

Cornwall and Isles of Scilly LEP: Strategy and Business Plan

Evidence Base Papers: 3 – Horizon
Scanning

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SQW

1: Introduction

- 1.1 As an input into the development of its first strategy, the Board of the Cornwall and Isles of Scilly LEP was keen to build in an element of “horizon scanning”, such that the strategy might be strongly forward-facing and outward-looking. However, given the scale of the strategy-building exercise, the “horizon scanning” process could not be launched as a primary research exercise; instead, it had to rely principally on existing published material. This Evidence Base Paper reports on the key findings from our review.

Insights from the Foresight Programme

- 1.2 In the UK, the *Foresight Programme* – which was launched in 1993 in response to a White Paper on Science and Technology – has been extremely influential for almost 20 years in the broad context of futures thinking.
- 1.3 Initially, the Foresight Programme operated through 15 panels which explored opportunities in science and technology for different sectors of the economy (e.g. construction, food and drink, financial services). These panels undertook extensive consultation, involving literally thousands of businesses, academics and other stakeholders. Their recommendations were published and then implemented between 1995 and 1999. A second round of Foresight was launched in 1999. Its brief was somewhat broader and it sought to examine the opportunities that arose from the interaction of innovations in science and technology with wider social and market trends. It was still panel-based but while some panels were sectoral (e.g. materials, and defence aerospace and systems), others were more thematic (e.g. ageing population). The whole Foresight project was then reviewed by Lord Sainsbury – then Science Minister – which resulted in some changes. Instead of the panels, from April 2002, a more flexible approach was taken. This included the provision of a toolkit for use in specific government/company settings but also support for Foresight projects (in-depth studies looking at major issues 20-80 years in the future) and, since 2005, the provision of a Foresight Horizon Scanning Centre (which completes short projects looking at more discrete issues 10-15 years in the future).
- 1.4 Given the steer provided by the Cornwall and Isles of Scilly LEP Board, the work of the Foresight Horizon Scanning Centre¹ is particularly noteworthy and we draw on it (as well as the longer term Foresight projects) as our principal evidence base in this document.

Approaches to futures thinking

- 1.5 However it is important to understand where horizon scanning fits within the whole range of approaches to futures thinking. The quotation below – sourced from the *Tomorrow's Project* website – provides a succinct explanation:

¹ See <http://www.bis.gov.uk/foresight/our-work/horizon-scanning-centre>

*Let us assume you are standing on the bridge of a ship. You scan the horizon (**horizon scanning**) and see an iceberg and your supply ship. You work out the likely speeds and directions of the iceberg and supply ship (**trend analysis**) and put the information into the ship's computer (**modelling**) and then plot a course (**roadmapping**) so that you meet with the supply ship and not the iceberg. While you are doing this you dream of eating some nice chocolate that you hope is on the supply ship (**visioning**). You realise that the speeds and directions of the iceberg and supply ship might change, so you work out a range of possible options to make sure you have the greatest chance of meeting the supply ship (**scenarios**). Even with all of this planning, you know there is a chance of the unexpected and hitting the iceberg so you get the crew to do an evacuation drill (**gaming**). While they are doing it, you work back from the most likely future position of the supply ship to work out the steps you need to get there (**backcasting**)²*

- 1.6 Horizon scanning, then, is not the whole answer in relation to future-facing aspects of the LEP's strategy. Moreover it is important to recognise that for a local economy, horizon scanning is not the same exercise as that which might be undertaken for an individual business (whatever its scale); it is necessarily far broader in scope and perspective (as it relates to every actual or potential business in Cornwall and the Isles of Scilly).

Structure of this document

- 1.7 In the pages that follow – and drawing particularly (although not exclusively) on recent outputs from the work of different elements of the Foresight project – we summarise a range of futures issues that may be especially relevant to the economy of Cornwall and the Isles of Scilly. These are grouped into five main themes, reflecting the structure of a conventional STEEP analysis (i.e. social, technological, environmental, economic and political trends and drivers). In practice, these overlap significantly but they are defined, broadly, as follows:

- **Social factors**, which relate to changes in society including ageing, social attitudes, working practices, migration, patterns of home ownership, etc.
- **Technological factors**, which include R&D activity, innovation, automation, and the nature and rate of technological change
- **Economic factors**, which include economic growth, interest rates, exchange rates, etc., together with broad structural economic changes within the domestic economy and internationally
- **Environmental factors**, which relate to ecological and environmental considerations, including climate change
- **Political factors**, which relate to government policy at national and international levels. In principle, this includes tax policy, employment law, environmental law, trade restrictions, tariffs, and political stability. It also includes government's broad

² See <http://www.tomorrowproject.net/index.shtml?page=futures>

approach to intervention and, specifically, the role of the public sector vis-à-vis private provision.

2: Social trends and drivers

Outlining the context: Key facts for Cornwall and the Isles of Scilly

- The **resident population** of Cornwall and the Isles of Scilly currently numbers almost 540,000. Currently, over 20% of the population of Cornwall and the Isles of Scilly is **aged 65+** compared to 16% across England (*Source: Cornwall Local Profile, South West Observatory, January 2012*)
- According to the ONS Mid Year Estimate for 2010, Cornwall's **population has increased** by 7.3% since the last Census (compared to an increase of 6.3% across England) while the Isles of Scilly's population has declined slightly. The principal source of this increase has been national net in-migration (as opposed to natural change or international in-migration) (*Source: Cornwall Local Profile, South West Observatory, January 2012*).
- Over the last decade, **middle and older working age groups** have dominated the profile of in-movers, not those who have already retired as is commonly assumed. In addition, the number of **young people** migrating out of the area has declined, presumably because of greater opportunities for further and higher education locally (*Source: Cornwall 2011 – Cornwall Demographic Evidence Base, Cornwall Council*)
- Across Cornwall and the Isles of Scilly, rates of recent population growth have **varied spatially**. In terms of the former districts, North Cornwall (+35%) and Restormel (+33%) grew most quickly between 1981 and 2010 whilst Penwith (+19%) and the Isles of Scilly (+17%) grew most slowly (*Source: Cornwall 2011 – Cornwall Demographic Evidence Base, Cornwall Council*)
- ONS' 2008 trend-based **population projections** suggest that the population of Cornwall and the Isles of Scilly is likely to rise from 535.7k in 2009 to 645.5k in 2033, an overall increase of 20%; this is similar to the average for the south west as a whole (n.b. trend-based projections do not reflect policy) (*Source: State of the South West, 2011, South West Observatory*)
- In Cornwall, ONS estimates suggest that between 2008 and 2031 the number of people **aged over 65** is projected to increase by 82.8%, resulting in over one in four people being aged over 65. On the same projection, over 15% of the population is likely to be **aged over 75** by 2031 (*Source: Cornwall 2011 – Cornwall Demographic Evidence Base, Cornwall Council*)
- In 2010 the price of the lower quartile houses (cheapest 25%) was 9.3 times greater than the lower quartile earnings (lowest 25%) in Cornwall and the **ratio** in the Isles of Scilly is likely to be higher. Across GB, the average ratio is 6.7 (*Source: Cornwall's Economy At A Glance, Cornwall Council, December 2011*)

