

South East Diamonds for Investment and Growth

Building a Knowledge Economy

Report 2: Policy Review

March 2010


CLES
Centre for Local
Economic Strategies


**SOUTH EAST
DIAMONDS**
for investment and growth



March 2010

***BUILDING A KNOWLEDGE ECONOMY: RESEARCH AND ACTION PLANNING FOR
THE SOUTH EAST DIAMONDS FOR INVESTMENT AND GROWTH***

REPORT 2: POLICY REVIEW

Final report by

CLES Consulting

Presented to

South East Diamonds for Investment and Growth

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1 INTRODUCTION

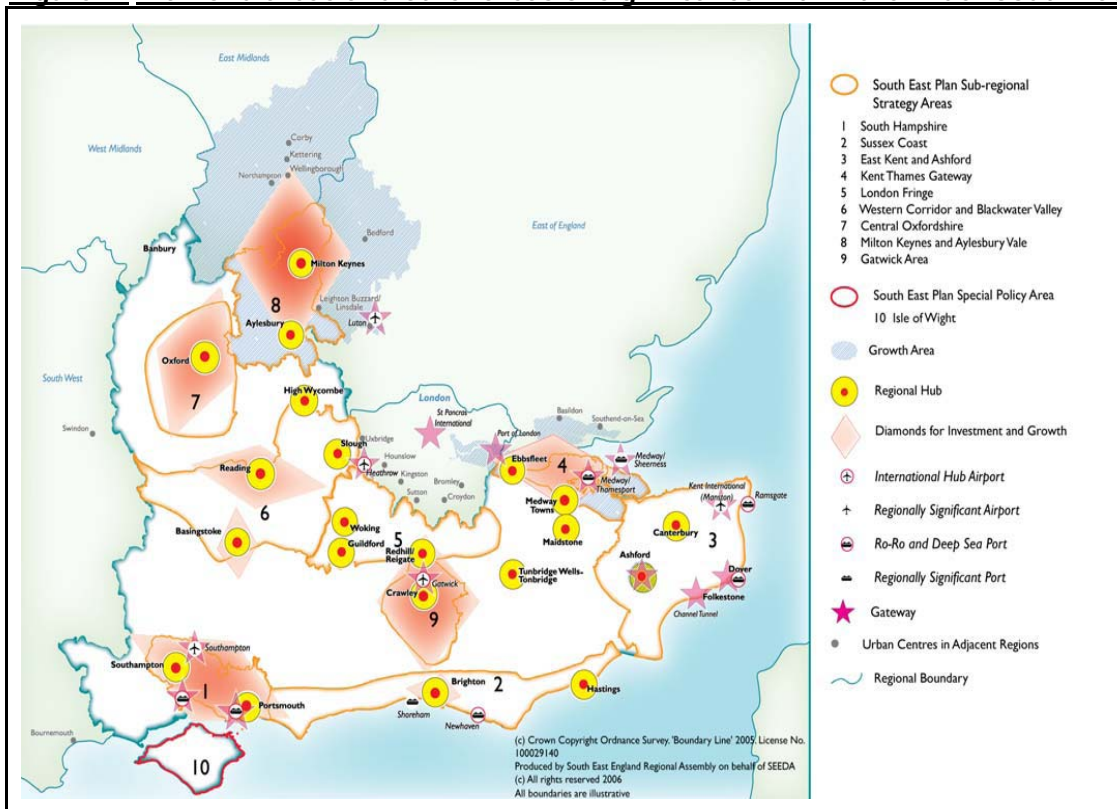
CLES Consulting was commissioned by South East Diamonds for Investment and Growth (SEDFIG Partnership) in October 2009 to undertake research and action planning on the knowledge economy within the 'Diamond' areas shown in figure 1 below; i.e. the functional economic areas with the most potential to accelerate long-term sustainable economic growth in the South East of England.

The purpose of the commission was to assess the size and potential of emerging industrial sectors within South East Diamonds focussing on knowledge economy sectors and the development of related policy actions. However, as part of a wider consideration, it also makes reference to the 'enabling factors' of growth including regional assets and infrastructure.

The project follows the requirements outlined in the original brief, providing SEDFIG with an evidence base to help identify future priorities around the development of its knowledge economy. As such, it follows the standard geographical definitions set out in the Diamond's prospectus and uses the same (latest) supporting methodology agreed with partners to quantify each local economy. The work's outputs consist of the following **five** reports:

- 1) **Executive Summary** – Providing a synthesis of the research findings and recommendations;
- 2) **Policy Review** – Identifying policy initiatives in various sectors of the knowledge economy within the UK and its implications for SEDFIG, together with a narrative on defining the knowledge economy and outlining critical success factors;
- 3) **Place analysis** - of economic performance within the Diamonds, including a review of sector strengths by location and supply side issues including employment, skills;
- 4) **Sector analysis** – detailed analysis of the sectors outlined for potential growth in the Diamond's 'Prospectus for Prosperity' and HMG 'New Industry New Jobs' policy documents;
- 5) **Action plan** – outlining a series of development actions for partners and lobbying messages for central and regional policy makers, as well as summarising potential research-paths to drive further strategic thinking and understanding in this area.

Figure 1: Diamond areas and other areas of significance within the wider South East ¹



¹ Source: SEEDA, Regional Economic Strategy 2006

2 DEFINING THE KNOWLEDGE ECONOMY

This report sets out:

- ❑ A definition and overview of critical success factors in a knowledge economy; and
- ❑ a review of national and regional policy papers relating to knowledge intensive businesses.

2.1 Definitions

In the 1990s, the Organisation for Economic Co-operation and Development (OECD) proposed a generic definition of the term in developing strategies for individual countries:

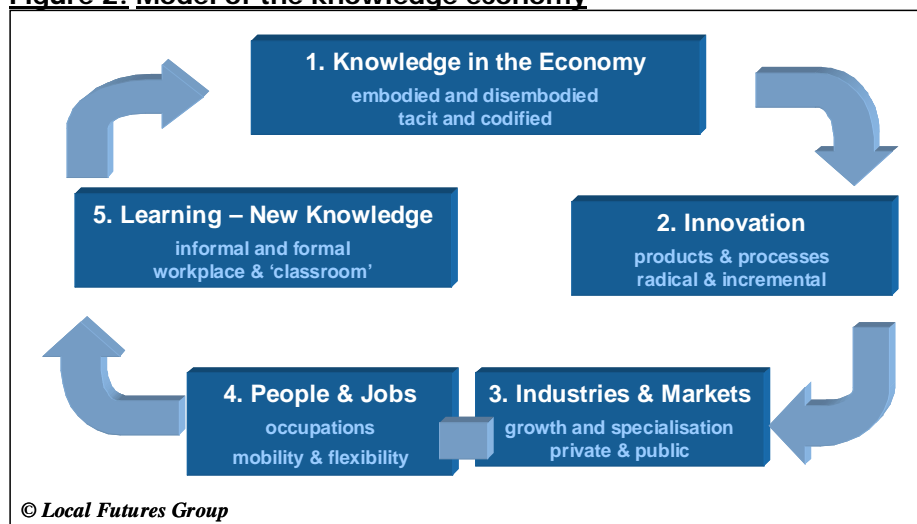
'A knowledge economy is one that encourages its organisations and people to acquire, create, disseminate and use codified and tacit knowledge more effectively for greater economic and social development.'

