of the region as well as themes within the region will provide a greater sense of identity.

For instance, Maryport provides a key visitor experience as a Roman port town with the potential to attract this visitor niche from Carlisle, Whitehaven is a marina and maritime centre, Cockermouth a market town, whilst Workington town centre provides a regional shopping experience. Silloth has the potential to become a high profile leisure and golf destination.

Individual attractions could also be branded for greater impact. For instance, Wast Water could be marketed as the "most dramatic lake in Lakeland". The distinctiveness and contrasts of the offering could also be marketed "Best of all worlds".

The existing festivals and events provide an additional opportunity for branding and marketing.

4.6 Potential programme areas and priorities

On the basis of the consultation conducted to date and research undertaken, there are a number of potential projects that would transform West Cumbria's visitor economy.

There is much happening already, but progress has been slow in some instances.

4.6.1 Transport/Accessibility

The transport workpackage has identified proposals for further consideration in the areas of:

- air transport (potentially developing a rail link to Manchester International);
- west coast rail line (Sunday service, passing points, tourist feature);

- connecting the Ravenglass and Eskdale Railway to the main railway line;
- roads - external links and internal congestion.

Signage is also a key issue for transport.

4.6.2 Accommodation

This will involve the facilitation of hotel developments in Whitehaven and Maryport to improve the range of accommodation products, and provide for business travellers.

In Whitehaven, actions to secure an accommodation offering are gaining momentum. This initiative must be progressed to secure the land for development, potentially use support from major employers in the region to guarantee occupancy, and negotiate with key hotel developers. A mixed-use development, for instance, including a residential component may have a dual benefit of improving the commerciality of the proposal and may increase housing market choice for residents.

There is considerable private sector interest for developments in Maryport and the required level public sector involvement may be limited. Some funding has been requested to kickstart hotel projects.

4.6.3 Public Realm/ Town redevelopment/Visitor economy offering

Currently the public realm is generally below that of other towns within the Lakes. While there have been some improvements, there is still a gap between what is there currently and what is required to create a premier visitor destination. Particularly important are gateways to towns (including from rail) and areas along the coast - arguably one of the region's key attractions.

As a first step, there must be a focus on developing the key attractions and tourist towns, which will provide stepping-stones to other destinations. The development and enhancement of attractions in Whitehaven (the Beacon, the coastal fringe, public realm), Maryport (Hadrian's Wall/Roman heritage, concert hall, walking paths) and Cockermouth (market) are key to improving the visitor product.

There is the need to develop key attractions and make improvements to public realm in an incremental way. These changes will encourage the development of visitor infrastructure such as cafes and shops, complementing the improvements to the attractions.

The other towns can be developed in an incremental way once more tourists are attracted to the area.

4.6.4 Key Projects

A major leisure magnet is needed to attract people to West Cumbria. This could be based on the natural environment (eg. a coastal park).

Derwent Forest may be of significant scale to attract visitation. It may also cater for the business conference market, diversify the region's offering. However, to take advantage of this market, is necessary to develop the product as outlined in point (2) above.

4.6.5 Branding/Marketing/Information

The branding for the region must be reviewed. The region must do more to raise its profile and the current brand may not be the best way of achieving this. Potential brands include

those highlighting the leisure offering, the contrasting natural environment and the rich heritage.

A comprehensive information campaign is needed to attract visitors to the region. It will be important to consider ways of packaging the current attractions to encourage tourists to spend more time in the area.

4.7 Emerging priorities

A key priority for tourism is achieving the transformational projects that will be enablers to the broader development of the visitor economy. These projects will coexist with actions already being developed in West Cumbria. The priorities for transformational projects in West Cumbria are:

- Transport - easier access to the region
- Achieving existing transformational projects: Derwent Forest - creating a pool of potential visitors, Destination Maryport - as a catalyst to the development of the marina.
- Accommodation - provision for businesses and leisure travellers
- Branding and Marketing

These projects are designed to bring visitors. A concurrent set of projects, building on existing actions, will be needed to maximise their experience in the region:

- Basic infrastructure in honeypot locations
- Development of leisure projects, including signposting to walking and cycling paths
- site remediation to improve town gateways and access to the coast

4.8 Conclusions

There is much happening in West Cumbria to improve the visitor offering. These enhancements will benefit locals and tourists alike. There will be some critical projects that will help achieve a step change in the local industry.

The visitor economy in West Cumbria has potential to increase in value through the retention of greater number of visitors. There are large number of festivals and successful attractions in the region. Consultations suggest that improving the accommodation offering will be important to realising the benefit from greater visitor numbers.

In addition to the large projects, smaller projects developing the physical environment of key towns within West Cumbria will be equally as important.

Key priorities include giving the transformational projects the critical momentum they need to achieve progress. In addition to these, key requirements are:

- transport;
- accommodation;
- branding/marketing;

- delivery of key projects: for instance Derwent Forest
- physical environment/public realm, and the development of stepping stones

5 Skills, enterprise and knowledge

5.1 Skills and business characteristics

Within Cumbria, the skills profile is one of relatively high proportions of semi-skilled and low skilled manufacturing jobs and sectors such as retail and hotels and restaurants with relatively low proportions in advanced sectors such as R&D, pharmaceuticals, IT, financial services. The county has a low proportion of resident graduates

5.1.1 Basic Skills

Literacy and Numeracy levels are lower within Cumbria than the national average. The Basic Skills Agency (BSA) has recently estimated that 77,600 County residents aged 16-60 have 'poor' literacy and 76,500 have 'poor' numeracy. Broadly speaking, 'poor' levels of literacy and/or numeracy indicates a level below that which is necessary to achieve Grade A - C at GCSE. Within Cumbria, numeracy is lowest in Barrow-in-Furness and Copeland. An examination of ward level data reveals significant discrepancies within the district figures. In Copeland's Mirehouse West ward, two fifths have poor literacy and one-half have poor numeracy.

5.1.2 Qualifications.

Cumbrian residents are less well qualified than people elsewhere in the region and country which is partly reflective of the older age profile of the area (younger people tend to be better qualified). A relatively low proportion of Cumbrian residents have graduate or postgraduate qualifications, although a higher than normal proportion are qualified to NVQ level 1 and 2 or their equivalents. There is also a higher than average number of people who are apprenticeship trained. More people from the area have no qualifications when compared with both the regional and national level figures.

Figure 5-1: Qualifications

	Allerdale (Number)	Allerdale %	Copeland (Number)	Copeland %	North West %	GB %
NVQ4 and above	11,400	20.6	6,600	15.9	23.1	25.2
NVQ3 and above	20,900	37.7	12,500	29.9	41.4	43.1
NVQ2 and above	32,800	59.1	21,600	51.9	61.3	61.5
NVQ1 and above	40,900	73.6	31,000	74.4	75.8	76
Other Qualifications	5,700	10.3	2,700	6.5	6.4	8.8
No Qualifications	8,900	16.1	8,000	19.1	17.7	15.1

Source: Local Area Labour Force Survey (Mar 2003-Feb 2004)

Percentage figures are for working age population.

The latest figures from the Labour Force Survey indicate that West Cumbria has an under representation of people qualified at all of the levels NVQ 1 through 4. The proportion of the West Cumbrian population holding 'other qualifications' is slightly higher than the regional and national averages. A significantly higher proportion of the working age population in the area undertake trade apprenticeships compared to the national and regional average.

Within Cumbria, residents from South Lakeland tend to be better qualified while Copeland and Eden residents have fewer qualifications. 34% of adults within West Cumbria have no qualifications compared to a Cumbrian average of 26%.

Figures from the Labour Force Survey show that West Cumbria has a relatively low percentage of its workforce qualified to degree level or above (level 4), although skilled apprenticeships are far more prevalent in the area compared with both regional and national averages.

With no university locally, many of Cumbria's young people leave the area for further education and do not return as there are relatively few graduate type employment opportunities. The economy has tended to require low-level qualifications and apprenticeship based skills rather than higher-level technical, professional and managerial skills.

5.1.3 Occupational Structure

In terms of occupational classes, West Cumbria differs from the UK in a number of key areas:

- Under representation of administrative and secretarial employment
- Skilled trades occupations are significantly over represented (almost 4% points)
- Elementary occupations are over represented by almost 3% points

In addition there is an under representation of managerial and professional level 4 occupations. It is unsurprising that, given the industrial structure of the area, there is an over representation of employment within occupations requiring level 3 skills (associate professional and skilled trades).

Figure 5-2: Occupational structure

	Allerdale (employees)	Alllerdale %	Copeland (employees)	Copeland %	North West(%)	GB(%)
1 Managers and senior officials	5,300	13%	4100	13%	14%	15%
2 Professional occupations	2,700	7%	2200	7%	12%	13%
3 Associate professional & technical	4,300	11%	5000	16%	13%	14%
4 Administrative & secretarial	4,900	12%	1700	6%	13%	13%
5 Skilled trades occupations	6,800	17%	5100	17%	11%	11%
6 Personal service occupations	1,700	4%	2200	7%	8%	8%
7 Sales and customer service occs	3,400	8%	2000	6%	9%	8%
8 Process plant & machine operatives	6,200	15%	4900	16%	8%	8%
9 Elementary occupations	5,600	14%	3600	12%	12%	12%

Source: Annual Population Survey (Apr 2004-Mar 2005)

Whereas these finding are based on data derived from the nature of the work that people are currently undertaking, household survey data reveals differences between the highest levels of qualifications held and the qualifications (or skills) required for individuals current job. Using this data, The Centre for Regional Economic Development comment that 'a very high proportion of people [within West Cumbria] have previously been employed in occupations at a higher level than their current position, which possibly suggests under-utilisation of workers with high skill levels. The Cumbria Household Survey revealed that 19.4% of people who have worked within the last ten years have done so at Skill Level 4 occupations but only 12.4% are currently employed at that level

5.1.4 Wages

Gross weekly pay figures for West Cumbria reveal the impact that employment at Sellafield have on the local labour market. Within Allerdale average weekly wages for full time workers are £345.6, significantly below the regional average of £407.2, while the figure for Copeland is £529.30. Local businesses simply cannot compete with the wages that workers can earn working at Sellafield.