Ageing population

- 2.1 In Cornwall and the Isles of Scilly – and indeed across the UK and many other countries – one of the principal changes over the next 10-20 years will be the *increased incidence of older people* within the population. This will be driven by falling birth rates and increased life expectancy and, in Cornwall and the Isles of Scilly, through the in-migration of older people (although increasingly, this relates to people in their 50s and 60s, not those who are already retired).
- 2.2 One of the second round Foresight Panels focused specifically on issues relating to population ageing. Although its outputs are themselves now over a decade old, the Panel’s findings retain a good deal of cogency. There are clearly some challenges linked to population ageing – not least the escalating costs of social care – but the business opportunities it identified include those summarised in the table below.

Table 2-1: Key market opportunities linked to population ageing identified through the Foresight process

Key opportunities

New Markets - The grey pound, dollar, euro and yen: Consumer demand will be increasingly driven by the tastes and needs of a growing number of older people.

New patterns of consumer demand: An ageing population will be keener on consuming services rather than goods. They will be the prime consumers of “end-user services such as art, fashion, sports, tourism, gardening and home improvements, health and education

Fourth age: the business opportunity: The number of frail old affected by varying degrees of disability and functional impairment is rising; this presents a clear market opportunity for business products and services that cater for their particular requirements

Generation M: The number of Mature Entrepreneurs will rise sharply as more older individuals strike out on their own: “Generation M”. Not only will there be an increasing number of people entering older age-brackets; their aspirations are also more likely to be more entrepreneurial than previous generations. This reflects the general social change that has raised the status of the entrepreneur.

Source: Taken from The Age Shift – Priorities for Action. Report of the Ageing Population Panel (c. 2000)

- 2.3 For Cornwall and the Isles of Scilly – as the evidence cited at the beginning of this chapter confirms – the population ageing issue is an immediate one, not a vague possibility looking 20 years hence. A series of recent policy developments will result in older people being economically active for longer, and this will constitute an important social and economic change over the next two decades. Specifically, government has been phasing out the default retirement age since April 2011 and ensuring that older workers are incentivised to continue working through reduced National Insurance contributions and higher tax allowances. Since October 2011, employers cannot compulsorily retire employees who turn 65, unless the retirement can be objectively justified. The current State Pension age for women will increase from 60 to 65 between April 2016 and November 2018, and thereafter the State Pension age for both men and women will be raised to 66 by April 2020.

Population migration

- 2.4 Nationally, international migration has been – and will continue to be – a major source of socio-economic change. It is estimated that half of the increase of the UK population between 1991 and 2010 (2.4 million in absolute terms) was due to the direct contribution of net international migration. Looking ahead, ONS projections suggest that the population of

the UK will rise to 71-75 million by 2035 and within the principal projection, the cumulative net inflow of post-2010 migrants accounts for 47% of total population growth; a further 21% of projected population growth is attributable to the additional contribution of new migrants to natural change (i.e. births and deaths).

- 2.5 There is significant variation in the geographic distribution of international migrants in the UK. In 2010, about half of the UK’s foreign-born population lived in London (37%) and the South East (13%) with 5.3% in the whole of the South West³. This distribution needs to be seen alongside evidence which suggests that across the UK, foreign-born workers account for an increasing proportion of the workforce: the share of foreign-born persons in total employment increased from 7.2% in 1993 to 13.5% in 2010. Within this context, foreign-born workers have a very distinctive occupational profile. In 2010, 36.4% of workers in elementary process plant occupations (e.g. industry cleaning process occupation and packers, bottlers, canners and fillers), 31.2% of workers in food preparation trades and 30.6% of health professionals (e.g. medical practitioners and dental practitioners) were foreign-born. In addition though, there was also a high incidence of foreign-born workers in some strongly knowledge-based occupations – notably research professionals and information and communications technology⁴.

Table 2-2: Top-10 occupations of foreign-born workers, 2010

All foreign-born		Share of migrants in employment	Recent migrants	Share of migrants in employment
1	Elementary process plant	36.4	Elementary process plant	23.7
2	Food prep trades	31.2	Process operatives	15.2
3	Health professionals	30.6	Elementary cleaning	11.7
4	Process operatives	29.4	Elementary goods storage	10.9
5	Research professionals	24.4	Elementary personal services	9.7
6	Elementary cleaning	24.3	Food prep trades	9.5
7	Managers in hospitality	23.1	Research professionals	8.1
8	Elementary security	21.0	Info & comms technology	7.5
9	Info & comms technology	20.8	Assemblers & routine operatives	7.3
10	Housekeeping	20.3	Elementary security	6.8

Source: Labour Force Survey 2010, Q1-Q4

- 2.6 Over the last decade (and longer), Cornwall and the Isles of Scilly has seen substantial net immigration. However this has principally been from elsewhere in the UK. Although migrant workers have been (and are) important in relation to some sectors (e.g. from our consultations, reference has been made repeatedly to larger food businesses relying on migrant workers), the overall pattern of international migration to and from Cornwall appears quite different from the rest of the UK. According to data from ONS, although it varied year on year, in the period 2001-2009, there was net international out-migration from Cornwall⁵.
- 2.7 Looking ahead, there has been a great deal of futures thinking devoted to the subject of population migration. Indeed, one of the major Foresight projects has been devoted to