Approaches to defining and measuring the development of the knowledge economy have concentrated on the growing importance of:

- ❑ **Knowledge Based Industries/Sectors - KBIs (OECD definition)** – high technology industries (ICT, aerospace, pharmaceuticals) and financial and business services;
- ❑ **knowledge based functions in all sectors** – knowledge creation (research and development; and design), economic co-ordination (marketing, distribution, administration) and internal transfer of knowledge (training);
- ❑ **knowledge workers** – professional, managerial, scientific and technical occupations across all industry sectors;
- ❑ **knowledge related investments** – research and development, public/private education, ICT hardware, software and services; and
- ❑ **intangible capital** – production and dissemination of knowledge (education, training, research and development, information and co-ordination) and investment geared to sustaining the physical state of human capital (health expenditure).

Local Futures¹ created a conceptual schema for understanding the essentials of the knowledge economy shown in Figure 2:. This model attempts to show how knowledge creates potential for innovation in all sectors, with consequent impacts on industries and markets, including private and public sectors. In turn, these changes in the economy and amongst employers lead to extensions and refinements in the division of labour – what jobs people do (occupations), sectors they work in (industries) and where they carry out their work (locations).

Figure 2: Model of the knowledge economy²



² Source: Local Futures Group, 2006

Importantly, while the state of knowledge in the economy is partly determined by investment in research and development, and formal education and training (from university to nursery classrooms), economists believe that the greater dynamic in knowledge production comes from informal and peer-to-peer learning:

- ❑ learning on the job;
- ❑ learning through interacting; and
- ❑ learning through doing.

In this model, universities are a key factor in knowledge production and diffusion – from research and development labs to producers of advanced human capital. Universities are drivers and chief supporters of the model, by providing critical inputs and accelerating the knowledge economy. The reality is that the bulk of the knowledge economy cannot be discovered in existing UK national economic accounts and national statistics. Further, as business economists point out, knowledge based intangible capital / competitive assets (e.g. organisational learning, brands or customer capital) are not typically included in the balance sheets of big or small companies.²

According to Nokia, acknowledged as one of the world's most innovative companies, there are three areas of intangible assets required to successfully develop innovative systems and processes:

- 1) **internal structure** – patents, concepts, models, computer and administrative systems and organisational structure;
- 2) **external structure** – relationships with customers and suppliers, brand names, trademarks and reputation, or image; and
- 3) **human capital** – people's ability to act in various situations, including skills, education and experience, values and social skills.

2.2 Limitations

It is clear that measuring the size and economic value of the knowledge economy is a complex issue. It must be realised that the knowledge economy is not just limited to a few high technology products and services and that it extends across a wide range of firms and industry sectors which we outline throughout the study.

Another important consideration is that not all jobs which fall under a KBI 'industry sector definition' (i.e. employed within KBI firms/organisations) are knowledge intensive. This is important in two respects, as follows:

- 1) that public administration, education and health sectors cannot be classed entirely as knowledge intensive - but it is not possible to disaggregate the sectors further using existing national statistics - making it difficult to quantify the 'knowledge economy' with degrees of precision; and
- 2) that KBI's/firms support a range of occupations, ranging from knowledge intensive professional activities to auxiliary jobs that deliver essential support services.

It is therefore important to consider both the stock of skills - and the skills development needs - of the whole labour force that contributes to local productivity, performance and 'knowledge economy'. Indeed high skilled niches cannot thrive in a sea of low skills; and the productivity of the most skilled workers inherently depends on the skills and productivity of those around them.

2.3 Long-term opportunities and challenges for the UK: External drivers of change

There are a number of key drivers of change that will affect the future growth potential of the UK economy. These are heavily linked to the prominence of highly knowledgeable intensive activities. These drivers were outlined by HM Treasury in November 2006 in a report entitled *'Long-term opportunities and challenges for the UK: Analysis for the 2007 Comprehensive Spending Review'*³ highlighting five challenges for UK growth:

- 1) **population and socio-economic change** – meeting the challenges of an ageing population (and the opportunities for business and employment that may emerge) and the associated rising consumer expectations of public services;
- 2) **globalisation** – the balance of international economic activity is currently shifting towards the emerging markets, in particular China and India, which implies an increase in cross-border competition;
- 3) **innovation and technological diffusion** – the pace of innovation and technological diffusion is a key driver of productivity in the economy and therefore has an important role in the creation of more competitive markets;
- 4) **increasing pressures on natural resources and global climate** – as the cost of carbon rises in response to tighter climate change mitigation policies, further industrial restructuring will be required; and
- 5) **continued global uncertainty** – addressing the ongoing threats of international terrorism and global conflict.

2.3.1 Population

The UK is predicted to experience significant demographic change over the next 10 to 20 years. The country will see both a general increase in population, supported by migration, and an increase in the proportion of individuals aged 65 years and over. Population increases across the UK will also be subject to significant regional variations, with the South East, London, the East, and the South West projected to experience significantly large increases in population.

Government projections also include assumptions about future trends in internal migration, where the East, South East and South West are predicted to witness a net internal (within UK) inflow between now and 2017. By contrast, it is assumed that London and the North West will observe a net internal outflow over the next decade (migration out of London tends to be to locations within the wider Greater South East). Other trends include an increase in the numbers of women and older people entering the labour market and a rise in average incomes that is expected to lead to more demanding consumers, especially for public services.

2.3.2 Globalisation

The global economy is evolving to accommodate shifting trading patterns, the rise of new sources of economic growth and advances in technology. These changes have been partly caused by the significant economic growth of formerly developing countries. The Treasury has predicted that by 2017, China and India will have nearly doubled their share of world income with economies larger than the UK, France and Germany combined. This increasingly competitive global environment presents the UK with the following challenges:

- ❑ Shifting balance of global economic activity;
- ❑ greater competition for investment flows;
- ❑ increasing international specialisation;
- ❑ greater rewards from innovation;
- ❑ higher levels of demand for skills; and
- ❑ growing pressure on energy resources and the environment.

In order to remain in a globally strong economic position, the UK will need to enhance the sectors where it holds a true international comparative advantage (e.g. sub-sectors of the advanced manufacturing and engineering industry; and in financial and professional services).

2.3.3 Innovation and Technological change

Technological change is a key driver of economic growth and productivity. The Government has identified eight 'clusters' of technological development that are most important for the UK⁴, which the *'Building Britain's Future: New Industry's, New Jobs'*⁵ document complemented:

- 1) **information and knowledge management** – refining and streamlining the handling of data, information and knowledge, to increase the speed and accuracy of processes in a wide range of areas, from government to finance and engineering;
- 2) **sensors and tracking** – improving the monitoring, modelling and management of various systems, such as natural hazards, space and weather systems, and the movement of goods and people;
- 3) **network interactions and communications** – mobile phone networks and the internet have the potential to impact on many areas of life, from the nature and capacity of early warning systems to the design of organisations;
- 4) **new security technologies** – will have benefits and implications for homes and businesses, supporting government policies aimed at crime, defence and counter terrorism;
- 5) **advanced materials** – in the future new 'smart' materials will be able to respond to changing conditions, indicating when repairs are required or even being able to self-repair and self-clean;
- 6) **nanotechnologies** – manipulate materials at a molecular level to give them enhanced properties (e.g. making them harder, tougher, self-healing or lighter). Nanotechnologies could enable better diagnosis and treatment of diseases, faster and more efficient computing and cleaner energy sources;
- 7) **mind and body sciences** – hold the potential for new and better medical treatments based on a greater understanding of how the human mind and body function; and
- 8) **new energy technologies** – are expected over the next decade in response to the challenges of climate change, diminishing coal and oil reserves, and increasing global energy requirements resulting from population growth.

These eight clusters highlight the need for the UK to prioritise its production and delivery of higher value added products and services. This means encouraging technological development in the fields of transport, education, security, health and energy.