5.1.5 Business characteristics

Recent research has shown that most new employers in Cumbria are within the hotels and restaurant sector, followed by business services companies[14]. The study found that:

- 1 in 10 manufacturing businesses is new
- there appears to be very little new firm creation within the financial services sector
- business services companies represent 11% of all companies, but 17% of all new companies.
- hotels and restaurants represent 14% of the existing companies, but 19% of the new companies.

Most new firms within Cumbria are micro businesses. Copeland shows particular strengths in terms of the number of young businesses. The survey shows that larger firms are significantly more likely to invest (across all categories of investment) than smaller firms.

Lack of finance is reported by 21% of businesses as a business constraint by firms within Cumbria. 31% of companies surveyed indicated that regulation/legislation represented a constraint for their business (this was especially true within agriculture)

Labour and skills shortages within the survey were identified as being 'barriers to growth' but only at relatively modest levels (with the exception of the construction industry). BMG research comment that the extent to which employers considers skills a problem for their business are much lower than findings from other parts of the country. They also temper the view that the tight planning regime in the lake district national park and rural areas are a significant factor within the relative low growth within the area - as the number of firms highlighting a restrictive planning regime as a problem for their business is only slightly above the norm.

Figure 5-3: Size profile of businesses, 2005

	Employment Size							
	0 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 +	TOTAL
United Kingdom	1,225,785	212,430	98,650	55,940	16,895	10,250	7,695	1,627,640
North West	111,970	21,370	10,275	6,020	1,845	1,115	785	153,380
Cumbria County	12,165	1,920	915	500	115	80	35	15,730
Allerdale	2,280	365	175	85	25	5	5	2,945
Copeland	1,110	155	75	40	10	0	0	1,390

Source: Number of VAT-Based Enterprises in 2005

[14] *CEIP employers survey, 2004*

Manufacturing employment is still 1.5 times more frequent within Cumbria than in the national average. While not, in itself, a problem global competition squeezes the profit margin which can be achieved by limiting the scope for individual manufacturers to add value within the production process. While companies may seek to address the challenges by increasing technology inputs, reducing payroll or employing 'lean' techniques the key constraint of a narrowing margin between input costs and output sales values remains. As Cumbria's manufacturing base declines, it is largely being replaced by lower skilled jobs in sectors such as retail and catering -not by high value added employment within advanced sectors.

Figure 5-4: Sector Profile

	Agriculture; Forestry and fishing	Mining and quarrying; utilities	Manufacturing	Construction	Wholesale, retail and repairs	Hotels and restaurants	Transport, storage and communication	Financial intermediation	Real estate, renting and business activities	Public administration; Other	Education; Health and social work
UK	7.7%	0.1%	8.4%	11.3%	21.3%	7.1%	4.4%	1.0%	29.2%	7.9%	1.5%
Cumbria County	24.6%	0.2%	5.5%	11.3%	19.8%	11.0%	4.8%	0.5%	15.2%	5.4%	1.7%
Allerdale	28.8%	0.3%	5.1%	12.1%	18.2%	12.6%	3.9%	0.6%	12.5%	4.7%	1.2%
Copeland	26.5%	0.3%	4.6%	9.5%	19.9%	13.7%	4.2%	0.0%	13.1%	6.2%	2.0%

In the six months to March 2006, job gains (1,004) within Cumbria exceeded job losses (391) by more than two and half times. The gains have been mainly concentrated within Manufacturing, Public Administration and Communication. It is reported that there are many jobs which are dependent on the granting of planning approval. These include around 750 new jobs which would be created if Asda is given permission to build new stores in Workington and Whitehaven. A large proportion of the potential job creation (in excess of 1,000 jobs) dependent upon planning approval is within West Cumbria.

5.1.6 Start up activity/Entrepreneurialism

West Cumbria's has a particularly poor record in terms of the business start up rate. While numerous factors contribute to this, the opportunities and expenditure derived from Sellafield and the nuclear industry have been described as a "security blanket" or "comfort zone".

One of the reasons given for the low start up rate is the fact that employment opportunities within the nuclear industry are comparatively attractive (in terms of earnings, security, type of work etc.). Unfortunately, this does not necessarily imply that start ups numbers will increase significantly as employment opportunities decline within Sellafield as developing an entrepreneurial culture will require more than a lack of alternative opportunity. British Nuclear Group Enterprise is planning to establish business incubators to support the transition from employment to self-employment for workers in the sector. It is likely that the support would be more active than the traditional role played by business incubators.

Over the past decade, new firm formation per head of population within West Cumbria has been lower than both Cumbria and the region. The level of de-registrations (business closures) roughly matches the number of new firms resulting in a broadly static business stock over time.

Figure 5-5: Start up rates (VAT registrations expressed as % business stock at start of year)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Allerdale	7%	6%	5%	7%	6%	5%	6%	6%	7%	8%	6%
Copeland	7%	6%	8%	8%	8%	8%	7%	5%	7%	8%	6%
Cumbria	7%	6%	6%	7%	7%	6%	7%	7%	8%	8%	7%
UK	10%	10%	10%	11%	11%	10%	10%	10%	10%	11%	10%

Source: SBS VAT statistics (derived from the IDBR)

Note that these figures are the number of VAT registered businesses.

Over the past ten years, business start up rates within West Cumbria tend to be slightly lower than the rate for Cumbria and significantly below the national average. Business start-ups are broadly matched by business closures. As such, while the business stock within the North West and Cumbria has increased over the past ten years, within West Cumbria it has remained broadly static.

Measuring the number of new business registrations and de-registrations against the existing business stock reveals that although new firm formation is fairly constrained compared to regional and national averages, existing companies in the area are less likely to close. This is an interesting result, as it can be expected that one of the major factors limiting business formation is the fear, consequences, and to some extent, stigma of failure. If firms are less likely to fail in West Cumbria, why are more not created?

5.2 Skills for local business: issues and priority areas

The future availability of skills is of major concern to employers within West Cumbria, more so than the current shortages they are facing. In 2004, the Cumbria employers survey found that approximately one third of employers would require new skills within the next three to 5 years. In addition to improvements in literacy and numeracy, higher levels of and specific skills are required within IT, inter-personal skills and customer service.

5.2.1 Recruitment difficulties

Interestingly, amongst employers reporting that they currently have hard-to-fill vacancies, the problem is apparently not due to the unavailability of skills in the local area as they report that there are 'no particular skills difficulties' amongst applicants. Firms within the area do report slightly more difficulty finding general user and professional IT skills than the national average.

The reasons given for the difficulty in filling vacancies within Cumbria tends to be poor candidate response (low numbers of applicants, people not being interested in doing the type of job available). The remote location and poor public transport situation was cited as a factor affecting Cumbrian businesses more so than average. Overall, it appears that recruitment difficulties are more related to generally high levels of labour demand rather than skills shortages. The jobs available tend to be in sales, customer service and elementary work and thereby tend to be low paid and low status.

Skills shortages have been identified within specific clusters:

- manual trade skills - within certain aspects of agriculture, manufacturing, construction, retail, hotels and restaurants

- personal services - nursing and care assistant jobs - difficulty filling vacancies

- business and professional services sector -recruitment difficulties and skills shortages in professional, technical and administrative grades

A business survey undertaken in 2003 on behalf of the LSC showed that two thirds of establishments have a requirement for at least some of their workforce to have higher education qualifications. Businesses with the least requirement for HE qualifications are most likely to be within the hotel and catering sectors. Manufacturing also has a low demand for HE qualifications. Smaller companies were likely to be either intensively 'graduate' (such as a lawyer's office or doctors practice) or intensively non graduate (such as a shop, pub or café). By contrast, larger businesses displayed a wider range in the proportion of graduates working for them.

Employer Survey Findings

The CEIP Employer survey questions Cumbrian businesses about their attitudes towards training and their views on skills supply. Local firms vary significantly with respect to how important local education provision is considered to be for their business. 20% of companies commented that higher education (HE) is of little or no importance for them. Firms were asked to comment on the importance of HE provision within Cumbria itself. Roughly 1 in 6 businesses felt that local provision was important, as it ensured the accessibility of training and development for existing staff and ensured a suitably qualified workforce was available to them when recruiting.

The survey also revealed details about the situation facing firms which do employ individuals with higher-level qualifications. When asked 'Are there enough people in Cumbria with the right qualifications?' only 6% responded that there were plenty of people who were suitably qualified. 46% of companies indicated that they did not get enough qualified applicants while 28% responded that the lack of candidates in Cumbria with the higher level skills they required resulted in them being forced to recruit from outside of the county.