³ *Migrants in the UK: An Overview* – see <http://migrationobservatory.ox.ac.uk/briefings/migrants-uk-overview>

⁴ *Migrants in the UK Labour Market: An Overview* – see <http://migrationobservatory.ox.ac.uk/briefings/migrants-uk-labour-market-overview>

⁵ *Cornwall 2011 – Cornwall Demographic Evidence Base, Cornwall Council* – page 19

*Migration and Global Environmental Change*⁶. Among the 70 or so supporting documents, there are some important future perspectives of direct relevance to Cornwall and the Isles of Scilly. One study examined likely changes in domestic migration over the next 20-50 years. In explaining current patterns of migration in the UK, it found that environmental drivers have been far less important than social drivers, which in turn have been less important than economic drivers (i.e. migration for the purpose of gaining employment, or for improved terms and conditions in employment). With regard to the latter, it found that unemployment was less of an issue than expected while housing was far more important. The study also pointed to the spatial separation of the ‘earning’ of unearned income from the spending of it, boosted by the rising share of unearned income as a proportion of total income; this was thought to explain high net in-migration gains of high amenity areas (such as Cornwall and the Isles of Scilly).

- 2.8 Looking to the future, the study considered how the environmental, economic and social drivers might change and hence, what the picture of internal migration within the UK might look like in 20-50 years. It concluded:

It seems difficult to imagine that the economic drivers of internal migration in the UK will become any less important in the future than they have been in the recent past. The spatial links between people and employment, despite new communication technologies, will not lessen; indeed, if, as seems likely, there will be a long period of economic stagnation or recession with job insecurity and falling incomes, and if, as seems certain, retirement age is extended towards 70 and dependence on earned income increases, then the need to be resident close to places of job opportunity will continue to be of crucial importance for the vast majority of the population⁷.

Changing patterns of work

- 2.9 Together, structural economic changes, societal changes and significant advances in broadband connectivity have transformed patterns of work for many people over the last two decades. Looking ahead, further profound changes are likely, not least because people will be working for far longer (see above), and the boundaries between “home” and “work” will become even more blurred.
- 2.10 One change in working patterns surrounds the propensity to *work from home*. This is now well established; it looks set to accelerate; and it is particularly important for Cornwall and the Isles of Scilly. There is a growing body of evidence on the surrounding issues. A recent report on the future use of public sector property, for example, sees working from home as a key element of future resourcing strategies among public sector employers. It argued that “allowing employees to work from home once or twice a week, for instance, not only means fewer desks; it’s also been shown to motivate staff to work harder, bring down the number of sick days, lower the turnover of highly skilled staff and reduce travel emissions”⁸. Equally,

⁶ See <http://www.bis.gov.uk/foresight/our-work/projects/published-projects/global-migration>

⁷ Fielding, A.J., The impacts of environmental change on UK internal migration. Global Environ. Change (2011), doi:10.1016/j.gloenvcha.2011.08.003

⁸ *Leaner and Greener II: Putting Buildings to Work* Report by the Westminster Sustainable Business Forum, November 2011

within the context of NHS Connect, various homeworking pilots have been instigated; these have generated substantial productivity improvements (e.g. the number of patients spoken to per hour rose by 25%), reduced travel times, and the increased scope for far more flexible working⁹. Hence looking ahead, it seems very likely that greater homeworking will feature in the delivery of public sector services.

- 2.11 Further future facing perspectives into these issues may be gleaned from the findings of a research consortium which was based around 21 global companies and led by an academic from London Business School in 2009/10. The study pointed to profound changes in the nature of “rewards” from work. Specifically, the author stated that

I believe there is an opportunity over the coming decades to shape work and life in a manner that enables people to reconnect with what makes them happy and creates a high quality of experience. The breakdown of automated work, the rise of home-based working and the increase in the possibility of choice provide the foundation for a shift in focus away from quantity consumed as the only measure of success¹⁰.

- 2.12 The same study also considered how the process of work was likely to change. It concluded that working collaboratively and flexibly would be paramount for individuals and businesses alike. The author argued, specifically, that “*in a future increasingly defined by innovation, the capacity to combine and connect know-how, competencies and networks will be key... high value networks will consist of a combination of strong relationships with a few knowledgeable people and a larger number of less-connected relationships with a more extensive network*”.

Young people

- 2.13 Within its report on the *UK's National Reform Programme* (2011), the Council of the European Union flagged as particular concerns the proportion of children living in jobless households (which, at 17.5%, was reported to be the highest in the EU) and the substantial increases in youth unemployment. Arguably, these observations provide the context for a recent research project completed by the Prince's Trust; this identified an “aspiration chasm” between the UK's richest and poorest young people¹¹. For some commentators at least, the riots of 2011 presented something of a Domesday scenario in this context and their causes were traced – in some combination – to socio-economic challenges, the power of social media, the emergence a gang culture (particularly in the larger urban areas) and criminal opportunism.
- 2.14 Add to this the increasing debts that young people will incur in obtaining a university education and it is clear that the changing pressures and opportunities facing young people could present an important social driver over the next 10-20 years. Already, there is evidence that the age at which people buy their first home is rising – on one estimate, from the age of 29 in the 1980s, to around 35 currently and, owing in part to the shortage of affordable

⁹ See

<http://www.nhsdirect.nhs.uk/Members/MembersMagazineArchive/TogetherAutumn10/FutureOfHomeworking>

¹⁰ *The Future of Work*, Lynda Stratton – published in *Business Strategy Review*, Q3 – 2010, pages 16-23

¹¹ *Broke, not Broken: Tackling youth poverty and the aspiration gap* Report by the Prince's Trust, May 2011

housing and changed lending practices, projections suggest that first time home buyers will be 41 years old by 2025. The changing relationship of young people and the housing market is likely to be wide-ranging in its effects (e.g. in relation to patterns of migration)¹².