The above description of technological change strongly links into the Diamonds existing strengths, such as the world class bioscience and clusters of ICT/digital media industry.

2.3.4 Climate and environmental change

Climate change and the control of carbon emissions are defining a new legislative and policy agenda internationally and nationally. Whilst the effects are not yet fully defined, there is now clear national and international momentum towards substantive economic intervention to control emissions of greenhouse gasses and increasing adaptation to unavoidable climate change. This key driver and the response to it through building a low carbon economy and improving manufacturing are covered in Section 3.

2.4 The ingredients for a successful knowledge economy

There are a combination of factors that help to create an business environment that is conducive to sustaining a successful knowledge economy. We explore these in below and in more detail – in relation to the Diamond areas – later in the study reports.

Large, diverse business base

The scale and diversity of geographically proximate businesses, allied to a high concentration of skilled knowledge occupations, acts as a catalyst for both agglomeration economies (the benefits gained by businesses, supply-chains, labour markets and key assets being located in close proximity/well connected together); as well as helping to provide the potential environment for cross-sector networking and collaboration, each critical in driving up levels of innovation.

High levels of entrepreneurship

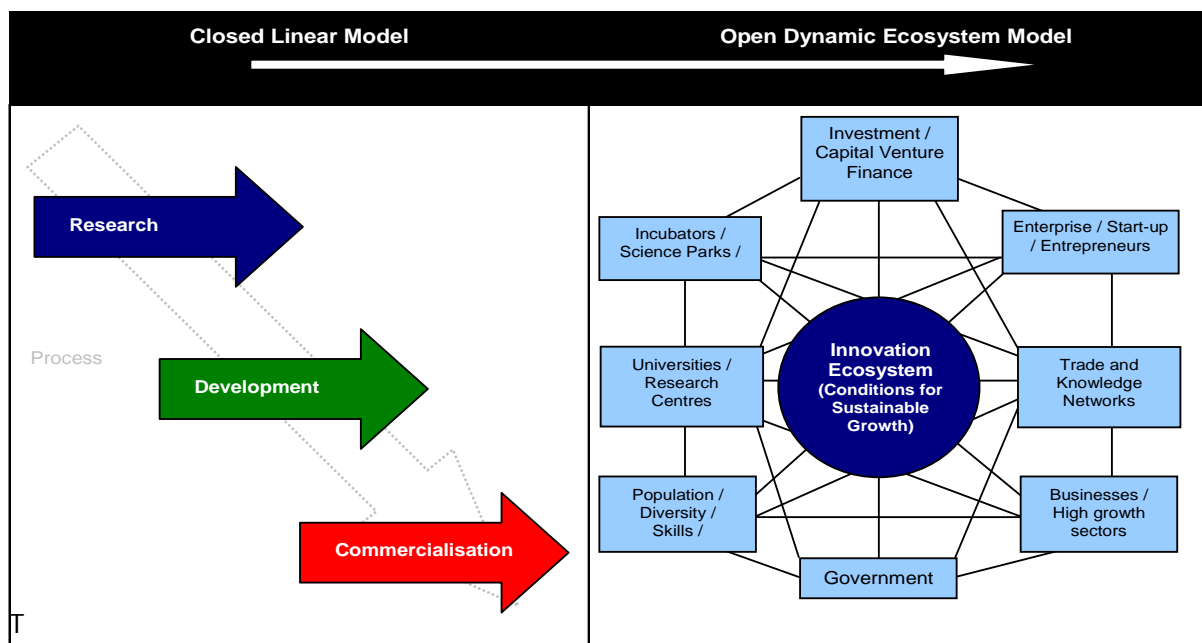
Business start-ups are important for economic growth and growing a knowledge intensive industry base, as new businesses are important in fostering new ideas and innovation (partly through enhancing levels of competition and collaboration). Large employers also have a key role in driving up new business start-ups through their supply-chains, as well as raising the demand for new and innovative products and services. For example, within the bioscience sector large companies rely to an extent on sourcing (and often buying-out) new innovations from micro and small enterprises.

Innovation

Innovation is perhaps the most important element of a knowledge economy and the main driver of long-term economic growth. Innovation is about delivering change and the successful exploitation of new ideas to provide economic or social value⁶; change in the products or services which an organisation offers; and change in the way in which they are created and delivered. Therefore innovation results not only from the exploitation of new ideas, but also from the improvement of existing ideas and their diffusion to other firms and institutions across an economy.

The concept of innovation is a complex one and has evolved to reflect new understanding about the importance, role and nature of innovation in the modern economy. Thinking has long-since shifted from closed or linear ways of seeing the innovation process (in which R&D inputs result in innovation outputs in the forms of new products and processes and value added) towards a systems approach to innovation, which looks at the interactions of a range of many different actors in an innovation system, at a variety of spatial scales, as shown in Figure 3: below.

Figure 3: The move from ‘linear innovation model’ to ‘innovation ecosystem model’³



³ Source: Manchester Innovation Ecosystem Audit, 2007

The 'whole-systems' approach recognises that innovation results from a series of complex interactions and feedback between many different actors and stakeholders, including government, firms, education, universities, research centres, trade associations, venture capital, and other public sector agencies⁷.

Quantity of highly skilled workers and job opportunities

The growth of the knowledge economy has increased the demand for highly skilled workers. Forecasts of future jobs and their skill requirements show that there is a growing need for workers holding graduate or postgraduate level qualifications, and also a good sized pool of those with intermediate qualifications (NVQ Level 3 or equivalent)⁸. However it important to also note that whilst these skills levels are a pre-requisite in the development of a knowledge economy, there is also a continuing need to improve skills across all parts of the economy, in order to ensure a highly productive and competitive workforce.

Growing the quantity and quality of job opportunities also acts as a key attractor to more mobile knowledge sector workers. Deeper labour markets, with higher concentrations of high skill employment, allows for greater specialisation in human capital. They do so by reducing the risks to workers of firm specific employment shock, while firms also benefit from the availability of a pool of specialised workers, particularly if they wish to respond to growth in demand in particular markets.

Universities and further education

Higher Education Institutions (HEI) are a prominent feature of knowledge economies. The role of universities in linking with business (both local and often global) and the emphasis on Knowledge Transfer Partnerships has intensified within the UK. Many universities produce spin-off companies, providing high-value goods and services often in high-tech sectors. This often attracts capital in the form of investors such as venture capitalists and business angels and, in areas such as Oxford and Cambridge, the critical mass of knowledge flow between universities, new graduate start-ups and established enterprises has led to a self-reinforcing cycle of investment, innovation and growth.

Other place based factors

Place based infrastructure/regional assets (such as quality of environment, local services, cultural assets) are recognised as an important factor in building a knowledge economy – in particular in attracting and retaining highly skilled people and high value businesses. It is important therefore for localities to ensure:

- ❑ an effective transport infrastructure to connect a region internally but also globally;
- ❑ appropriate land-use needed to cater for inward investment in knowledge based industries;
- ❑ ensuring that strategic plans and planning processes do not unnecessarily inhibit growth.
- ❑ affordable housing for both highly skilled and secondary support workers;
- ❑ adequate provision of local utilities and communications infrastructure; and
- ❑ quality public services, including healthcare, education, cultural and environmental services.

Policy makers across the Diamonds will need to review the strength of their areas in relation to each of the above points. Whilst not the primary focus of this study, many of the place based issues were raised within the course of this work.