The figures show that companies do not expect a great degree of change in their demand for higher-level qualifications. 2% of companies actually expected a declining requirement, while 10% saw a rising need. The proportions were higher in public services and manufacturing. 20% of larger employers (>100 staff) anticipated higher levels of graduate equivalent recruitment. Where HE was relevant for their business, 89% were broadly satisfied with local provision. 11% were unsatisfied and these companies were mainly to be found within the manufacturing, transport and communications and professional services sectors. The main areas where respondents expressed dissatisfaction with available training were:

- Lack of flexibility in courses (accounting for 17% of identified problems)
- Insufficient provision (21%)
- Insufficient specialisation and technical 'fit' with their operations (63%)

To address with the skills gaps, employers could do the training themselves. However, the research found that only 27% of establishments had trained staff at any level. Higher-level training was very unlikely to take place with extremely small numbers of establishments having actually undertaken advanced training (i.e. to a graduate equivalent or higher qualification) over the previous year. Very few firms anticipated sponsoring staff training in higher education.

The reasons for this were due to the perception that suitable provision was not available within Cumbria and thus expected the staff would need to train outside of the county. Employer linkages with HE institutions in Cumbria were weak and primarily concerned student placements. Only 4 establishments (out of the 87 who employed highly qualified staff) reported that their linkage with local institutions was related to training.

Over 60% of companies which employ at a graduate level (or equivalent) felt that the supply of such high level staff was limited or very poor. 34% of the firms which had tried to recruit at a graduate level within the past two years had difficulty in doing so. Although funding training for their employees was limited in scope across the board, it was particularly restrictive for higher-level training. Thus, although firms appear to value the importance of a highly qualified workforce (indicated by the fact relatively high proportion of companies employ highly skilled staff); and they feel that the quality of training provision is important, and that the supply of graduate level staff is poor, they are apparently unwilling to sponsor higher level training for their staff. Cumbria is not unusual in having employers who are aware of skills shortages but are relatively unlikely to take action to address those shortages themselves.

A more recent survey undertaken as part of the ASPIRE project found that 78% of employers within Cumbria were happy with the training available to them. A similar percentage (77%) agreed with the proposition that training was an important part of their employee's working. The National Employer Skills Survey (2003) suggested that only around 20% of Cumbrian businesses are affected by internal skills gaps. However, businesses in the area are more likely to feel constrained in their ability to provide training due to cost, time and the need for staff cover. This is consistent with the size profile of Cumbrian businesses which shows a higher than normal proportion of small companies.

5.2.2 Skills shortages

The National Employer Survey 2004 reported that 5.4% of firms in West Cumbria were experiencing a significant skills gap. Of these firms, a third reported that the skills gap was causing a serious or very serious problem to their business. The sectors most likely to be experiencing skills difficulties were within health and social work, construction and manufacturing. 31% of firms reporting current skills gaps highlighted engineering and technical skills availability as a problem, while 16% indicated shortages within business and management skills. The skills shortages were causing a range of problems for businesses including lower output and sales, missed market place opportunities and higher costs resulting from the need for training.

Over a third of the firms surveyed within the sub region indicated that their business would require new skills over the next 3-5 years. Anticipated future skills requirements were typically within the service sector (health and social work, education, financial intermediation, real estate and business services) although some major service sectors (hotels and restaurants, transport and retail) were less likely than average to anticipate future skills requirements

Figure 5-6: Skills requirements

Skills required over next 3-5 years	(% of businesses identifying future needs)	
	Cumbria	West Cumbria
Customer service	16.7	17.1
Basic IT	22.4	22.0
Advanced IT	21.8	25.9
Personal skills	17.0	21.5
Engineering and technical	14.2	14.1
Health and safety	12.4	13.2
Job specific skills	32.2	31.7

It has been suggested[15] that Cumbria is capable of filling most of its skill needs and that this is in part due to the existence of a 'low level equilibrium' (low levels of skill supply fulfilling low levels of skill demand).

Low aspirations are a key issue for young people within West Cumbria, and this may be a contributing factor to skills shortages in the region.

Planned projects and initiatives are currently focussed on higher-level skills with insufficient emphasis on ensuring skills supply at lower levels fits local demand. Risk that the focus is too narrowly targeted on high level skill provision, particularly in the nuclear sector. Many new employers are within the business services sector. Need to ensure that their skill requirements are met - to support a diversifying economy.

Areas of intervention:

- Ensure that the skills required outside of the nuclear sector are provided for. Eg. skills for retailing have been developed to support the new Town Centre development in Workington. Further work is required in this area.

- Ensure that Cumbria University provision serves the wider economy, and its offering is sufficient to retain and attract young people to West Cumbria.

[15] *by BMG research*

5.2.3 Skills for decommissioning

There is a range of organisations taking action to ensure that skills for decommissioning will be met. These organisations are undertaking the high level planning regarding skills needs and gaps.

However, there will also be a need to communicate with workers within West Cumbria to ensure that they are engaged with the process, aware of re-training opportunities and are motivated to re-train. There is the potential for the skills required for decommissioning to be imported to the region if not built locally. This would represent a wasted opportunity for building skills and expertise within the region.

Areas of intervention:

- Engagement with process workers to communicate opportunities
- Re-training of process workers to fill new skill needs eg. project management
- The development of skills passports (being undertaken by COGENT) will accredit safety training to allow workers to work on different sites without undertaking numerous inductions

Skills for decommissioning

While some decommissioning work is highly specialised, in many areas the skills required are shared with industries such as demolition, construction, finance and mechanical engineering. As is the case in many industries, project management skills are in high demand. While this provides the opportunities for cross fertilisation of ideas and knowledge sharing from other industry sectors, it also increases demand for the skills needed within the decommissioning process. Both BNG and UKAEA are implementing training programmes for staff to equip them with the skills required for decommissioning and clean up. It is often, though not always, the case that skills from the existing operating environment can be transferred into the next phase.

Decommissioning consists of three major categories of activity. They are: (i) remote handling high dose work; (ii) semi-remote; (iii) manual tasks requiring hands on removal of low level and alpha contaminated waste. The main skills that are required to support this include:

- Programme and project management
- Technical: Safety case authors, discipline engineers – mechanical, process, electrical and civil, Design engineers, Control and instrumentation engineers, Health Physics, support and specialist remote handling robotics engineers
- Blue Collar Workers: NVQ trained decommissioning workers and construction support trade skills, scaffolders, builders, electricians etc

Developments in the industry raise numerous challenges concerning skills supply:

An aging workforce presents succession problems, compounded by the need for new skills with the movement to decommissioning and clean up.

Though a skills shortage is not anticipated within the near term, NDA have commented that action needs to be taken now to prevent shortages emerging in 3-5 years .

The more competitive environment resulting from EC tendering regulations means the supply of skills available nationally is becoming more important (ie. Employment levels could be constrained if foreign labour offers higher skill levels than domestically available).

Existing provision within universities and skills initiatives are focussed on historic requirements. That is, training is tailored to operations rather than the needs of decommissioning and clean up.

To ensure that the workforce has the skills required in the decommissioning and clean up process, the NDA has developed two key initiatives:

- A Nuclear Skills Institute: this is a joint venture with Manchester University which will create an Institute based at Westlakes in Cumbria equipped to carry out world class research. It will also offer MSc courses and provide a link to the broader UK academic network.
- The National Nuclear Skills Academy: a 'hub and spoke' model that will establish skills requirements nationally while delivering training through local colleges and training organisations close to the relevant NDA sites.

The NDA's officially strategy document comments that they may play a role in a future national nuclear laboratory, depending upon what form it takes. In total, they have allocated approximately £35m to support skills initiatives over the next five years and are seeking to ensure that contractors retrain and re-skill their workforces

5.3 Training participation

Training participation within Cumbria does not differ significantly from other parts of the country. Given that the size profile tends towards smaller businesses in Cumbria this is somewhat of a surprising finding (since small firms tend, on average, to provide less training than larger firms). Similarly, Cumbria's employment structure, with more low skilled jobs and fewer jobs in finance, business and 'advanced' services would all suggest that training is likely to be less prevalent within the area, but this does not appear to be the case. That is, despite numerous characteristics which are typically indicators that low levels of training will be provided, provision within Cumbria compares reasonably favourably with the regional and national picture. 'On the job' is the most common form of training received within Cumbria, accounting for 45% by number of learners.

5.3.1 Employer attitudes towards training[16]

Figures from 2004 show that slightly more than half of Cumbrian employers undertook any training over the previous year. This is significantly fewer than the percentage undertaking training in the late 1990's (>70%) and continues the declining trend observed over the past few years. Looking ahead, just under half of employers expect to undertake any training within the next year (with higher numbers indicating they would provide on the job training rather than externally sourced provision). Larger firms are considerably more likely to undertake training, with 96% of the largest firms (100+ employees) doing so. By contrast 41 % of firms with 1-10 employees trains, 70% of the 11-24 size band and 80% of the 25-99 size band. As with previous survey findings, job specific skills remain the area in which training is most likely to be provided, followed by health and safety and customer service skills. Over 50% of employers felt there were no barriers to training. Others cited the cost (20%), timing of courses (14%), insufficient resources to cover staff absence (14%) and lack of local provision (10%) as specific difficulties. Where employers highlighted the lack of local provision, this tended to be in the context of training for job specific skills and engineering and technical skills.