¹² See First-time buyers: Life begins at 40, *Independent*, 20th November 2011; and see also <http://www.homepurchaser.co.uk/first-time-buyers/2011/06/30/average-age-of-a-first-time-buyer-will-be-41-by-2025>

3: Technological trends and drivers

- 3.1 Since the mid 1990s, the issue of technological trends and drivers has been the *raison d'être* for the Foresight programme. In 2010, the Foresight Horizon Scanning Centre completed – and published – a major piece of work, *Technology and Innovation Futures: UK Opportunities for the 2020s*. This was based on interviews and workshops with over 180 representatives from industry, research, international institutions and social enterprises. It identified 53 technologies (grouped into 28 clusters) which “*are likely to be important in the UK in the 2020s, because of the UK’s comparative advantage today, its future needs or the size of its market*”.
- 3.2 Overall, the study identified seven areas which it considered to have major potential in relation to the 2020s. In general, these were of a cross-cutting character with widespread application and multiple technology clusters have a role to play in each case. The seven headline areas are summarised briefly in the paragraphs below.

Headlines from *Technology and Innovation Futures*

Manufacturing on demand¹³

- 3.3 The report argues that there are real potential opportunities linked to manufacturing – not the mass production which has dominated recent years but “bespoke” manufacturing, or “manufacturing on demand” which is described in the report in terms of a “*manufacturing revolution*”. The report states that “*the principal drivers of such a change would be higher shipping costs and customer demand for customised products; the principal enabler would be improved manufacturing equipment and software*”¹⁴.
- 3.4 In order to capture this opportunity, the report suggests that “*the development of small scale manufacturing capability could be considered whenever investment is made in a new research institution*”¹⁵. Their purpose would be both to demonstrate applications but also to enable small scale production. More generally, the point is made that local economies might benefit from local facilities to service local customers and enable the use of local materials (which in part is explained in terms of a lifecycle approach to manufacturing).

Smart infrastructure¹⁶

- 3.5 In essence, the report identifies two elements of “smart infrastructure” which are likely to be transformational in their impact over the next period:

¹³ Relevant technology clusters: plastic electronics; low impact materials; display technologies; ambient intelligence in the built environment; desirable sustainability and user-centric design; organic solar cells; and robotics

¹⁴ *Technology and Innovation Futures: UK Growth Opportunities for the 2020s* Foresight Horizon Scanning Centre, 2010 – page 8

¹⁵ *ibid.* page 9

¹⁶ Relevant technology clusters: lightweight infrastructure; bespoke material design and meta-materials; the plus energy house; microgeneration; water

- the application of new information and communication technologies to improve all infrastructures (e.g. transport, water, etc.) by “*providing data that enables quick and accurate detection of failures, improvements to the efficiency of control systems, and the more intensive use of transmission networks*”¹⁷
- the development of a smart electricity grid – the first transformational infrastructure of the 21st Century – which, the report argues, is a prerequisite to meeting the UK’s carbon reduction requirements. This will need, *inter alia*, to cope with the vagaries of micro-generation. Further, the smart grid will need to embrace two elements: smart meters (to track electricity use in real time) and transmission/distribution components, based on sensors, etc., to increase efficiency and reliability.

Internet¹⁸

- 3.6 The report argues that we are on the cusp of a second internet revolution. Central to this will be a “web of data”, adding structure and semantic meaning. The implication is that searching will become less random and instead, genuinely linked – and therefore more robust – data will be sourced. The report argues that this could transform business-to-business and business-to-consumer transactions as internet search processes should become far more intelligent (e.g. it will “know” whether “Casablanca” is a town or a film) and hence the provision of genuinely linked data will become possible.

Energy transition¹⁹

- 3.7 The report highlights the scale and significance of the energy transition that is currently underway. It argues that the move to renewables is imperative but that this will require major changes in parallel (notably in relation to the smart grid, see above). Insofar as fossil fuels continue to provide an important element of the mix, there will be a need for Carbon Capture and Storage (CCS) – and the UK is seen as an early mover in the development and application of related technologies. In addition, the report argues that there will need to be progress in relation to the use of hydrogen as a fuel.

New materials’ contribution to a low carbon future²⁰

- 3.8 The report argues that major advances in materials offer great market opportunities, not least in the context of reducing the use of energy and emissions of CO₂. A key focus in this context is the construction industry, which is a major source of emissions currently. Light and strong materials also have widespread applications, not least commercial aircraft.

¹⁷ *ibid.* page 10

¹⁸ Relevant technology clusters: new computer technologies; managing and processing real-time social data; multi-sensory input and sensing; photonics; sensor networks and speckled computing

¹⁹ Relevant technology clusters: hydrogen economy, energy materials and storage; closing the nuclear cycle; energy scavenging; synthetic biology; and syngas

²⁰ Relevant technology clusters: metamaterials; display technologies; low impact materials; and organic solar cells

Regenerative medicine²¹

- 3.9 One of the most exciting – but complex – areas of science with potential commercial application relates to life science and, particularly, regenerative medicine. Although the lead-in time is substantial, over future decades, significant breakthroughs are expected linked to stem cell research. The report argues that there are translational, regulatory and financial challenges, but that eventually, approaches to healthcare will be transformed. The challenge for the UK – it argues – is to retain the associated researchers and drug discovery companies in the UK.

Intellectual property (IP)

- 3.10 The seventh growth area identified by the report is quite different in character. It concerns the value of intellectual property *per se* which – it argues – is poorly understood and undervalued in a UK context. ARM is cited as an example of a firm that has thrived on the basis of owning and licensing IP – not engaging in the use of the IP directly. The report argues that the UK needs to understand the value of its IP better and how – as a consequence – it might be exploited most effectively.