2.5 Partnership and resilience

Effective partnerships can make all the difference but without a clear focus, local authority and regional partner's resources – both financial and staffing, can be spread too thinly and their impact dissipated. The new focus set out in HMG's publications *New Industry, New Jobs*⁹ and *Partnerships for Growth*¹⁰ (outlined in our policy review), stresses the need for partnership structures that work together to address barriers to growth in markets which have economic potential; and will require:

'a deeper strategic dialogue between the Government and its sub-national partners, including RDAs and local authorities, as well as between regions and within regions'.

In addition, future constraints on public spending make it more important than ever that public investment is effective and avoids wasteful duplication. This will require greater coordination between national, regional and local levels to maximise the economic impact of public investment.

The Diamonds Partnership is, and must continue to be, an effective centre-piece to achieving this objective. Its role alongside the support of regional bodies - the RDA in particular - will be critical in delivering short and long-term development aims and addressing the issues set out in this study.

A longer-term strategic aim for the Partnership must also be to grow a deep understanding of how different parts of the economy (broadly categorised into social, public and commercial¹¹) interact with each other and are mutually-dependent in achieving positive outcomes for the knowledge economy. A blend of these interdependencies, which is likely to be different in each Diamond, is needed to achieve prosperous local economies, translating these into a better quality of life for all people living in a locality, and building more resilient local economies for the future.

The concepts, of partnership and resilience, were recently addressed by a group of international local leaders who met in Barcelona to review and discuss the impact of the economic crisis on cities, and to encourage exchange of key responses to building more resilient economies¹². A workshop and subsequent discussion and debate with 40 international cities identified a set of key principles that are set out in summary in box 1 below:

Box 1: The Barcelona Principles¹³

Provide pro-active and collaborative leadership at the local level: Don't waste the crisis, but respond with leadership and purpose.

Make the case for investment: Make the case for continued local public investment and public services and the taxes and other sources of investment required.

Robust long-term economic strategy: In the long-term: build local economic strategies which align with long-term drivers and identify future sources of jobs, enterprise, and innovation.

Purposeful short-term action is needed: In the short-term: focus on retaining productive people, business, incomes, jobs, and investment projects.

Investment attraction and readiness: Build the tools and approaches to attract and retain external investment over the long-term.

Relationships matter and need increased attention: Building genuine long-term local relationships with the private sector, trade unions, and other key partners.

Effective public works and major investments: Take steps to ensure the sustainability and productivity of public works, infrastructure, and major developments/events.

Stay close to the people: Local leaders should act purposefully to support their citizens in the face of increased hardship.

Stay open to the world: Local economies have benefited and should continue to benefit from being open and attractive to international populations and capital.

Build national-local alliances: Communicate and align with national and other higher tier governments.

3 POLICY AND INDUSTRY

The following section reviews national and regional policy, primarily in relation to the key sectors that assessed later in this report, including:

- ❑ Bioscience, medicine and pharmaceuticals;
- ❑ advanced manufacturing including engineering;
- ❑ ICT;
- ❑ creative/digital/new media;
- ❑ environmental technologies; and
- ❑ engineering construction.

3.1 New Industry New Jobs

*'New Industry New Jobs (NINJ)'*¹⁴ was published by the Government in April 2009 and sets out a strategic vision for Britain's recovery. It describes a 'new industrial activism' which will shape the Government's approach to working with business, markets and industrial sectors.

The NINJ paper sets out how the Government will:

- ❑ adapt and strengthen policies towards innovation, skills, finance, infrastructure and access to global markets;
- ❑ use its role and influence in the market in a more strategic way, addressing market failures and shaping outcomes by acting on the environment in which businesses operate; and
- ❑ use a new approach to targeted interventions.

NINJ identifies a number of market areas where the UK has comparative advantage and where interventions to support future growth may be undertaken.

Industry sectors covered in NINJ include:

- ❑ ***Financial and professional services*** – this sector represents one of the country's core strengths, with a strong international reputation. Despite the well documented issues of the finance sector during the economic slowdown, the City of London and the UK's position as a key global financial centre will continue;
- ❑ ***opportunities in an ageing society*** – an action plan will be drawn up to assess the economic opportunities (both in manufacturing and services) and the likely skills needs required (e.g. leisure needs and care, drug treatments for old age);
- ❑ ***life sciences and pharmaceuticals*** – the Government is reviewing how the NHS can promote innovation, and how the UK can get medicines to market faster, making the country more attractive for clinical trials;
- ❑ ***advanced manufacturing*** – a number of new engineering opportunities have been identified which should be a priority for support, including aerospace (e.g. composite materials), industrial biotechnology and development of plastic electronics;
- ❑ ***digital Britain*** – the Government plans to update digital networks, establish a climate for investment in digital content, provide quality infrastructure for UK users, and ensure that the UK is a global leader in the digital economy;
- ❑ ***low carbon/environmental technologies*** – there are a number of challenges and opportunities facing businesses across the economy through rising demand for low carbon products and services, and a clear link and cross-over with advanced manufacturing industries.
- ❑ ***engineering construction*** – the Gibson Review, published in December 2009, has made a number of recommendations for improving productivity and skills within this sector;

The sector strengths identified in the *'Prospectus for Prosperity'*¹⁵ correspond strongly with the national agenda outlined in the New Industry report. We examine the potential for these sectors, within the context of the Diamonds areas, throughout the study.

3.2 Going for Growth: Our Future Prosperity¹⁶

For long-term stability and shared prosperity, the growth of the British economy after the banking crisis will need to be environmentally sustainable, more balanced and resilient to economic shocks.

Going for Growth: Our Future Prosperity - builds on the strategic approach set out in NINJ, setting out the requirement for government operating intelligently alongside business and the dynamic of the market to strengthen the policies and foundations of British industrial competitiveness.

It summarises the work programme that has flowed from the NINJ analysis over the last year, providing relevant policy steer for the Diamonds Partnership. In particular it outlines activity to support the development of a diverse economy based on knowledge, innovation and productive investment; and developing an active policy that ensures the following:

Enterprise

- ❑ people have confidence, knowledge and skills needed to start /grow business;
- ❑ regulatory frameworks that make it easier to start a business and employ people;
- ❑ companies have access to finance, including venture capital and risk and growth finance;
- ❑ companies can, if/when ready, access assistance and advice from government on exporting.

Knowledge

- ❑ investment in world class universities and a diverse research base;
- ❑ support for interaction between the research base, industry and the investors;
- ❑ the incentives, financial and regulatory frameworks exist for businesses to innovate;
- ❑ EU innovation policy reflects the needs of UK business.

People

- ❑ a jobs-rich recovery that helps people find sustainable employment quickly;
- ❑ workforce skills are relevant to the demands of a modern low carbon economy;
- ❑ the high-level skills needed to drive growth and secure future opportunities;
- ❑ clear communication of the skills needed (and their value) by the future economy;
- ❑ universities and adult skills providers effectively meet skills demand.

Infrastructure

- ❑ infrastructure projects help move the economy to a low carbon, digital future;
- ❑ best value is delivered from the use of, and upgrading of, our existing infrastructure;
- ❑ identification and coordination of future infrastructure projects through direct investment, partnership with the private sector, and effective - targeted use - of regulation and incentives;
- ❑ a planning system that responds quickly to the need for large-scale infrastructure.

Open and competitive markets

- ❑ creating the framework for efficient markets, preventing anticompetitive behaviour;
- ❑ enabling competition and support firms to compete both in the UK and internationally;
- ❑ guarding against regulatory requirements on firms that act as a barrier to competition.

Industrial strengths

- ❑ supporting the UK's capabilities in markets and technologies where it has proven strengths;
- ❑ supporting sectors identified in NINJ where there is opportunity and Gov. support has impact;
- ❑ selling UK strengths abroad, providing support to UK firms competing in overseas markets;
- ❑ attracting inward investments that bring about further growth.