A quarter of companies provide some training for young people, frequently in the form of apprenticeships. 26% commented that they do not provide training for young people, while 40% were not currently employing young people. Micro businesses (up to 10 employees) were least likely to offer training to young people with firms being increasingly likely to do so as the size of the firm increases.

Within the national employers survey, the training that companies from Cumbria say they cannot access are in construction and IT. Clearly such courses are available in FE colleges in the county which suggests the issue is to do with the flexibility of provision i.e. perhaps the courses are not matched closely enough to employers needs, or they might be at inconvenient hours from the employers perspective.

5.3.2 Skills mismatch

Local surveys of employees in Cumbria have found that over half of the respondents considered that they had skills which were in excess of those required for their job[17]. The fact that 46% of adults do not hold a level 2 qualification, this indicates a low level of aspiration amongst the adult population (LSC Cumbria, Annual Plan 2005/2006). 8% of respondents to the Roe survey felt that Cumbria's education system was ineffective in preparing them for working life indicating that a majority were satisfied (although 20% thought the education system was neither effective nor ineffective, or didn't know.)

[16] *based on findings of CEIP report on employer survey 2004*
[17] *including the Labour Force Survey*

Attracting graduates into the area is difficult because of perceived lack of career opportunities and the isolated nature of the labour market compared to more urban areas of the North West. This restricts the number of highly skilled and qualified young people in the area, which in turn makes it a less attractive location for inward investment.

5.3.3 Areas of intervention

- Raising aspirations for skills development within West Cumbria through intervention at secondary school level.

5.4 Enabling Environment - accessibility and infrastructure

West Cumbria's geographic isolation represents a major challenge for the area as accessibility is a key factor affecting companies' decisions about where to locate, and individual and family decisions about where to live. There are currently numerous initiatives designed to help improve accessibility ranging from proposals for carriageway widening through to highly ambitious bridge projects. Although daily traffic flow on the area's roads are not at levels that create capacity problems there are specific peak time congestion hot spots resulting in problems such as traffic only moving as quickly as the slowest vehicle. The numbers of people arriving or departing from Sellafield results in congestion on the A595 - especially when roadworks or accidents cause problems - which highlights the lack of alternative routes. There are significant constraints to improving the current situation in terms of costs of highway improvements and environmental considerations of major works programmes. There are major constraints in terms of rail access and the sub region is dependent upon airports in adjacent regions.

The growth in the numbers of services being offered by low cost airlines presents an opportunity - there could be future demand for low cost services from Carlisle. Air access is considered particularly important for Senior Executives facing significant time constraints. There is some helicopter infrastructure, but it is not clear that there is sufficient demand to justify a helicopter fleet to be based in West Cumbria.

Currently, the port facilities in the area handle cargo traffic for local and regional industries but face limitations in terms of the size of vessel that can be accommodated.

5.4.1 Areas of intervention

Possibilities for transport improvements are being considered in a separate study, but areas of intervention include:

- improving access within West Cumbria and addressing the specific problems around peak hour congestion and accidents along the A595, including bypasses.

- improvements to the Coast Line should both provide benefits to regular users and encourage new users. The package of measures to be taken forward should consist of:

  – new rolling stock and re-branding;
  – station improvements; and
  – re-scheduling for better connection times with WCML.

- In addition, direct links between West Cumbria and Manchester airport, via Barrow, should be introduced.

- potential demand in the future for the introduction of low cost flights from Carlisle.

- If commercial viability of helicopter services can be demonstrated, a local helicopter fleet should be established, most likely to be based at West Lakes.

- There should be continued development of marinas for leisure and tourism, particularly moving forward the current proposals for Harrington and at Workington. Wherever applicable, the development should be supported by the associated local access proposals.

5.5 Inward investment

Inward investment is relatively limited, constrained by the remoteness of employment land within West Cumbria, the absence of clusters within growing sectors and limited incentives for companies with few location constraints. Compounding these factors are the externally imposed constraints on housing and commercial development within the most attractive parts of the County.

In recent years, there have been considerable efforts to promote West Cumbria as a location for international businesses, especially those from the US[18]. This has resulted in an initial wave of companies looking to set up in the area. These are companies seeking to play in the decommissioning market. In the short term there is a requirement to ensure that support services are available for companies looking to operate in West Cumbria. Over the longer term, it will be necessary to ensure that inward investment strengthens the industry supply chain and supports the wider goal of establishing west Cumbria as a centre of excellence in decommissioning and environmental restoration.

Inward investment has tended to be related to the prospective nuclear supply chain and includes offices of larger companies. Attraction of inward investment in other innovative sectors has remained a challenge.

Critical to attracting inward investment are good transport links, the right premises and availability of skilled people. Attracting firms for the long term also requires good supporting infrastructure such as schools, cultural and sports facilities, retail and a positive physical environment.

One of the most important contributions which transport can make is by enhancing inward investment. Good international connections and transport are considered to be one of the most important factors for locating businesses, as shown in the survey below. These results are for surveys of business in cities but are likely to also apply to businesses who locate in more rural areas. In the industrial sector availability of qualified staff and transport links were considered the most essential factors.

Figure 5-7: Essential factors for locating businesses

Factors	% companies who thought factor essential			
	2004	2005		
		All	Industrial	Service
Easy access to markets, customers or clients	61	60	58	60
Availability of qualified staff	56	57	62	55
Transport links with other cities and internationally	50	52	59	47
The quality of telecommunications	47	50	48	57
Cost of staff	39	35	39	31
Government climate (ie tax and financial incentives)	36	32	35	32

[18] *Based on GENECON report*

Value for money of office space	29	31	26	36
Availability of office space	27	30	27	23
Languages spoken	28	24	27	34
Ease of travelling	25	22	19	23
The quality of life for employees	18	16	15	18
Freedom from pollution	16	13	17	13

Source: European Cities Monitor, 2005 (How important to your company are the following factors)

5.5.1 Areas of intervention

- Improvements to transport, physical environment and social infrastructure.

- Continued efforts to promote West Cumbria as a business location.

5.6 Business support

Financial support is often available for companies wishing to relocate or expand their operations in West Cumbria. There are a number of schemes available, ranging from Regional Selective Assistance Grants to local loan funds. The West Cumbria Development Agency offers help with business plans and financial forecasts, and assistance throughout the funding application process. It also runs the very successful LinkStart programme, helping individuals and small groups to start up and run their own business. WCDA also runs a programme of Business Seminars. The Copeland Borough Council operates a number of schemes offering financial support, including for IT and a rates rebate. Business Link offers support for businesses, and advice on available grants.

As noted above, BNG is planning to establish business incubators to support the transition from employment to self-employment for workers in the sector. It is likely that the support would be more active than the traditional role played by business incubators.

Overall, there is assistance available to businesses wishing to start and expand businesses in West Cumbria. Consultations have also suggested that there could be a need for some greater flexibility around business support currently available.

Given the unique circumstances facing the region, there may be a need for a more intensive business advisory role than that provided by the IDB model through Business Link. This would advise businesses from the start up stage through the first few years.

The success of businesses in securing decommissioning work will depend on their ability to engage with the key Tier 1 and 2 contractors. Assisting businesses to understand opportunities and procurement processes, and to develop networks with Tier 1 and 2 firms may assist local business success. The West Cumbria Business Cluster may provide the best way of focusing support for firms.

5.6.1 Areas of intervention

- Continue to provide a business advisory service for new and growing businesses in West Cumbria.

- Assist businesses with understanding supply chain, procurement, meet the buyer events. Activities could be delivered through the West Cumbria Business Cluster. One area for support may be e-tendering.

- Business incubation - such as that planned by BNG - to develop spin-off businesses.

5.7 Raising aspirations and promoting entrepreneurialism

Consultations have also identified a cultural challenge to be overcome to develop a greater entrepreneurial spirit amongst businesses. There is a legacy of big employers, and a smaller number of medium sized firms. A lack of role models is one issue (with only a small number of home grown firms), as well as the high wages on offer at Sellafield which provide a disincentive to look for employment elsewhere.

As noted above, there is support available for new businesses. However, by itself, this may not be enough to develop a stronger entrepreneurial culture within the region.

Raising aspirations, including for entrepreneurialism, must start from a young age. The development of the new Academy school at Egremont provides an opportunity to introduce curriculum that provides business and entrepreneurial skills and practical training (eg. group entrepreneurial projects). This could be supported by engaging with local entrepreneurs.

More generally, successful entrepreneurs are key role models for start-ups and their success could be used to encourage a greater entrepreneurial culture. Mentoring programmes could give start-ups and growing businesses practical guidance from experienced entrepreneurs in the region.

Providing business skills units alongside vocational units (eg. trades, creative studies, service sector skills), may also raise awareness and confidence for starting a business.

Related to the issue of one large employer, there is a tendency for spin-off businesses to rely on the nuclear sector for business, or the local market. Expanding markets for local businesses will be essential to the diversification and long term sustainability of the region.

5.7.1 Areas of intervention

- Introduce business skills and entrepreneurialism within educational institutions.
- Introduce an "Information, Diagnostic and Brokerage" model to schools to assist young people with business ideas.
- Establish mentoring programmes to support local enterprises and start up, which will also raise the profile of successful entrepreneurs in the region.

5.8 Business tourism

West Cumbria is currently lacking an offering for business tourism. Both accommodation and conference facilities are deficient for business visitors. Currently there is nowhere for businesses in West Cumbria to meet and network.