Implications for Cornwall and the Isles of Scilly

- 3.11 The findings of the report on *Technology and Innovation Futures* were very wide-ranging in their scope. Some elements may, in practice, be of little consequence in relation to the economic future of Cornwall and the Isles of Scilly. However, overall, we think there are some important messages and insights of which the LEP should take note in preparing its strategy and business plan:
- *first, the opportunities (and, to some extent, the threats) linked to manufacturing on demand ought to be thought through.* Over recent years, there has been substantial investment in Cornwall and the Isles of Scilly’s research base, much of it supported through the Convergence Fund. Looking ahead, it would seem prudent to establish appropriate small-scale manufacturing capacity close to the physical centres of research. The threat for the area is that – compared to elsewhere – these are unlikely to be close to major centres of population. Nevertheless, an appropriate manufacturing provision ought to generate some impacts
 - *second, Cornwall and the Isles of Scilly is benefiting from the roll-out of superfast broadband and therefore businesses within the area ought to be able to help spearhead – or at least take advantage from – the second internet revolution.* For businesses within the area, this does open real possibilities that are decoupled from the conventional costs of distance: seizing the full potential of the internet revolution ought to be a priority, given the infrastructure provided by the roll-out of superfast broadband

²¹ Relevant technology clusters: stem cells; tailored medicine; and the cheap genome

- *third, Cornwall and the Isles of Scilly undoubtedly has opportunities linked to the energy transition.* It has unique and wide-ranging assets and potentials, relating both to the natural environment and the research base, and the economic opportunities associated with these will need to be seized. This is an issue that we consider further in the chapters which follow.

4: Economic trends and drivers

Outlining the context: Key facts for Cornwall and the Isles of Scilly

- Cornwall and Isles of Scilly's **economic output** expressed in terms of GVA for 2009 was £7 billion, down 2.6% from the 2008 figure of £7.2 billion (Source: Cornwall Council, based on Office for National Statistics, Regional, sub-regional and local Gross Value Added, 14 December 2011)
- Cornwall and Isles of Scilly's **per capita GVA** equalled £13,129 in 2009, down 2.9% from the 2008 figure. This is equal to 65.6% of the UK average (£20,000²²) (Source: Cornwall Council, based on Office for National Statistics, Regional, sub-regional and local Gross Value Added, 14 December 2011)
- In 2007, overall GVA/FTE worker (a measure of **productivity**) in Cornwall was 64% of the GB average. It was lower than the GB average in every sector other than property & real estate, and hotels & catering. Between 1998 and 2001, Cornwall's position relative to the GB average improved on GVA/FTE worker measures. It then fell every year between 2001 and 2007, from 73.7% to 64.5% of the GB average. The trend across the south west was similar, although less extreme (Source: *Economic productivity in Cornwall – constraints and challenges*, Cornwall Council, May 2010; and *Economic productivity in Cornwall*, Cornwall Council, 2009)
- Between January 2008 and January 2011 **the number of businesses** in Cornwall and the Isles of Scilly that were either VAT registered, or PAYE registered, or both, fell by 4.1% (compared to a fall of 3.7% across GB) (Source: *Cornwall's Economy At A Glance*, Cornwall Council, December 2011)
- In 2010/11, 13.8% of the working age population were **self-employed** in Cornwall and Isles of Scilly, notably higher than the GB average (9%). At the beginning of 2011, 23.1% of the businesses in Cornwall and the Isles of Scilly had an **annual turnover of under £50,000** (compared to 18.9% across GB) (Source: *Cornwall's Economy At A Glance*, Cornwall Council, December 2011)
- In 2010, 26.6% of working age people in Cornwall and the Isles of Scilly were **qualified to NVQ4+** (degree or equivalent and higher), compared to around 31% in GB (Source: *Cornwall's Economy At A Glance*, Cornwall Council, December 2011)

²² All figures exclude GVA attributed to Extra Regio – offshore etc.

Overall economic outlook

- 4.1 Overall, the short-medium term economic outlook for the UK economy is weak. In its March 2012 report, the Office for Budget Responsibility (OBR) anticipated that Gross Domestic Product (GDP) would grow nationally by 0.8% in 2012; 2.0% in 2013; and 2.7% in 2014. In presenting this central forecast, OBR noted that *“the situation in the euro area remains a major risk to our forecast”*. It continued, *“our central forecast assumes that the euro area finds a way through its current problems and that policymakers eventually find a solution that delivers sovereign debt sustainability and the normal operation of the financial sector”*. OBR commented that net trade and business investment ought to drive medium-term growth. However compared to previous forecasts, OBR’s most recent statements have been cautious in this regard; in March 2012, OBR commented that *“we believe that non-financial companies’ balance sheets may be weaker than official statistics suggest”*.
- 4.2 OBR’s forecasts however relate to the UK economy as a whole. For Cornwall and the Isles of Scilly LEP, the key issue is growth prospects for the local area. These are strongly influenced by macro-economic conditions and Cornwall and the Isles of Scilly is, obviously, part of the UK economy. However they are also influenced by local factors, notably the sectoral make-up. A set of specially-commissioned economic projections was provided by Cambridge Econometrics as part of the evidence base for the LEP’s Strategy and Business Plan. Overall, these suggested that growth prospects were somewhat weaker than those identified at a national level – although their broad shape was similar. A headline analysis of the projections for Cornwall and the Isles of Scilly is written up separately as **Evidence Paper 4**.

Structural economic trends and drivers

- 4.3 Enshrined within these forecasts are a number of long term structural changes in the global economy. These are important for Cornwall and the Isles of Scilly and they are discussed briefly in the paragraphs that follow.

Global cost competition in commodity and mass markets

- 4.4 The emergence of low cost competition from the BRIC countries (Brazil, Russia, India and China) is leading to fierce price-based competition in mass market products: while wage levels in Cornwall and the Isles of Scilly are low relative to those elsewhere in the UK, they are high by international standards. As such, it is increasingly important to develop products that are less prone to low cost competition. For Cornwall and the Isles of Scilly, this could include:
- niche markets including those where design sophistication can lead to a premium price
 - innovative new areas where companies can introduce new products before foreign competition has time to react or where technologies can be protected through Intellectual Property Rights (IPR)
 - products and services specifically tailored for the local markets

- products and services where it is possible to compete on the basis of “content” rather than price.

Cost of inputs, particularly energy

- 4.5 A second structural economic change relates to input costs – particularly those linked to energy. Energy prices are rising rapidly and hence where businesses consume significant amounts of energy (either through their production processes or in the context of distribution), energy costs are an increasingly important consideration. This is a major challenge for businesses in Cornwall and the Isles of Scilly, given the area’s relatively peripheral location. The surrounding issues are considered in more detail later in this document (see paragraph 5.7).