Government and the market

- ❑ providing joined-up Government, with increased focus on sustainable development;
- ❑ growing awareness among policy makers of the impacts of their actions on the market;
- ❑ working with business to understand how economic benefits can be maximised; and
- ❑ developing awareness of smart procurement that helps increase skills, innovation and growth.

3.3 Partnerships for Growth: A National Framework for Regional and Local Growth¹⁷

Effective partnership and support for economic growth will be essential so that business can thrive and everybody has the opportunity for employment. NINJ and Going for Growth both set out that all levels of government - national, regional and local - will need to work together to support an approach which ensures the effective delivery of policy (skills, innovation, infrastructure and finance); better use of the Government's role as a regulator and customer; and targeted interventions in sectors and markets where there are opportunities to release constrained potential.

Partnership for Growth sets out:

- ❑ the Government's priorities for cross-cutting policies identified in New Industry New Jobs such as skills, innovation, infrastructure and finance;
- ❑ priorities for interventions in key sectors such as low carbon, life sciences, Digital Britain and advanced manufacturing; and
- ❑ how national, regional and local levels need to work together to support these priorities and ensure effective economic growth

The document outlines the importance of achieving the right balance between central government, regions, cities and localities in setting out and delivering effective policy, stating that regional and local strategies should consider key economic policies including:

- ❑ **Skills** - where RDAs will in future work with the local authority Leaders' Boards, sub-regional partnerships and further education providers, to articulate business demand in a regional skills strategy;
- ❑ **Innovation** - where RDAs will help bring universities and businesses together to collaborate and will channel resources into support for pre-commercial technologies and local science and innovation working closely with bodies like the Technology Strategy Board;
- ❑ **Employment** - where regional, city and local action can boost job opportunities and provide the effective transport links, the accessible child-care, and other support on the ground to help people get into, and progress, in work;
- ❑ **Infrastructure** - where clarity from regional, city, and local partners can provide the certainty businesses need to make the long-term investments in transport, utilities, broadband networks, and housing which underpin growth;
- ❑ **Finance for growth** - where RDAs will support the effective and coherent investment of public-private funds such as the Innovation Investment Fund; and
- ❑ **Potential growth sectors** - where regions, cities and localities should work to remove barriers to growth for key sectors in their areas.

Expertise within each of the Diamonds and a partnership approach to addressing strategic priorities will be indispensable in designing effective economic policy at both the regional and local level. Against a backdrop of exceptional fiscal constraint it will be more important than ever that public investment is aligned across regional and local boundaries, and between national, regional, city and local levels, to drive sustainable growth and job creation, and push up productivity.

3.4 The Future of Business: The Changing Face of Business in 21st Century Britain¹⁸

This report, based on a survey put to 500 entrepreneurs and business decision makers across the UK, highlights how UK business models will change in response to emerging knowledge intensive products and services that will become increasingly important to economic growth. These include areas such as:

- ❑ Robotics and nanotechnologies;
- ❑ biotechnology;
- ❑ cybernetics;
- ❑ nutraceuticals;
- ❑ stem cell research;
- ❑ renewable energies; and
- ❑ 'power' computing (modelling and simulation).

Within the Diamond areas, Reading has been marked as a 'hot spot' for cybernetics, exploring the interface between humans and robots, whilst Oxford has been identified as a potential centre for nanotechnologies, which is perceived to have significant potential, currently used across a variety of industries including medicine, micro-robotics and engineering and material sciences/textiles. Southampton is a key area for nutraceuticals, which is worth an estimated \$80 billion US dollars globally, and may become increasingly important due to the ageing population and emphasis on appearance, together with the global food crisis.

'The Future of Business' report also foresees changes in economic models (e.g. the fourth economy) which will incorporate a collaborative, people focused environment where money is made through referrals to others within social and business networks (this collaborative approach identified earlier as being a key catalyst in knowledge intensive activities). New skills sets will be required to maximise business potential, such as extensive use of shared web applications/systems ('cloud computing'), enhanced networking skills and fostering collaboration across firm and sector networks.

3.5 The Stern Review and the role of environmental technologies

The Stern Review¹⁹ highlighted the global threat of climate change and called for an urgent response. It used economic models to estimate that if we do not act now to address the challenges this brings, the overall cost to the global economy may be equivalent to losing at least 5% of GDP each year. If the wider risks are taken into account, this figure could potentially be as high as 20%.

Therefore, it is the investment and activities undertaken by both the public and private sectors over the next 10 to 20 years which could have a profound effect on the climate for this century and the next. Part of the Government's response has been documented in the *'New Industry New Jobs'* document setting out the potential for developing a low carbon economy and greater energy and resource efficiency; and the response is ongoing.

3.6 Low Carbon and Environmental Goods and Services – National Industry Analysis

The *'Low Carbon and Environmental Goods and Services – National Industry Analysis'*²⁰ from the Department for Business, Innovation and Skills highlights the potential opportunities that may emerge for the UK and South East Diamonds. The UK's environmental economy is worth £106.5 billion, and is forecast grow by up to £45 billion in the eight years up to 2015. Considerable opportunities are projected for key domestic and international markets.

The UK is believed to be well positioned to develop and gain comparative advantage in key areas through exporting to nations to upgrade their existing infrastructure (e.g. water and waste treatment). There are clear opportunities for manufacturing activities to diversify and increase profits, with almost a third of the environmental economy being accounted for by manufacturing.

The largest products and services by market value include, building technologies, wind power, and alternative fuels for vehicles. Regionally, London and the South East account for a third of the sector's value (£GVA) and employment in environmental sectors, renewable energy, waste water treatment and emerging low carbon products and services. Clearly, such a critical mass of activity presents London and the wider South East Diamonds with a significant future opportunity.

3.7 Low Carbon Industrial Strategy and the 2009 Budget

The *'Low Carbon Industrial Strategy'*²¹ builds upon *'New Industry New Jobs'*, setting out the Government's strategic programme to assist firms in seizing opportunities in the New Economy. An important note in this strategy, and in respect of analysing the prospects for a low carbon economy, is that it is not just about particular technologies and sectors in principle, but cross-sectoral areas in which the UK can take a leading role and develop competitive advantage.

The implication for policymakers is to encourage greater levels of collaboration across sectors and building value-chains within regional economies that also link businesses to local, regional and international innovation assets.

The 2009 Budget announced £405 million for low carbon industries and advanced green manufacturing, and target areas include:

- ❑ **Offshore wind** – up to £120 million to support the British based offshore wind industry;
- ❑ wave and tidal power – up to £60 million, although spending has been set aside for commitments within Cornwall and Northumberland;
- ❑ **civil nuclear power** – up to £15 million investment to establish a nuclear advanced manufacturing research centre comprising a consortium of manufacturers from the UK nuclear supply chain and leading universities;
- ❑ **ultra low carbon vehicles** – up to £230 million has previously been announced to reduce the price of electric and plug-in cars from 2011. The Government has also previously announced £20 million to tackle barriers in electric vehicle charging infrastructure through the 'Plugged in Places' vehicle infrastructure network and the Office for Low Emission Vehicles (OLEV);
- ❑ **low carbon manufacturing** – a £4 million expansion in the Manufacturing Advisory Service to provide additional specialist advice to manufacturers about competing for low carbon opportunities, including support for suppliers in the civil nuclear industry; and
- ❑ **assessing the opportunities within the nuclear supply chain** - will also be important, in particular collaboration with networks in other parts of the UK through both industry associations and the RDA network.