Decommissioning will involve developing a critical mass of businesses within West Cumbria, and plans for research facilities will require an improvement in business facilities.

There are a number of proposals for increasing the business tourism offering.

- M-Sport has plans to develop a hotel and conference facility on their property at Dovenby Hall Estate. This location is well connected, with close links to the A66.
- Proposals for Derwent Forest are at an early stage, but there is the potential for business standard accommodation and conference facilities. Derwent Forest is similarly relatively well located, close to the A66 near Cockermouth.

- In addition, there are plans for accommodation developments at Whitehaven and Maryport.

Together, these proposals represent a critical mass of projects to support businesses operating in West Cumbria.

While these developments will provide an offering, central to attracting business tourism will be improving transport to West Cumbria. In particular, air links to West Cumbria would improve the ease of travelling for business (there is a four-hour train journey between West Cumbria and Manchester Airport).

The remoteness of the region makes it particularly difficult to attract UK discretionary business visitors (ie. business visitors external to businesses within the West Cumbria). The Lakes Region adjoining the M6 corridor is a more accessible to business visitors, and hence presents are more obvious location for discretionary business tourism. However, locations along the A66 may present a viable option for a small discretionary business tourism market, as an adjunct to their core market.

5.8.1 Areas of intervention

- Facilitate the development of business standard hotels in West Cumbria through the Derwent Forest project; supporting developments in Whitehaven and Maryport.

5.9 Image and amenity

In order to attract and retain people in West Cumbria, there is a need to improve the physical environment and supporting social and physical infrastructure. West Cumbria must become a destination of choice to work, live and visit.

The Tourism Workpackage has identified a range of improvements to the visitor economy which are relevant here. These are both existing and new projects, and include improvements to the public realm, the development and improvement on cultural assets and improving the leisure offering (including pedestrian bridges, coastal remediation, walking and cycling paths).

On-going improvements to sporting infrastructure will also improve the amenity of West Cumbria.

The image of the area is also an issue, and there is a need to raise the region's profile. The vision for the area as a nuclear and environmental hub and centre for excellence has the potential to create a national and international profile for the region.

5.9.1 Areas of intervention

- Development of public realm and improvement of the physical environment through planned improvements to the economy.

- Raise the profile of the region through promoting its position as the research and training hub for the nuclear industry and environmental remediation.

6 Property and land market

6.1 Baseline issues

The property and land market in West Cumbria is facing a number of challenges resulting which this section of the Physical Infrastructure working group is tasked with reviewing and putting forward strategic and specific solutions to address. These challenges can be summarised as followed:

- Limited stock of high grade commercial accommodation.
- Lack of 'market led' inward investment opportunities for projects / companies considering relocation (contestable investment decisions).
- Good availability of development site opportunities, but developer interest in speculative development remains low principally as a result of poor viability.
- Over supply of land (DTZ report indicated 83 years of land supply) is reinforcing low rental values across the region.

Housing stock appears largely sufficient for the existing indigenous population, but a lack of suitable larger executive housing to attract and retain higher wages earners to the region (this is compounded by a perceived lack of higher paid jobs existing West Cumbria, plus the messages on future longevity of key employers such as BNG at Sellafield).

Health Care and Education facilities / services are viewed to be low quality, further impacting on the attraction of the region to commercial and 'residential' (i.e. potential residents) investment.

6.2 Overview of key initiatives and strategic projects

The above issues and driving factors behind them have been the subject of some intensive investigative research by local agencies on the ground in West Cumbria, led by West Lakes Renaissance and Copeland and Allerdale Councils. Below we highlight some of the key studies that have influenced existing and planned intervention actions

Key reports and studies

- West Lakes Renaissance Investment Plan 2005/06 - containing a review of development sites in the Allerdale and Copeland areas and an appraisal of existing sites for targeted intervention by WLR.
- West Lakes Renaissance Site Assessment Report (May 2006 - DTZ) - which undertakes a qualitative assessment of 25 of the existing key employment sites available for further development within the West Cumbria Region, together with a suitability assessment of these sites potential to attract and sustain further investment opportunities. This report prioritises the key sites for WLR intervention and support.
- Furness and West Cumbria Housing Market Renewal Prospectus (November 2005-DTZ) - this report highlights the issues facing the housing market in the region,

including the lack of larger family / executive housing and a scarcity of supply of social rented accommodation in certain areas of the region. The prospectus proposes to not employ a large scale clearance programme, but a rebalancing of the housing market by addressing the areas of need with layers of the market.

- North West Regional Economic Strategy (NWDA) - which reviews the Cumbria region in the context of the North West and highlights the key challenges the region faces that in turn impact on the property and land market. These challenges include, slow growth rate, dependence on public sector employment (BNG/NDA and the NHS represent the leading high skilled employers in the region), poor connectivity and remoteness from the North West's key area of growth (namely the Manchester and Liverpool City Regions). With regard to property and land, the report concludes on the need to supply high value investment sites, address housing mix issues and deliver alternative uses from Brownfield sites under public sector control.

- Allerdale and Copeland Regeneration Strategies and Action Plans - each reviewing the economic backdrop to the boroughs, the availability of certain sites for development, plus a costed plan of intervention.

The regional spatial strategy highlights the fact that Cumbria has employment land take up rates that are far below the North West's other sub regions. The County's current supply of employment land is also lower than other areas within the region - approximately half as much as the next lowest (Lancashire). The RSS indicates that future land requirements are negative - indicating a current over supply of employment land. The only other sub region in the North West that has an over supply is Cheshire, which is starting from a much higher base (over twice as much committed employment land as of 2005). The decrease in land required is forecast to be the greatest within class B2. The requirement to de-allocate land over the period does not mean that new sites should not be brought forward where they are of higher quality and better suit the demands as the economy changes.

A site assessment has been undertaken by DTZ which will help determine the future usage at the numerous employment sites in the sub region. This work has identified priorities for investment and sets out the broad projects which will be priorities for investment in each location. This work also highlighted a shortage of quality town centre office space as a problem but cautions that limited demand has been identified. It recommends that proposals for small scale office development within Workington, Whitehaven and Maryport plus smaller towns such as Egremont be looked upon favourably as they could serve local needs and minimise the need to travel. Latent demand for 'hybrid, flexible workspace' has been identified along with possible sites to provide this space at Derwent Howe, Bridge End, Lillyhall and Glasson. Schemes to be brought forward will need to be phased carefully to avoid market saturation. The work indicates that priority schemes should be located in areas with large resident populations and/or regeneration areas.

In terms of key initiatives and projects, a list of key initiatives that are currently planned (or underway) to tackle the issues raised above.

- Durwent Howe
- Durwent Forest
- Pow Beck Valley
- The Coastal Fringe
- HMRI Prospectus

– West Lakes Renaissance high and medium priority projects - West Lakes SciencePark, Derwent Howe, Leaconfield Road, Bridge End, Dock Road Workington, Lilleyhall Business Park and Glasson Industrial Estate.

This list does not represent an exhaustive list of projects contained within all area strategies, but those most frequently referred to as leading projects for the property and land markets.

6.3 Priority areas

6.3.1 Improving the executive base

The region needs to attract more higher skilled and income people to 'invest' in property and land in the region. This, in our view, has two key strands:

- Firstly, to make available and champion development sites in the region that attract investment from high skilled / wage paying companies.

- Secondly, provide suitable larger and aspiration housing within the market to allow residency of these people within the region

6.3.2 Improving quality of existing housing supply

Building on the need to increase the executive base, the region has certain inherent advantages for the housing market, being close to the Lake District National Park and with a good supply of housing for first time buyers. However overriding issues still remain, which through effective lobbying by West Cumbria partners have resulted in a commitment from ODPM to provide £18m of funding to address. The current housing stock is linked to the historical employment sites (namely nuclear) in the region, which is being disproportionally impacted by the current energy review.

A limited choice exists in the higher value / aspiration housing stock - these gaps undermine the market and struggle to attract high income householders.
Attraction of the area for those seeking 'second' homes and imbalance in the market this creates.
Poor connectivity, below national average school results and access to services (such as hospitals) make some parts of the region unattractive for potential residents

6.3.3 Promoting a market for land

Several sources have highlighted a need for suitable land sites to be made available for development in the region. The issues to address in promoting the market for land in the region.

In terms of demand, there are two options for promoting land values across the region.

- Firstly, targeting investment in sites from existing indigenous businesses who, through increased competitiveness and other factors, seek to upgrade and expand their accommodation needs. The role of targeted inward investment is also key in that provision of accommodation (and sites) that meet the expected needs of future leading sectors of the West Cumbria economy. For example; should a major tourism attraction be developed, as this would stimulated demand and attract a hotel operator to build in the area.

- Secondly, stimulating the housing market (led by HMRI investment) to raise land values (and hence) the attraction for development. It is important to recognise that increases in housing land values will be tied closely to increases in house prices, which may cause

problems with the first time buyer market or those on low incomes who can no longer afford to join the property ladder.

On the supply side, a number of possible development sites have been identified across the West Cumbria region that could be taken forward with assistance from the public sector to, say, address remediation issues or gap funding shortfall. Examples of these sites includes the former MoD Derwent Forest site that currently has levels of reclamation and regeneration costs that prohibit commercially led development. It is however important to recognise that the region is currently over supplied with development sites which, amongst other impacts, is reducing development values from the lack of competition for development space.