The importance of knowledge, service and added value

- 4.6 Consistent with both of the structural economic drivers identified above, there is an increasing imperative for businesses to compete on the basis of knowledge, service and added value. This has many different implications and manifestations. One – consistent with the observations in paragraph 3.3 – is that even production-based activities increasingly need to be considered as a service which is bespoke and tailored, responding to the needs of customers: only in this way can high cost producers address the competition provided by low cost substitutes.
- 4.7 Another crucial – and consequential – consideration relates to workforce skills. Businesses are increasingly unlikely to be able to compete unless their staff are well qualified, innovative and creative. For successful businesses across a wide range of sectors, the requirement – increasingly – is for what academics have defined (albeit imprecisely) as the “*knowledge worker*”. This is not a statement about a particular sector, qualification, or occupation; instead it is a way of working that is non-routine and creative and, as – as one author put it – requires “*thinking for a living*”.
- 4.8 Linked to this, there is a growing body of evidence that successful businesses increasingly will be those that recognise the value of, invest in and “flex” networks and relationships both within their own organisation (across functional specialisms) and across their wider “ecosystem”. The latter includes, *inter alia*, relationships with suppliers, customers, collaborators, etc. Networked business models of this type are certainly facilitated by improvements in broadband connectivity, but they are not simply an IT solution. Instead, the culture of doing business is becoming far more “permeable” than in the past. This “permeability” – in labour markets, in innovation and in business support – will increasingly be the route to greater competitiveness²³.

²³ This argument is made in *The Future of Work*, Lynda Stratton – published in *Business Strategy Review*, Q3 – 2010, pages 16-23. It is also wholly consistent with the evidence gathered in *Cambridge Cluster at 50*, Report by SQW to EEDA and partners, 2011

Availability of capital

- 4.9 A fourth structural economic issue surrounds the availability of capital. The current recession was, in large part, precipitated by the credit-crunch. Particularly following the collapse of the American investment bank, Lehmann Brothers, in 2008, banks became increasingly cautious in their lending decisions – in sharp contrast to their practices over the preceding decade.
- 4.10 The challenges in accessing capital are continuing and they are affecting businesses everywhere, not least in Cornwall and the Isles of Scilly. Most businesses rely on banks for the capital they need to grow in the short-medium term. Moreover bank lending can be significant in the context of ownership succession (e.g. through management buy-outs) and this in turn is important in relation to medium-long term growth. Achieving sustained economic growth without bank lending is very challenging; yet this is the scenario which is facing most firms currently.

5: Environmental trends and drivers

Outlining the context: Key facts for Cornwall and the Isles of Scilly

- In Cornwall, total emissions of **greenhouse gases** (GHG) were 4,528,121 tonnes in 2009. The contributions from key sectors were: transport 27%, domestic 21%, commercial 7%, industrial 18%, waste and water 6.5%, and agriculture 20% (*Source: Green Cornwall Strategy, 2011-20, page 9*)
- Cornwall's total **energy requirements** in 2007 were 12,057GWh, of which 8,547GWh is non-transport related. Total **renewable electricity production** levels of 74.968 MW have been achieved (*Source: Green Cornwall Strategy, 2011-20, page 9*)
- The coast and seas of Cornwall and the Isles of Scilly host a wide range of **biodiversity with habitats** including estuaries, rocky shores and reefs, mudflats, dunes, sub-tidal sand banks, maerl beds, eel grass beds and kelp forest. There are 87 marine Biodiversity Action Plan species (crustaceans, mammals, fish, molluscs, cnidarians, algae, etc.) within the coastal waters of Cornwall and the Isles of Scilly (*Source: A Future for Maritime Cornwall: Draft Cornwall Maritime Strategy, 2011*)
- The **costs of water, sewerage charges, energy and transport fuels** are higher for the average household in Cornwall than the UK average. One in five households was in fuel poverty in 2006 (*Source: Cost of Living – Cornwall, Cornwall Council February 2011 (draft)*)
- As a result of **climate change**, the following changes are likely across the South West: Temperature - average warming of 1.0 to 2.5oc and very warm years becoming more frequent; Precipitation - 5-15% wetter winters, 15-30% drier summers, heavy rainfall more common, significant decrease in snowfall, greater contrast between summer and winter seasons; Cloud cover - reduction in summer and autumn cloud cover, small increase in winter cloud cover; Extreme weather events - more severe and frequent events such as river and coastal flooding (*Source: South West Climate Change Impacts Partnership*)
- Cornwall and the Isles of Scilly has an outstanding **natural environment**. The Isles of Scilly is designated as an Area of Outstanding Natural Beauty. The Cornwall Area of Outstanding Natural Beauty covers 958 sq. km and consists of 12 separate geographical areas which include ten stretches of Cornish coastline, the Camel Estuary and Bodmin Moor

- 5.1 The natural environment in Cornwall and the Isles of Scilly is one of the area's most distinctive assets. However there are many wider environmental trends and drivers – of different forms and a variety of geographical scales of impact – which will have an influence over the next twenty years. Some of the more significant are outlined briefly in the paragraphs below.

Climate change

- 5.2 The Foresight programme has looked extensively at issues relating to climate change, and the types of impacts it is likely to have.