Additionally, there is one other important aspect of innovation related to the low carbon and wider knowledge economy agenda which is outlined in the *'Low Carbon Industrial Strategy'*. The 2009 Budget stated that there will be a £150 million initial venture capital style fund to invest in high growth businesses which require equity finance, including those within the low carbon area.

The overall ambition is to grow this into a £1 billion fund over the next decade – the initial investment will be to cornerstone the fund and leverage private sector investment.

This growing fund, together with other venture capital opportunities and support (e.g. regional venture capital funds), will be crucial in financing new knowledge intensive companies. Understanding these public sector backed opportunities in tandem with developing a detailed understanding of private sector venture capital activity, will be important for developing policy on growing the knowledge economy (refer to section 3.15 for further background on risk finance).

3.8 Manufacturing: New Challenges, New Opportunities

The Government's manufacturing strategy *'Manufacturing: New Challenges, New Opportunities'*²² is based around a vision for a globally competitive manufacturing sector that is a world leader in high value added components of the supply chain, consolidating areas of existing comparative advantage.

Innovation will be crucial to the success of this vision, requiring collaborative working between manufacturing businesses and the public sector (through purchasing power, using innovation vouchers, building the capacity of the further education sector).

The strategy outlines a number of central government policy commitments around:

- ❑ global value chains;
- ❑ technology exploitation;
- ❑ people and skills; and
- ❑ low carbon.

These proposals, together with the emphasis on the importance of this sector outlined in the *'New Industries New Jobs'* policy document, have direct implications for the engineering/advanced manufacturing sector within the Diamond areas, a key priority for local policy makers.

3.9 Ultra Low Carbon Vehicles in the UK

As mentioned above, part of working towards a low carbon vision will be the manufacture of environmentally sustainable vehicles. The *'Ultra Low Carbon Vehicles in the UK'*²³ strategy recognises that the future for transport lies in a shift to low carbon. By taking an early lead the UK, and firms within the Diamonds, can exploit the opportunities in the market for developing low-carbon / fuel efficient technologies.

The strategy sets out the following goals to support this:

- ❑ supporting the automotive industry through the downturn for a successful low carbon future;
- ❑ enhancing the UK's reputation as a leading location for R&D of ultra low carbon vehicle technology;
- ❑ creating an environment to support the adoption of these vehicles, including investment in the skills base;
- ❑ making ultra low carbon vehicle solutions competitive for consumers by helping to reduce the cost of vehicles; and
- ❑ clear and strategic leadership and smarter co-ordination from the public sector.

3.10 The Gibson Review and the engineering construction sector

The Gibson Review,²⁴ published in December 2009, highlights a number of challenges and opportunities facing an industry sector that is vital to both the UK's future investment in critical infrastructure, as well as the success of other industries including, for example, nuclear decommissioning, developing offshore renewable energy, and oil/gas exploration on the continental shelf.

The review outlines a number of specific issues and recommendations including:

- ❑ engineering construction clients showing leadership on the use of best practice in project management, adopting approaches from other industries;
- ❑ ensuring clear pathways for the different occupations within the industry, and doubling the numbers of apprenticeships, ensuring wherever possible a greater continuity of employment;
- ❑ government providing further signals and information to the energy generation market that help create conditions in which energy companies can produce long-term investment strategies (allowing successful planning within engineering construction); and
- ❑ employers (contractors) and unions working together to ensure good industrial relations.

3.11 Digital Britain

The communications sector underpins much of our economy and society. HMG's ambition to secure the UK's position as one of the world's leading digital knowledge economies is outlined in *'Digital Britain'*²⁵ which details the need for modern infrastructure, upgraded skills, effective diffusion of research, and innovation into commercial success.

With ICT being marked as a key sector priority by South East Diamonds, there is a real opportunity to take advantage of key regional assets by:

- ❑ Promoting effective digital knowledge transfer between the university assets and business;
- ❑ harnessing the skills of the population; and
- ❑ striving to up-skill for the future challenges around the wider digital sector.

Digital infrastructure is vital to the success of the UK economy. It is a growth sector in its own right, as well as a key enabler of growth – through business networking and access to the workforce – and a 'pull-factor' for inward investment.

Developing the UK's digital infrastructure was recently highlighted in a report commissioned by IT manufacturers Cisco (with European headquarters based in Reading), stating that the country's broadband service is predicted to fall significantly short of future demand. The delivery of 'next generation' broadband will be an important development across all Diamonds over the next 5 years.

3.12 Innovation Nation White Paper

The *'Innovation Nation White Paper'*²⁶ builds upon a number of innovation related national papers and reviews, in particular the Lord Sainsbury Review of 2007. The white paper includes proposals about how the Government can use procurement and innovation in business, as well as what it can do to make the public sector more innovative. Key measures include:

- ❑ Using the purchasing power of the public sector to drive innovation;
- ❑ reforming the Small Business Research Initiative to ensure that technologically innovative SMEs are effectively supported;
- ❑ reviewing the role of regulation in promoting innovation;
- ❑ increasing funding to strengthen the science base (supported by a £6 billion per annum on science and research by 2010);
- ❑ increasing business focused support for technology innovation;
- ❑ innovation vouchers provided by Regional Development Agencies to help SMEs access the national knowledge base;
- ❑ capacity building in the further education sector to support businesses in raising their innovation potential; and
- ❑ moving performance analysis beyond using traditional metrics such as R&D spend and patents, to using improved measurement through a new Innovation Index.

This represents an ambitious list of strategic priorities, with the aim of building an innovation nation which requires new levels of collaborative working between stakeholders in business, the public sector, further and higher education, and the third sector.

The priorities outlined in the White Paper should be a key component of each Diamond's economic strategy, if they are to help secure the long-term success of the region as a leading knowledge economy.

3.13 The Leitch Review of Skills

In 2004, the Government commissioned an independent review of the UK's long term skills needs with the aim of identifying the UK's optimal skills mix for 2020 that would maximise economic growth, productivity and social justice; set out the balance of responsibility for achieving that skills profile; and consider the policy framework that would be required to support it. The final report of the Leitch Review of Skills, *Prosperity for all in the global economy*²⁷ - world class skills, published in 2006, stated that the UK must urgently raise achievements at all levels of skills and recommended that it commit to becoming a world leader in skills by 2020, benchmarked against the OECD.

The Leitch Review has set some very robust targets for improving the skills of the UK workforce for 2020. Partners across the South East have responded to this by setting 2011 as a milestone date for the South East Skills Challenge - up-skilling 250,000 people with additional skills in the South East workforce, in order to up-skill greater numbers of people to enable the region to compete and prosper. This focuses on five, linked action plans to achieve this objective:

- 1) Improving skills in the public sector;
- 2) developing the role of business affinity groups, e.g. Chambers of commerce, in promoting workforce development to employers;
- 3) targeting priority groups, especially the low-skilled and volunteers to develop their skills;
- 4) working with partners in the Diamonds for growth areas and a number of other key areas to focus on the needs of the low-skilled; and
- 5) supporting providers to develop sector-specific approaches to skills, for example addressing the skills difficulties experienced within the advanced manufacturing and engineering sector.

3.14 Skills for Growth - The National Skills Strategy

Government published the *National Skills Strategy*²⁸ in November 2009. The strategy recognises the importance of skills in the knowledge economy and in particular their contribution to raising workforce productivity and building more innovative, successful and resilient businesses. The strategy makes some important decisions and marks a shift in some of the priorities of the skills system. It sets out an active approach to equipping this country for globalisation by making sure the UK has the skills that will underwrite the future success of industry. Commitments include:

- ❑ Creating a modern technician class through more advanced apprenticeships;
- ❑ investing in skills in the sectors on which future growth and jobs depend;
- ❑ empowering individuals through skills accounts and providing better information on courses;
- ❑ the introduction of light touch monitoring arrangements for the best learning providers; and
- ❑ working with UK Commission for Employment and Skills to implement their recommendation to reduce the number of separately publicly funded agencies.