6.3.4 Encouraging speculative development

This thematic area provides a high level of challenge to the region. Currently investors do not recognise investment value of available sites - highlighted by the review undertaken by DTZ of employment sites and for the HMRI prospectus - which showed while sites exist for the development, developers do not see a suitable level of market demand to justify speculative development. The report by DTZ also highlighted that 83 years of land for development is currently available - in effect potential investors have numerous land options open to them and can driving down rental values for development.

The public sector can take a number of roles in addressing this issue - including withdrawing from further investment in sites around the region to focus developer interest in a more constrained offering of sites. The objective of this approach is to limit investment choice forcing investors to compete more for development space thus raising rental values (and yields) to a level that could stimulate speculative development.

6.3.5 Supporting Infrastructure

Schools within the region currently perform below the national average. Educational attainment is a clear area of consideration for those considering locating in the region. The Copeland Council recruitment study highlighted this issue as key factor in the low number of responses to adverts placed in UK wide press. This evidence suggests that even if issues around residential and commercial properties are addressed, high income families may still reject a move to the region in favour of areas with better educational attainment.

A key issue in addressing educational attainment has been highlighted to us, namely the recruitment of teachers from outside the region to support those teachers. Secondly, a number of schools are in need of substantial buildings investment to bring them up to modern standards, which in turn should help attract teachers and pupils.

The NHS employs over 4,500 people in the region (second only to Sellafield in terms of major employers). However services are based out of poor quality accommodation that is in need of investment - a real risk exists that maternity and anti-natal services could be lost to Carlisle if improvements are not made.

A number of opportunities must be considered regarding the imminent replacement of Acute Services Hospital at Whitehaven,

- Reviewing possible new sites for the Hospital
- Potential uses if the current site is vacated

- Target the claw-back of services from Carlisle and establishing links to medical research institutions (the Hospital is not a teaching centre and therefore struggles to attract leading specialists)

6.4 Options and projects

In this section we have highlighted the number of property or land based projects currently being considered across the sub-region to address the thematic areas set out above. The basis of this approach is to consider which project have the potential to have the most beneficial impact on these thematic areas and therefore to be prioritised with the Spatial Masterplan.

Overleaf, we have summarised major projects we have identified through our initial consultation work. For the purposes of discussion by the group, consideration should be given as to whether these projects meet the needs expressed against the thematic areas above. These projects do not represent an exhaustive list and the group is encouraged to consider new or unexplored projects in addition to this list.

7 Social infrastructure

7.1 Health

Health statistics show a marked variation from region to region for a variety of factors - including diet, age structure, occupational status, smoking, drinking and nature of residence. In particular, there is a well-recognised link between prosperity and health.

Mortality rates for Copeland are some three percent higher than average levels for England and Wales, an excess mortality rate that represents some 21 additional deaths per annum (Department of Health, 2002). Mortality indicators for Allerdale are worse: here mortality rates are some 18 percent higher than the England and Wales figure, representing around 168 additional deaths per annum.

Particular insights can be gained by comparing the health data for Allerdale and Copeland with the England and Wales averages, although differences in age structure and demographics need to be taken into account.

7.2 Housing

There are approximately 75,000 households in Allerdale and Copeland, of which 58% in Allerdale and 42% in Copeland.

Figure 7-1: Type of dwellings in Copeland and Allerdale

Type of Dwelling	Number in Copeland	%	Number in Allerdale	%	Total number	%	England and Wales figures %
Detached	6,766	21.5	11,155	26.0	17,921	24.1	23
Semi-detached	11,785	37.5	13,734	32.1	25,519	34.4	32
Terraced	10,072	32.1	13,770	32.2	23,842	32.1	26
Purpose built flat	1,757	5.6	2,636	6.2	4,393	5.9	14
Other household space	821	2.6	1,342	3.1	2,163	2.9	5
Caravans, or other temporary/mobile structures	197	0.6	181	0.4	378	0.5	-
Total	31,398	100	42,818	100	74,216	100	100

Source: Cumbria County Council, District Profiles (2003), derived from National Statistics (2001) Note: "Other household space" comprises converted flats, rooms in shared houses and flats located in commercial buildings. Figures may not add exactly due to rounding.

The most common type of housing is semi-detached, comprising some 34 % of all dwellings in the two districts combined. This compares to 37 % in the North West and 32 % in England and Wales. The next largest dwelling type in Allerdale and Copeland is terraced housing, making up 32 % of the total. This is the same as the figure for the North West and higher than the England and Wales figure of 26%. Some 24% of dwellings are detached, one percent higher than the England and Wales average, though as expected for a predominantly non-urban area, there are fewer flats in the area than in the rest of the country.

Around twice the national average of people rent their houses from Housing Associations (or similar organisations), with both Allerdale and Copeland transferring social housing stock to social landlords.

A reason behind this high level of renting appears to be the strong growth in house prices, which have climbed year on year since 1995. The total housing stock in the region lack larger family homes - an issue clearly articulated with the HMRI prospectus 2006 - which has put pressure on the prices of this portion of the market. Residents have limited choice when seeking this type of accommodation, either to pay inflated prices (which for many is not feasible due to earnings restrictions) or move away from the area.

7.3 Education

The Cumbria economic assessment (2004 - BMG research) provides a useful synopsis of West Cumbria compared statistically to the rest of the UK

- Qualifications - on average the economically active population are less well qualified than the regional and national averages, which could in part be explained by an ageing population that typically is less qualified. Fewer residents hold graduate or post graduate level qualifications

- Basic numeracy and literary skills - Residents have above average levels for both these metrics (defined as below GCSE grade A to C) 26.8% have poor literacy in the region compared to a national average of 24% and 26.5% have poor numeracy skills compared with the UK average of 24%

- School leaver destinations - overall fewer West Cumbria school leavers (68%) enter further education compared to the UK average (72%). However more school-leavers enter full time employment and work-based training compared to the national averages, due in part to the historically buoyant job market and low regional unemployment

- Employment skills - Generally Cumbria employers are less likely to have formal skills development and training arrangements and 20% of employers participating in the BMG research study stated they saw a skills gap for customer service and sales staff

7.4 Crime

There were 30 notified offences of this type for every 1000 people living in the study area. This compares very well with the North West average of 53 offences of this type (based on published Home Office Statistics for 2002)

Cumbria has lower crime levels and higher clear-up rates than the other North West sub-regions and this is most likely due to its more rural setting. Part of the explanation for the relatively good performance of the Workington and Whitehaven areas is that having smaller towns, urban crime is reduced (and in particular vehicle theft and theft from vehicles), leading to an overall lower average.

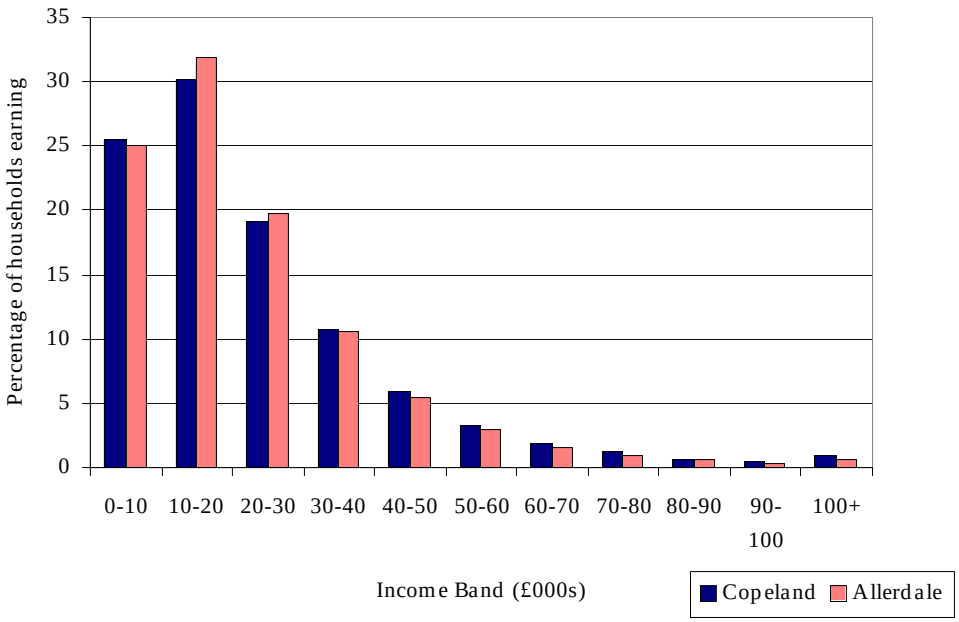
7.5 Social exclusion

Although West Cumbria overall does not stand out as a severely deprived area in contrast to regional averages, there are particular localities that currently experience forms of deprivation across a range of criteria.

The Index of Deprivation (ID) 2004 shows that Allerdale is ranked 105th (out of 354) in England, and Copeland 84th (1 indicating the highest levels of deprivation). In the North West region, both Districts appear to be fairly close to the middle of the distribution (out of 43 local authorities, Allerdale ranks 24th and Copeland 21st).

The Index of Multiple Deprivation (IMD), however, also identifies local areas of high deprivation within West Cumbria. Twenty-one Super Output Areas (SOAs) lie in the worst 20% of areas across England as a whole and 8 are in the poorest ten percent. These include, prominently, the SOAs in the inner areas of the principal towns of Maryport, Workington and Whitehaven, as well as some of the smaller former industrial settlements.