- 5.3 The adverse impacts of climate change are becoming increasingly apparent within the UK. These include higher temperatures, more frequent extreme weather events (such as storms and heatwaves), more frequent flooding (from rivers, the sea, and following storms) and rising sea levels. These pose a number of threats for Cornwall and the Isles of Scilly, including:
- the loss of land as a result of coastal erosion and rising sea levels
 - fluvial and tidal flood risks
 - adverse impacts on agriculture and wider eco-systems from adverse and extreme weather.
- 5.4 Nationally, the *Climate Change Act, 2008*, provides a legally-binding long-term framework to cut greenhouse gas emissions and a framework for building the UK's ability to adapt to the changing climate. The Act requires a UK-wide *climate change risk assessment* (CCRA) that must take place every five years; a *national adaptation programme* (NAP) which must be put in place and reviewed every five years, setting out the Government's objectives, proposals and policies for responding to the risks identified in the CCRA; and *Adaptation Reporting Powers* (not applicable in Northern Ireland) which enable the Secretary of State to direct "reporting authorities" to prepare climate change adaptation reports.
- 5.5 The first CCRA was published by Defra in 2012. In relation to the business sector (defined to exclude agriculture), this identified four major risks:
- decrease in output for UK businesses due to an increase in supply chain disruption as a result of extreme events
 - increase in monetary losses as a result of interruption to business from flooding
 - greater variability in the availability of water
 - potential loss of staff hours due to high internal building temperatures (assessed as being of particular relevance to the health, education and retail sectors, which have large workforces).
- 5.6 However it also identified two major opportunities – and potentially, these are important for businesses within Cornwall and the Isles of Scilly. The first related to increased opportunities in relation to tourism and leisure within the UK; the CCRA took the view that there could well be increased demand for holidays in the UK as summer temperatures increase in both the UK and in popular destinations abroad. The second major opportunity was identified in relation to the delivery of adaptive measures (products and services) as part of the move to a low carbon economy. As the Cornwall and Isles of Scilly LEP develops its economic strategy, both findings from CCRA are important²⁴.

²⁴ UK Climate Change Risk Assessment: Government Report Published by Defra, January 2012

Energy

- 5.7 Closely related to the drivers deriving ultimately from climate change are those which link explicitly to energy. Shortly after the Coalition government came into power, the first *Annual Energy Statement* was published. This stated that “*the mission of this Government is to support the transition to a secure, safe, low-carbon, affordable energy system in the UK, and mobilise commitment to ambitious action on climate change internationally*”. Government acknowledged that this transition was challenging – but also an opportunity. Specifically:

It requires major investment in new technologies to renovate our buildings, electrification of much of our heating, industry and transport, and cleaner power generation. And it requires major changes in the way energy is used by individuals, by industry, and by the public sector. The promise of transformation is a huge economic opportunity as we grow out of recession²⁵.

- 5.8 The catalysts for the energy transition are essentially two-fold. First, there is a concern that the production of fossil fuels will peak within the next decade and then available supply will simply diminish (due to due to a combination of resource scarcity and exorbitant development costs). Second, there is an overarching concern with regard to greenhouse gas emissions (and the combustion of fossil fuels are a major source), coupled with legally binding commitments to reduce them. The consequences, however, are profound.
- 5.9 Fuel costs in rural areas are already high. Work undertaken by Defra, for example, has suggested that in June 2010, the average price of unleaded fuel in sparse rural areas was 2.1p per litre more than the national average²⁶. Looking ahead, one hypothesis is that the shortage, and high cost, of fuel might affect migration patterns. The consequence could be that people will re-concentrate in urban areas so that (i) they can benefit from district heating for their homes, and (ii) switch to public transport to avoid the very high costs of driving a car²⁷. In practice, a combination of social adjustments to higher fuel costs and technological improvements may militate against changes of this nature, but they are certainly plausible. For an area like Cornwall and the Isles of Scilly – which is peripherally located vis-à-vis the principal centres of population – the implications are substantial.
- 5.10 However the energy transition also brings some important opportunities for Cornwall and the Isles of Scilly. The area has substantial assets – and a strong local knowledge base – in respect of renewable energy. Although the development process is slow – particularly with wave and geothermal power – the opportunity is there for the long term. Ventures like the South West Marine Energy Park and the Wave Hub (offshore from Hayle) ought to be important over the decades ahead.

The food and farming system

- 5.11 Drawing on one of the major Foresight projects of recent years, it is evident that the *global food and farming system* is under significant pressure and major changes are likely to

²⁵ *Annual Energy Statement*, DECC – July 2010

²⁶ *The cost of fuel in rural areas*, Defra, March 2012

²⁷ See for example *Land Use Futures*, Government Office for Science, 2010

materialise over future decades. Globally, population growth is fuelling an overall increase in demand for food and as levels of affluence rise, the demand for processed foods (which are resource intensive to produce) is growing quickly. At the same time, there is increased competition for land, water and energy, and the need to adapt to the effects of climate change. In parallel, the food system is becoming increasingly global in character, with significant (and growing) volumes of international trade²⁸.

5.12 Within the UK, the multiplicity of pressures on the food system is increasingly recognised. Defra produced a national strategy for food, shortly before the change in government in 2010²⁹. This set out the UK's first food strategy for 50 years and it emphasised concerns relating to food security, healthy eating, waste and sustainability (particularly in the context of climate change), and the profitability of the food supply chain. Although there is no evidence that the Coalition government disputes its central thesis, the initiatives set out in *Food 2030* have not been identified as an immediate priority and instead, a joint government/industry food and drink export action plan was published in January 2012³⁰. However, the UK's main public funders of food-related research and training are working together through the Global Food Security programme³¹; this is focusing on four key themes which resonate strongly with the priorities set out in *Food 2030* and they take forward many of the principal concerns identified in the major Foresight report – economic resilience, resource efficiency, sustainable production, and healthy diets.

5.13 Within Cornwall and the Isles of Scilly, the food and farming sectors are important. In employment terms, a recent study found that within Cornwall, core agri-food activities provide employment for 24,800 people within a total employment of 63,700 in all food and drink related sectors. The same report noted further that:

- agriculture is responsible for about three times as much employment in Cornwall as it is generally in Great Britain
- over one third of Cornwall's manufacturing employment is in food and drink processing compared to only 15% in Great Britain's manufacturing as a whole.
- Cornwall is particularly well represented (in employment terms) in the processing and preserving of meat and production of meat products and the manufacture of bakery and flour based products and to a lesser extent in the manufacture of dairy products
- 45% of the county's wholesaling employment is food and drink related compared to only 21% in Great Britain as a whole³².