3.15 Higher Ambitions – The Future of Universities in a Knowledge Economy

Along with Skills for Growth, Government has unveiled a new framework for the future success of higher education, *Higher Ambitions*²⁹, setting out the important role universities will play in securing the country's economic recovery and long term prosperity. The document sets out a vision to sustain university success in more challenging and competitive times and sets out the Government's approach on the major issues facing universities, including the need to make greater contributions to the economy, widening access and strengthening our research capacity. Key measures include:

- ❑ More competition between universities, giving greater priority to programmes that meet the need for high level skills;
- ❑ business to be more engaged in the funding and design of programmes, sponsorship of students, and work placements;
- ❑ creating more part-time, work-based and foundation degrees to make it easier for adults to go to university, with routes from apprenticeships through to Foundation Degrees;

- ❑ encouraging universities to consider contextual data in admissions, as one way of ensuring that higher education is available to all young people who have the ability to benefit;
- ❑ universities setting out clearly what students can expect in terms of the nature and quality of courses offered;
- ❑ sustaining our world class research base by continuing to focus on excellence, concentrating research funding where needed to secure critical mass and impact; and
- ❑ encouraging collaboration between universities on research, especially in high cost science.

3.16 Enterprise: Unlocking the UK's Talent

Enterprise is a vital element of a burgeoning knowledge economy. Innovations often come from small and medium enterprises which have access to the appropriate financing to develop and commercialise their ideas. Such innovators and entrepreneurs are often those who have been involved with university spin-outs for example, with connections to knowledge networks, and as such need conditions conducive to starting their own businesses. In March 2008 Government unveiled its *Enterprise Strategy*⁹⁰, designed to boost the nation's levels of entrepreneurialism, making conditions easier to start a business. In particular, the strategy aims to:

- ❑ facilitate a culture of enterprise, where all those with entrepreneurial talent are able to commercialise their ideas and innovations;
- ❑ ensure the knowledge and skills sets are in place – enterprise education starting in primary school, continuing through to university and the workplace;
- ❑ ensuring the finance mechanisms, such as proof of concept funding and venture capital, are in place to allow innovative ideas to be turned into reality;
- ❑ reducing the burdens of regulation for starting a business, including inspection and enforcement, and ensuring that all entrepreneurs are aware of regulatory changes; and
- ❑ help businesses innovate, apply new technology and knowledge in order to put themselves in a position take advantage of the emerging and changing global trends.

3.17 Access to Finance

New, innovative, high growth companies increase regional competitiveness, but they need to be nurtured and have access to the necessary financial support mechanisms. These knowledge intensive companies require risk finance to grow – this includes venture capital and investment from business angels (venture capital typically with the higher investments of £500,000/£1m plus, with smaller deals through business angels). Both forms of finance are equity based, with the venture capital firm or angel taking a stake within the firm for their investment and, in the case of angels in particular, their management and commercial expertise. The other type of financing, mainly in the case of academic spin-outs, is proof of concept grants, usually awarded to ventures which can be up to two years away from market entry and requiring an extensive support programme.

In recent years, the public sector has played an increasing role in helping firms to gain access to early stage equity finance, as private venture capital has moved towards less risky, later stage investments – due to factors such as the dot com crash and more recently, the recession. This has resulted in an 'equity gap' where higher growth start ups and other young firms are finding it increasingly difficult to access the amounts of risk funding they need. This gap is thought to be somewhere between £500,000 and £2 to £3m. Therefore the role of the public sector is key. UK Investment is dominated by London and the South East.

The longest standing policy approach is tax breaks used to encourage venture capital investment through the Enterprise Investment Scheme (EIS) and Venture Capital Trusts (VCTs). The EIS in particular has been important in the growth of business angel investment. Since 2000, the Government has also focussed on direct supply side policies to address the equity gap, with Regional Venture Capital Funds (RVCFs), with the RDAs responsible for these funds which use European funding and private investment. Regionalising these funds mean that a region's particular needs and market failures can be properly addressed based on local knowledge. These publicly backed funds are now of particular importance in ensuring that young, innovative businesses have access to the finance they need.

3.18 Regional policy

SEEDA's Corporate Plan Refresh³¹ highlights a number of specific priorities that are helping to deliver a successful knowledge economy, as follows:

- ❑ Strengthening the core offer by investing in services such as Business Link, Manufacturing Advisory Service, and place-based Innovation and Growth Teams;
- ❑ supporting the success of businesses operating internationally, providing greater focus to our work with global investors in the region and looking to new sources of investment from global markets, including potential sovereign wealth funds;
- ❑ continuing to support high growth companies to innovate and commercialise science based R&D, including support for Technology Strategy Board priorities using public procurement and regulation to drive investment in new markets and growth sectors, with particular emphasis on realising the potential of environmental technologies;
- ❑ continuing investment in business critical infrastructure, working closely with the Homes and Communities Agency;
- ❑ continuing to lead and drive mainstream investment in education led regeneration projects alongside the Learning and Skills Council and Higher Education Funding Council for England;
- ❑ realising the opportunities to use capital investment in education and skills (e.g. Building Schools for the Future) to align with employment programmes, as a means of retaining capacity within the construction sector.

SEEDA have reassessed work around the skills agenda in order to ensure that mainstream provision is focused on business need, in particular where there is a significant mismatch in the supply and demand for particular technical skills (e.g. in the ICT and Engineering sectors), and where there is a shortfall in current education training and training provision.

SEEDA's sector and cluster development teams will also be a key factor in building strong public-private sector relationships, strong business to business links, and continuing to secure future investment (both public and private) for the region. The teams will also help provide a deeper understanding of the requirements, challenges and opportunities that businesses face within the region's key sectors, enabling the targeted delivery of both investment and business support services.

The clusters/sectors of particular significance outlined by SEEDA include:

- ❑ advanced engineering and marine;
- ❑ aerospace and defence;
- ❑ ICT and digital/creative media;
- ❑ pharmaceuticals, health technologies and life sciences;
- ❑ environmental technologies; and
- ❑ financial and professional services.

The sector and cluster interventions will combine foreign direct investment (FDI), HEIs and businesses critical infrastructure opportunities across the region, with FDI support also refocusing on large foreign businesses.

The current global investment climate is likely to be challenging for some time to come. With tighter constraints on public spending, economic development partners across the Diamond areas will face some tough decisions about prioritising future investment choices, both sectorally and spatially.

4 CONCLUDING REMARKS

In our concluding section we set out the forthcoming economic context for the UK and reprise some of the key policy implications identified by New Industry New Jobs requiring immediate action centred on innovation, skills, finance, infrastructure and trade.

4.1 Economic outlook and some key challenges

It is likely that trend growth in the UK will be lower over the next economic cycle, closer to a rate of 2% per annum compared to the 3% experienced over the last decade or so. There is a consensus that the worst of the economic slowdown is over, although according to the ONS the country is still officially in recession. What is clear is that the road to recovery will not be straight forward.

The Bank of England has aggressively cut its interest rates to 0.5% and purchased 15% of UK government bonds in trying to kick-start economic activity; however there are signs of stabilisation in the manufacturing and service sectors as the economy begins to recover.