Figure 7-2: Gross Annual Family Income for 2003: Copeland and Allerdale



7.6 Key projects

Through our discussions with a number of regional stakeholders and with this working group, we have identified the following projects already in place across West Cumbria that should be considered alongside (and if appropriate) incorporated within our work defining the spatial masterplan.

- West Cumbria Social Enterprise Hub
- University of Cumbria
- Moss Bay Workspace (Priority 2 action plan)
- Self Employment Project (Priority 2 action plan)
- South Whitehaven Enterprise Centre (Priority 2 action plan)
- West Coast Community Gym (Priority 2 action plan)

- Maryport Settlement, Adult Education Centre (Priority 2 action plan)
- Digital Inclusion Project (Priority 2 action plan)
- West Allerdale Community Development (Priority 2 action plan)

7.7 Potential themes for intervention

In order to address these issues, interventions in a range of areas are required - together they have the potential to achieve substantial improvements in the social infrastructure. These themes represent our current thinking and are presented to provoke debate and challenge from the working group, plus further recommendations for our further work. In considering areas for intervention and action, key questions to ask are:

- What existing programmes and projects already contribute to addressing identified issues?
- What additional interventions would be beneficial in addressing any specific or combined issues?
- Do interventions act towards a common overarching goal?
- What further issues have come to light since the last working group meeting?

7.7.1 Diversification of employment / uplift in creativity and innovation

The region has historically relied on a small number of sectors to provide high earning employment opportunities, namely nuclear and heavy manufacturing. These industries traditionally do not display high levels of innovation and creativity, which is further compounded by the R&D centres not locating within the region for major businesses - in effect the region has performed a processing role.

Therefore the following initiatives have been put forward as indicative proposals to address the lack of creativity and entrepreneurial flair within the region

- Develop business support programmes - such as the Enterprise Hub to support and develop creative businesses - to stimulate the number of successful new businesses within the region
- Raise the profile of entrepreneurship within the region and encourage greater levels of self-employment.
- Encourage community enterprise initiatives
- Stimulate inward investment opportunities

7.7.2 Provision of housing accommodation

The region already has an HMRI prospectus that is the focus of our work within the Physical Infrastructure working group. The following proposals have been identified from within the work that could directly impact on the social fabric of communities, for the consideration of the group.

Address the applicable area of homelessness within urban centres - i.e. focusing on young low earning resident who cannot afford their own home

Encourage (through planning and other measures) a high standard of housing new build and refurbishment

Encourage energy efficient housing - make West Cumbria a leading example for sustainable energy use in homes.

7.7.3 Regional branding and marketing

The branding and image of the region was discussed at the group meeting. In our mind two key areas must be considered by the group and proposals developed that can be incorporated within the Spatial Masterplan;

- Firstly, the message the region gives to its young people - what opportunities will exist in the future for employment and quality of life to encourage them to stay in the region after their education (or return after university)

- Secondly, the message the region gives to those outside considering West Cumbria as a place to relocate for employment or as a holiday destination

7.7.4 Providing vibrant urban centres

As recognised at the first working group meetings, the region has difficulty attracting young, high achieving people to live and work in the region. A key factor in this is the lack of quality leisure opportunities within urban centres (such as bars, restaurants and other evening entertainment).

The region has historically relied on its outstanding natural beauty to draw people looking for rural setting - this narrows the spectrum of potential people who could relocate here, as graduates appear reluctant to move to West Cumbria, favouring the larger metropolitan areas with the associate amenities they provide.

Therefore the provision of vibrant urban centres is required to address the above need, but also to help retain the regions indigenous high achievers.

- Attracting leisure operators to the West Coast

- Locate a higher education campus

- Deliver a leisure magnet for the region

- Provide high quality accommodation for tourists, namely hotels, to provide a market

- for businesses serving the leisure sector

- Promote social inclusion through the use of community buildings

- Provide rapid, reliable public transport in the evening to and between urban centres

7.7.5 Change perceptions of the quality of schools and healthcare

Change perceptions of the quality of schools and health care for the regions residents and, importantly, those considering relocating to the region is a vital component for the future sustainability of the masterplan.

The Copeland recruitment study clearly identified these areas as key factor in people's decision to relocate to the region. More often than not, the quality of healthcare and educational attainment was used as a reason not to locate here.

Therefore to address these issues, the following indicative proposals have been collated:

- Reposition schools to the centre of communities and hub for wider use (after school hours) - encourage the uptake of Government's 'Extended Schools Agenda' policies.
- Achieve specialist status for local colleagues or schools around such areas as sport, technology or environment. This could help to attract new teaching resources to the area and raise the perception of local resident to send their children to local schools
- Federation of schools - complementary group or campus of schools in the region that together provide a wider offering by not 'competing' against each other.
- Promote the health, sporting and cultural activities of the region - as a place for health living
- Explore the provision of remote treatment centres to address the draw of services away from the region
- Encourage the location of a medical research facility - possibly linked to the region's nuclear heritage to draw in leading experts to Whitehaven.

7.8 Conclusions

The key issues to be further discussed and developed through the working group process are:

- Mitigating the loss of the 8,000 to 10,000 jobs at Sellafield is of overriding importance for the social infrastructure of West Cumbria
- The region has previously been heavily dependant on external sources to generate highly paid and skilled jobs (the "Dependency Culture") - reference Sellafield and the NDA.
- Clear need to move away from a 'master-servant' relationship with the rest of the UK and lead itself more in addressing the challenges it faces.
- Focus must be placed on raising the creativity and entrepreneurial spirit of residents.

The existing dominant industries (namely Nuclear) in the region stifle creativity and this percolates from the workforce of these industries into the wider communities - particularly the young.

We have considered these areas of focus and, with the benefits of further consultation and research have developed thematic areas of intervention (which we detail in the next section). These areas are:

- Diversification of employment opportunities with an increase focus on people 'helping themselves' - in effect to raise innovation and creativity amongst the population

- Provision of housing accommodation to meet the needs of the future anticipated population

- Branding and marketing - getting the message across that the region holds a bright future for its young people

- Providing vibrant urban centres to attract and retain those people looking for the facilities typically provided by an urban environment (such as evening leisure facilities)

- Change perceptions of the quality of schools and health care for the regions residents and, importantly, those considering relocating to the region

Appendix: Initiatives and documents

Key strategies

- Regional Draft Spatial Strategy
- ERDF Single Programming Document and North West Objective 2 Programme - People and Communities Action Plan
- Social Well Being Group Work Plan

Economic reports

- Cumbria economic Assessment 2004 (BMG Research)
- Review of the Economy of West Cumbria 2005 (Centre for Regional Economic Development - Cumbria Business School, Lancaster University)
- Socio-Economic Study for West Cumbria 2003 (ERM Economics)
- Economic Well Being of Communities and Regional Economic Development; Poles Apart? 2003 (Centre for Regional Economic Development)

Mapping the nuclear supply chain (final report), ERM, 2005 (Study for West Lakes Renaissance and NRDA)

The objective of the project is to map the capability of the regional supply chain against the requirements of the short and long term decommissioning programme for Sellafield, Calder Hall, Drigg, Windscale, Capenhurst and Springfields in order to:

- identify gaps in the current supply chain;
- enable businesses to identify opportunities for development and investment;
- identify opportunities for targeted inward investments; and
- identify skills needs and the regional capability to provide training.
- An in depth study – lots of meetings (with supply chain, BNG, UKAEA), interviews and an email survey.

Issues/changes impacting the supply chain:

- move to T1, T2, T3 structure, and new procurement & performance management processes, fewer T2 level contracts
- BNG “make or buy” policy

- the extent to which regional companies can retain market share as competition is increased. Necessary skills are: e-procurement, contracting & project management systems.

- Identified areas where local supply chain performance could be undermined - i.e. a gap assessment.

- Report proposes a "Nuclear Supply Chain Alliance" to co-ordinate the activities that promote supply chain excellence for regional companies.

- Report identifies a Supply Chain Development Plan that is to be delivered by the Alliance via a range of specialist delivery partners

- Action plan has 19 suggested development areas (all good ideas), prioritised and with a lead body suggested

Action plan includes the initiative of "internationalisation" i.e. export opportunities, export support programme. The ERM study identified a low level of export activity in the regional supply chain and recognises the need to increase awareness of export opportunities and to facilitate market entry.

Sellafield Lifecycle Baseline – 2005/06

- Jobs reduction
  - 2005 = 13,000 (including sub-contractors)
  - 2015 = 10,000
  - 2025 = 6,000
  - 2035 = 4,000
- Impact is immediate – no "grace" period.

- Largest impact in 1st ten years is "sub contract" and "professional" category (highest paid)
  - Professional 30% reduction
  - Skilled, 10% reduction
  - Sub contract, 50% reduction
  - Overall, 30% reduction
- Thorp closure – 2011, current contracts completed.

- SMP closure – 2011?

Sellafield Socio-Economic Plan 2006/07

- Recognises that "Cumbria has the potential to be a world leader in nuclear clean-up and Sellafield has a major role as an economic engine to enable this objective"

- West Cumbria/ Sellafield has a history of secure and well paid employment; this has suppressed entrepreneurial activity.