5.14 Looking to the future of food and agriculture in Cornwall and the Isles of Scilly, the report identified a number of key themes which resonate strongly with those in earlier parts of this chapter. Reporting on the findings of a business survey, the authors noted a widespread interest in alternative energy sources. They continued:

²⁸ See *Foresight. The Future of Food and Farming (2011)* The Government Office for Science, London

²⁹ *Food 2030: The UK's National Food Strategy*, Defra, 2010

³⁰ *Driving Export Growth in the Farming, Food and Drink Sector: A Plan of Action* published by Defra, January 2012

³¹ See <http://www.foodsecurity.ac.uk/assets/pdfs/gfs-strategic-plan.pdf>

³² *A review of Cornwall's Agri-Food Industry* Centre for Rural Policy Research, University of Exeter, 2011

This is largely fuelled by a desire to offset the impact of significant energy cost inflation but also for some, recognition of the importance of improving the environmental sustainability of their business. Regardless of motivation, there appears to be significant potential for greening the energy infrastructure of the sector. This may involve solar and wind energy but also the generation of energy from biomass and the sector's food waste, thus reducing/recycling food waste and generating green energy at the same time. Options such as this, which have the potential to both reduce costs and create new income streams, could provide one solution to the sector's current struggle with costprice pressure³³.

³³ *ibid.* page 73

6: Political trends and drivers

EU context

- 6.1 For Cornwall and the Isles of Scilly, the EU policy context is important looking ahead, particularly as attention turns to the successor to the Convergence Programme.

Europe 2020

- 6.2 Of particular importance is *Europe 2020*, the EU's growth strategy for the next decade. It identifies three main priorities, each of which embraces priority themes as well as quantified targets (at an EU level). These are summarised in the table below.

Table 6-1: *Europe 2020 – Key Themes*

Priorities	Areas in which performance should improve	Key EU targets
Smart Growth	<p>Education (encouraging people to learn, study and update their skills)</p> <p>Research/innovation (creating new products/services that generate growth and jobs and help address social challenges)</p> <p>Digital society (using information and communication technologies)</p>	<p>Combined public and private investment levels to reach 3% of EU's GDP as well as better conditions for R&D and Innovation</p> <p>75% employment rate for women and men aged 20-64 by 2020– achieved by getting more people into work, especially women, the young, older and low-skilled people and legal migrants</p> <p>Better educational attainment – in particular: – reducing school drop-out rates below 10% – at least 40% of 30-34-year-olds with third level education (or equivalent)</p>
Sustainable growth	<p>Building a more competitive low-carbon economy that makes efficient, sustainable use of resources</p> <p>Protecting the environment, reducing emissions and preventing biodiversity loss</p> <p>Capitalising on Europe's leadership in developing new green technologies and production methods</p> <p>Introducing efficient smart electricity grids</p> <p>Harnessing EU-scale networks to give our businesses (especially small manufacturing firms) an additional competitive advantage</p> <p>Improving the business environment, in particular for SMEs</p> <p>Helping consumers make well-informed choices.</p>	<p>Reducing greenhouse gas emissions by 20% compared to 1990 levels by 2020. The EU is prepared to go further and reduce by 30% if other developed countries make similar commitments and developing countries contribute according to their abilities, as part of a comprehensive global agreement</p> <p>Increasing the share of renewables in final energy consumption to 20%</p> <p>Moving towards a 20% increase in energy efficiency</p>
Inclusive growth	<p>Raising Europe's employment rate – more and better jobs, especially for women, young people and older workers</p> <p>Helping people of all ages anticipate and manage change through investment in skills & training</p> <p>Modernising labour markets and welfare systems</p> <p>Ensuring the benefits of growth reach all parts of the EU</p>	<p>75% employment rate for women and men aged 20-64 by 2020– achieved by getting more people into work, especially women, the young, older and low-skilled people and legal migrants</p> <p>Better educational attainment – in particular: – reducing school drop-out rates below 10% – at least 40% of 30-34-year-olds with third level education (or equivalent)</p> <p>At least 20 million fewer people in or at risk of poverty and social exclusion</p>

UK Context

- 6.3 Shortly after the coalition government came into power, its *Programme for Government* was published. Implicit within this were three key themes that (arguably) summarise much of its subsequent policy: localism and the “big society”; service delivery reforms (in which the *leitmotif* is again one of radical devolution); and public sector spending restraint (which – in many respects – has been overarching).
- 6.4 With regard specifically to the economy, the coalition government has been compelled to act on a variety of fronts because of the economic down-turn. Early in its term, the coalition government published a White Paper (in October 2010) entitled *Local Growth: Realising Every Place’s Potential*. This included an announcement of the first 24 Local Enterprise Partnerships (including that for Cornwall and the Isles of Scilly) and it launched the Regional Growth Fund. Subsequently, it invited LEPs to bid for Enterprise Zones, which could be an important source of future revenue; Cornwall and the Isles of Scilly LEP succeeded in securing an EZ at Newquay.
- 6.5 In November 2010, government announced a wide-ranging growth review to establish what each part of government was doing to remove barriers to investment. Deriving from BIS’s growth review, the *Plan for Growth*, was published alongside Budget 2011. It included a package of measures to create a new model of economic growth by: creating the most competitive tax system in the G20; making the UK the best place in Europe to start, finance and grow a business; ensuring investment and exports as a route to a more balanced economy; and creating a more educated workforce that is the most flexible in Europe. Specific commitments that are – perhaps – especially important in relation to the LEP’s Strategy and Business Plan include:
- the provision of finance for new and growing businesses
 - further investment in innovation and research (including through nine new university-based Centres for Innovative Manufacturing; the launch of a Technology and Innovation Centre in high-value manufacturing; investment in facilities to support the commercialisation of research).
- 6.6 In November 2011, as part of the *Rural Growth Review*, Defra announced a series of measures aimed to accelerate economic growth in rural areas. These were intended to address key rural barriers and they included: support to enable rural businesses to grow and diversify; support for rural tourism; support for the agri-food sector; support for green growth (through renewable energy); and measures to reduce regulation on farms.
- 6.7 Finally, it is important to mention the *National Planning Policy Framework* (NPPF). This is potentially of major importance to long term economic growth prospects of Cornwall and the Isles of Scilly. NPPF was published in final form by CLG in March 2012, following a great deal of controversy and debate during an earlier consultation phase. Apart from a radical simplification of planning guidance, a key theme within NPPF surrounds a “*presumption in favour of sustainable development*”. This means that development proposals ought to be approved if they are in accordance with an adopted Local Plan, or if a Local Plan is absent,

silent or relevant policies are out of date. Government's intention, broadly, is to provide an unambiguously supportive environment for sustainable economic growth.