A key factor in the continued recovery will be activity in the financial markets where tensions are beginning to ease, with the spread between the bank's rate and the rate at which banks lend to each other (LIBOR) narrowing. The Bank of England's purchase of government bonds has helped keep the long term interest rates down, helping cap the cost of mortgages and longer term business borrowing. This easing of financial conditions has helped stimulate economic activity.

The large contractions in economic output in late 2008 and early 2009 highlighted the severity of the issues facing the economy; however indicators from business surveys have suggested that output has moved up from the earlier lows. While encouraging, this data should be viewed with caution – there is no real indication of sustained improvements in demand to date in the economy, which is needed for a lasting recovery.^{32 33}

Another drag on recovery will be public finances. It is widely anticipated that there will be cuts and job losses across the public sector, adding to the strain on the labour market, and major credit rating agencies have warned the UK of its need to return public finances to a more sustainable trajectory, otherwise the UK could lose its AAA credit rating, resulting in higher costs of government borrowing and implications for economic growth.

This is the context in which the South East Diamonds must work, with lower growth going forward - in the short-term at least - meaning potentially fewer growth opportunities. This is where a highly productive knowledge intensive economy will become increasingly important, and if the UK is to get back onto a sustainable road to recovery, the success of the South East Diamonds will be of major importance, not only for the region, but as one of the UK's main economic growth engines.

To do this, policy practitioners and businesses will need to work innovatively within future constraints around access to liquidity and public finance, ensuring highly focused and targeted approaches to supporting long-term sustainable economic development.

4.2 Delivering a competitive knowledge economy

The economy that emerges from the current downturn will continue to be defined by globalisation. The South East Diamonds need to plan for more than simply recovery from recession as the region (and UK) faces continued structural changes in the global economy.

The world's economy is set to double in size and will present significant new opportunities for businesses – growing populations and rising prosperity; new technologies; the transition to a low carbon economy; changes in age profiles; and the spread of international supply chains will have an important impact on the Diamond's future performance.

As other economies respond to the same opportunities, or try to replicate the UK's strengths, the competitive pressure our businesses face will intensify. The South East Diamond's response has to be to continue to raise productivity, improve resource efficiency and concentrate on developing comparative advantages. All this must help to differentiate the region's economy from that of other international regions. It will therefore be critical for the UK economy and businesses in the Diamonds to invest and skill-up to win in high-value markets and sectors.

Two key inter-related elements will be critical to succeeding in this challenge:

- 1) The continued focus on ensuring that the South East (and UK's) economy is driven by, and has the relevant supply of, high levels of skill and creativity; and
- 2) ensuring that its economic base is continually moving to the front of technological change – where this is reshaping industries and demanding high levels of innovation, skills and investment from those businesses who will ultimately lead these markets.

In response to the first of these, increasing the number of Knowledge Business Industries and the level of demand that can be sustained in turbulent time will be critical. Research testifies that there are strong positive correlations between the concentration of high-level skilled jobs and levels of innovation and economic growth. The Diamond's do have emerging and distinctive high-skill specialisms (which we set out in this study). Actions to build upon these strengths and to manage the costs (the balance of what economists refer to as positive and negative externalities) to businesses located and trading here will be important.

The response to the latter will depend on ensuring the success of the private sector in developing product and process innovation and forging global trading networks with firms at the vanguard of technology and creativity. Leveraging the impact of the region's Higher Education Institutions (HEIs), and key regional science and innovation assets such as Harwell Science and Innovation Campus will be vital.

4.3 A 'New' Activism and Strategic Partnership

It is important to be clear throughout this study, that whilst we recommend setting a new agenda of industrial activism, we do not recommend picking winners, nor ignoring market signals, but taking steps to remove barriers which hold business back within the Diamonds.

The South East Diamonds have the skills, resources and knowledge base to do well. However the response of regional and local policymakers must not be one of complacency. Nor has it been. It must be to strengthen the Diamond's competitive position further, creating the best possible conditions in which businesses can thrive; removing barriers to success and offering targeted support to unlock new potential in existing and new technologies. Key areas for the Diamonds, identified by NINJ for immediate action and reform, are centred on innovation, skills, finance, infrastructure and trade. They include above all:

- 1) more support for **innovation** - turning bright ideas into products that win in the marketplace by maximising opportunities from the work of universities, public and private sector research establishments;
- 2) improving policymakers ability to identify the **skills** needed for future success and making sure the education and training system delivers them;
- 3) making sure high growth, high innovation firms get the **financing** they need, including examining urgently whether, and in what form, further intervention could help increase the supply of long term growth capital to small and medium sized businesses; and
- 4) a coherent strategy for making sure Britain has the modern **infrastructure** and networks, from energy to broadband, that will be the foundation of future prosperity.

Partnership work is critically important to the future of the Diamonds economies. SEEDA and local authorities have a vital role to play in delivering a 'New Activism' – in designing strategic investments, with a growing emphasis upon collaboration (rather than competition), enabling the Diamonds to focus on their particular strengths, rather than replicating the full range of nationally important sectors in every area. As Partnerships for Growth states, a collaborative and strategic approach to investment is paramount to securing future economic prosperity:

'RDAs and local authorities should take account of both the positive and negative ways in which policies can affect their neighbours. Changes to the RDA investment appraisal mechanisms will create new incentives for cross-regional collaboration. And many local authorities are working with their neighbours to boost growth in our cities.'

4.4 London and the South East Diamonds

Finally, it is important to recognise the positive economic relationship between London and centres across the wider South East. The Diamond areas are crucial in providing London with the skilled labour pool it needs to be a global economic centre, and clearly transport (including airports, highway infrastructure and high speed rail/local light rail services), housing and other critical infrastructure (digital connectivity, grow-on premises, utilities etc) have a vital role to play here³⁴.

The Diamond's will also continue to be important in ensuring there is no overheating in London's property market in the long-term, offering opportunities for firms looking to relocate or grow – whilst maintaining connections with businesses in the City centre – and across the South East.

The South East is also well placed to play a significant role in the London 2012 Olympic Games – SEEDA have formed the South East Partnership for the 2012 games (SEP) to ensure that all communities and business within the South East can gain a legacy from the games.³⁵

The spatial dimension and Diamond's relationship with London (and with each other) raises a series of critical issues that will need careful future management, ideally addressed within the forthcoming Regional Strategy, that will set out the framework for achieving long-term sustainable development.

Considerations include:

- 1) Achieving balanced sub-regional development, addressing growth in both knowledge-driven businesses and job opportunities – at the same time addressing economic inclusion;
- 2) managing the sprawl effects of London's knowledge economy – addressing pressures on housing, key worker shortages, house price inflation, traffic congestion and other negative spill-over effects (this will be critical in maintaining the South East's offer as a location for both inward investment and as a residential 'location of choice' for knowledge workers);

The issue of housing across the South East is particularly acute. Two primary concerns are raised here for consideration. First the continuing need to ensure that future growth is not 'choked-off' by lack of affordable housing, particularly in areas that have experienced (and will continue to experience) strong growth in the knowledge economy; secondly the importance of achieving a low carbon economy – which must address the relationship between housing and travel, i.e. the need for more housing in the right place to alleviate the need for workers to travel.

- 3) continuing to develop an 'urban backbone' across the South East that drives and spreads growth and innovation in the knowledge economy: the answer here will lie in continuing to develop a dynamic and well connected 'poly-centric' region; and
- 4) linked to the above - meeting the challenge of developing effective local and sub-regional dimensions to the regional strategy (including economic/skills and spatial strategies), while maintaining a strong sense of regional direction and identity. The South East's local authorities, local strategic partnerships and regional agencies each have to continue to be pro-active players in enabling the development of the knowledge economy.

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