- "The intellectual and physical assets at Sellafield are the kernel of the future economy of West Cumbria"

- Sellafield will work with local and regional agencies on four themes:

  - Education, training and skills – support to self-start businesses, provide coaching for local supply chain to meet NDA needs, support local graduates in start ups.
  - Encourage entrepreneurial activity – some success in the past, key is to identify spin-out opportunities, provide incubators, Unsolicited Innovation Proposal, Programme R&D Announcements (list the decommissioning challenges and encourage private sector to offer solutions.
  - Diversification - build socio-economic planning requirement into major tier 2 contracts,
  - Nuclear Enterprise Zone – allow regional businesses (start-ups, spin-offs) access to surplus assets and resources at Sellafield.

Response to DEFRA public consultation process on LLW management *(*Allerdale, *Copeland, Cumbria Councils – May 2006)*

- Drigg capacity exhausted by 2008.

- Concern that insufficient consideration is being given to the national v. regional solution to LLW storage.

- Drigg should not be used to accommodate waste from other UK nuclear sites.

- No increase in capacity until agreement is reached re compensation measures for the LLW presence. Disappointed that consultation virtually omits this subject.

- Local community should have veto over importing LLW.

Note – job impact. Will peak at 350 plus in next few years (plutonium contaminated material recovery operations) then drop to ~80 (including sub-contractors) until end of operations in 2050. This on the assumption that Drigg is extended to give capacity until 2050.

Response to CoRWM public consultation process on ILW/ HLW *(Cumbria, Copeland & Allerdale Councils, May 2006)*

- Commitment by UK Government to intensive R&D into all aspects of geological disposal, interim storage and other options not completely ruled out by CORWM.

- Interim storage of ILW – should be as close to place of origin as possible.

- Concerned that if one central repository is recommended it will be by default in West Cumbria.

- Opposed to centralising ILW storage at Sellafield.

- Fully support the concept of volunteerism.

Diversification opportunities at BNFL and in the local economy (final report), ERM and Environmental Council (Part of BNFL National Stakeholder Dialogue)

- Outlines BNFL's (now BNG) diversification policy and success. Assesses a number of diversification, technology transfer and incentive initiatives conducted by BNFL over a number of years.

- Relevant diversification projects included Uranium catalyst fuel cells, Xenon and Krypton production, energy storage, instrumentation and robotics spin-offs, Fluorine generation equipment technology, Joint Nanotechnology JV with EMI and Sensors JV with Anglia Water.

- These projects and ventures had very mixed success and a number failed to materialise. The report concluded that "BNFL has been involved in numerous ventures, few of which have created diversification opportunities which have succeeded commercially."

- Main reason for failure cited as: BNFL's focus on core business, limited applicability of nuclear technology to other industries (IPR usually flows in other direction)

- Report mentions the establishment of the BNFL Technology Centre in 2004 which at the time was not yet fully operational. The Centre aim as to offer an integrated research and technology complex with laboratories, conference facilities dedicated to chemical and engineering development and to be host to 300 residential technologists. Primarily dedicated to nuclear research, the centre may also generate new commercial ventures. (BTC/Nexia Solutions)

- BNFL instituted the "New Horizons" scheme at the time when THORP was scaling back to offer employees leaving the company basic advice and training relating to starting up a business.

- The report refers to BNFL Enterprises Ltd which was established in 1995 with a £2.5m fund to invest in related ventures. Between 1995 and 2004 it only invested a portion of the fund in 8 ventures. It appears that there was a limit of good projects. Report mentions other initiatives: Cumbria Trust, Cumbria Inward investment Agency, Harris Knowledge Fund, Westlakes Science Park and the West Cumbria Development Fund as other sources of assistance.

- The report also stated that the successor companies on the Sellafield site were unlikely to fulfill these wider development and diversification roles unless part of their remit and highlighted the loss of BNFL as a "paternalistic" procurer of services.

- Actions suggested by report:

  - Ascertain ownership of IPR between NDA and other parties
  - Public agencies (including NWDA) foster links between NDA/BNF and its industry clusters in technologies such as bioremediation and clean-up
  - Explore the feasibility of engaging a major partner organisation to assist in the commercial exploitation of technologies outside the nuclear industry.

A skills needs assessment of the nuclear industry (Executive Summary), Cogent, 2006

- Essentially a "here and now" snapshot of skill needs in the industry.

- Main technology drivers for the nuclear industry are: clean-up and decommissioning technologies, waste disposal and enhanced reactor technology.

- Emerging issues from Cogent's skills needs assessment:

  - Innovation – need for a nuclear technology centre and a nuclear laboratory
  - Management and leadership – need for more project management skills and more emphasis going forward in project-based working
  - Skills gap – over 70% of employers report skills gaps but in particular disciplines rather than universal.
  - Recruitment – industry has issues attracting people and has difficult demographics.

- The conclusions based on "as is" scenario – skill needs would be different under a "renaissance" scenario which includes new build, waste disposal facilities, life extension, national research demand etc.

BNG skills strategy

- Purpose to address skills issues as Sellafield moves from owner/operator to site contractor. Operating assumptions based on 2006 Life Time Plan

- Highlights a number of risks including loss of key skills during period of uncertainty, key skills in demand elsewhere in the nuclear industry and shortages of a national pool of skills could drain resource from Sellafield. This issue was re-enforced by Steven Morgan of BNG in the course of our discussions regarding the future of the site.

- BNG site to establish a site strategic training board by April 2006 to provide management direction and oversight on the skills challenges.

Northwest nuclear, a strategic approach to the nuclear sector in the region, NRDA, 2005

Sellafield socio-economic plan 2006/07, NDA/BNG, 2006

- Identifies a vision – a world-class region of excellence in nuclear technology through demonstrable achievement in decommissioning, radioactive waste management, nuclear energy generation and research & development.

- The region is the northwest, not just West Cumbria.

- Identifies 6 action themes:

  - Strategic relations- maintain/ strengthen relationships with Government bodies (NDA, DTI, DEFRA) and develop new relationships in areas related to waste management and nuclear submarine procurement.
  - Attracting investment – continue to support/encourage inward investments and relocations (NDA, Fluor etc) and seek to attract companies from outside of nuclear sector. Support the development of a National Nuclear Laboratory.
  - Skills & research – support a National Nuclear Academy in West Cumbria (Nucleus) to address issues around skills needs. Likewise Dalton Institute & National Nuclear Laboratory will support higher level skills shortages.
  - Supporting supply chains: build on existing support programmes (Business Link). Develop programmes to support issues raised by changes in NDA supply chains. Assist SMEs in decommissioning export markets and non-nuclear markets.
  - Enterprise & Innovation – support people who wish to start up their own businesses as they leave Sellafield. Support innovation of nuclear technologies into new markets.
  - Influence infrastructure – improved transport required.

- Actions listed for each theme together with suggested lead organisations. Actions appear good/ well founded. Suggest a bigger push on diversification initiatives (export and non-nuclear sectors) – learning from US?

Nuclear Opportunities Group – 2006/09 Strategic Action Plan, Genecon/WYG for West Lakes Renaissance, June 2006.

- A very useful report that has pulled together various previous work re-retraining & supply chain and also make some recommendations on the role for the Nuclear Opportunities group. The report also considers a wider economic context.

- Purpose of study is a plan to facilitate the development of West Cumbria as a leading international location for nuclear decommissioning and environmental restoration.

Nuclear and radiological skills study, report of the nuclear skills group (part 1), DTI, 2002

- Identified a National skill shortage "hot spots" in certain disciplines (e.g. safety case production and radiological protection) and growing skills shortage in next 15 years even without new build.

- Concluded that Postgraduate education and apprentice training "are also in a fragile state, raising concerns about future workforce development".

Potential New Build in Cumbria (final report), ERM, 2006 (report for Cumbria County Council, Allerdale Borough Council and West Lakes Renaissance)

- Sellafield is one of a number of potentially viable sites for nuclear new build in the UK (and the only one in Cumbria)

- It is not commercially optimal as it would require a lengthy connection across West Cumbria (cost and planning issues) and would incur relatively high grid charges which reflects the demand required in the South of England.

- New build would provide 7,000 person years of employment. Once operational a twin reactor would employ around 600 people directly, with total job creation of around 1,000

- The report touched upon the opportunity to build a reactor which would burn Mox fuel as a means of processing the UK's inventory of civil plutonium stored at Sellafield. If a policy decision were to be made to follow the Mox route, Sellafield would be the preferred site.

- Sellafield could also be a site for a prototype Pebble Bed Modular Reactor (PBMR) under development in South Africa. This possibility is likely to be diminished with the recent sale of Westinghouse to Toshiba.

- The report concluded that "a new build project phased to produce power around 2016 would have a *small but measurable beneficial effect in the context of the overall job losses"*

Other

- NWDA Regional Economic Strategy 2006. To provide the regional priorities and context

- NWDA / Northwestscience 'science strategy englandsnorthwest' 2002. To view regional strategies to identify diversification strategies

- Project Corus (Workington) Steering Group Report, July 2005. To regional economic provide context

- Wealth and Job Creation Opportunities in the Cumbrian Energy Sector, Cumbria Inward Investment Agency, June 2003. To identify diversification opportunities

- Technology Strategy – a national regional partnership (presentation by Pam Alexander, Chief Executive SEEDA, 26 April 2006 from DTI Technology Programme website)

- Key Technology Areas, Technology Strategy Board, April 2006. To identify the national technology priorities for the UK

- Science and Innovation Framework - HM TREASURY DTI Innovation report. To identify national Strategies

- Allerdale and Copeland Labour Market Profiles, Nomis Official Labour Market Statistics, March 2006. For baseline data