

CONTENTS

Introduction	2
Key Drivers of Change	4
Implications for SEEDA's Key Themes for the Region	4
Businesses	5
Learning, Skills and Workforce	6
Environment	7
Transport	8
Communities and Urban Renaissance	9
Rural Economy	10
Annex A - Key Drivers of Change	11
DRIVER 1: Globalisation and Free Trade	
DRIVER 2: Information and Communications Technologies	
DRIVER 3: Emerging Technologies	
DRIVER 4: Demographic Change	
DRIVER 5: Environmental Sustainability	
DRIVER 6: Skills and Employment	
DRIVER 7: Social Cohesion and Deprivation	

INTRODUCTION

We cannot make progress looking in the rear-view mirror. Future Think is all about lifting our eyes to where we should be going rather than where we've come from.

This document is intended as a Future Think Framework for the South East Region. It does not come up with the answers but it does start identifying some of the key issues that will shape our future. How we respond to the challenge of the future is a matter for all of us to decide.

What is future thinking?

“By the year 2021 there will be more people of working age with university level qualifications in China than in Europe and America combined.”

Source: International Institute for Applied Systems Analysis (IIASA) in Nature, August 2, 2001

It is foolish to attempt to predict the future, yet by examining the present closely we can increase our understanding of what the social, economic and environmental landscape may have in store for us. Current population trends and education policies in China may very well lead to the above statement becoming reality. Were that to be the case, it would radically alter the competitive environment we operate in. Moreover, given that such an outcome is likely, how should we respond in the South East as businesses, individuals or as policy makers in an increasingly global labour market?

Future thinking entails identifying emerging or future trends, discontinuities and events, and anticipating their impact. Its purpose is to:

- develop visions of what lies ahead, helping us to decide what should be done now to make sure we are ready for future challenges;
- build bridges between business, science and government, bringing together knowledge and expertise in order to increase national wealth and the quality of life.

Why is it important for the Region?

The South East remains a key driver of the UK's economy. However, the international aspects of our businesses and our strengths in new technology are a double-edged sword. If we stay abreast or ahead of global developments we will thrive and grow. If we lag, even a little, we will be overtaken. Critical decisions in either the public or private sector cannot be taken without reflecting on where we are headed.

What this paper seeks to do

By bringing together material relevant to the South East from a number of businesses, academic and government sources, we hope to provide an introduction to some of the drivers and issues that will affect our region for the next twenty years and beyond. These topics affect the strategic planning of local authorities and public agencies as well as businesses. We cannot predict the future, but we can get a better idea of where we are heading and how it will affect our businesses and our communities.

What's next?

If you have any comments on this paper and would like to contribute towards the debate, we would welcome your views. To help this process we will set up an interactive Future Think section of our website www.seeda.co.uk. Alternatively, you can contact us:

James Breen

Future Think Advisor

Email: jamesbreen@seeda.co.uk

Tel: 01483 500 797

or

Rashid Bashir

Strategy & Research Manager

Email: rashidbashir@seeda.co.uk

Tel: 01483 500 719

Informed by our debate, we will keep this document under review and regularly updated. To be of real value Future Think must be an ongoing process. I hope you will find it useful and I look forward to your involvement.

Allan Willett CMG

Chairman

South East England Development Agency

KEY DRIVERS OF CHANGE

While the future development of the South East will be influenced by a wide range of factors, it is possible to identify several which are likely to have a dominant, even determining effect on the shaping of our region - and its future prosperity. We have identified these key 'drivers of change' as:

- 1. Globalisation and Free Trade** - The impact of increases in international trade, capital mobility and the development of new markets.
- 2. Information and Communications Technology** - Changes brought about through increasing uptake of the internet and other communications technologies.
- 3. Emerging Technologies** - Biotechnology, genetics, robotics and micro- or nano-technology are areas where major innovations are already taking place.
- 4. Demographic Change** - Increases, migrations and shift in the age profile of populations will affect many aspects of life.
- 5. Environmental Sustainability** - Access to water, energy and other key resources will increasingly shape the way we live and do business.
- 6. Skills and Employment** - The average age and skills requirement of the workforce are due to change significantly.
- 7. Social Cohesion and Deprivation** - Income distribution, poverty, and the access of isolated communities to learning and jobs will continue to influence the supply of labour, government overheads and the quality of life for all.

The likely direction and pattern of these trends are described in Annex A.

IMPLICATIONS FOR SEEDA'S KEY THEMES FOR THE REGION

The following section highlights how these principal drivers are likely to influence the key themes at the heart of the Regional Economic Strategy, that is:

- Businesses
- Learning, Skills and Workforce
- Environment
- Transport
- Communities and Urban Renaissance
- Rural Economy

BUSINESSES

Key Impacts and Implications for the South East

1. New and growing international markets will result from increased access to foreign markets and renewed growth in the global economy. With its strong connectivity through such gateways as Heathrow, Gatwick, Southampton and the Channel Tunnel (and related ports), the South East will benefit from increased trade with developing markets.
2. Currently small and medium sized enterprises (SMEs) account for the majority of the total businesses in the South East, 97.3% of all firms have fewer than 50 employees (99.5% have fewer than 200 employees). This high proportion of small firms will continue, as the knowledge based economy continues to provide opportunities for diversification, spin-off and new firm creation. Challenges to such small firms to recruit and retain staff with appropriate skills will require new forms of training and learning consistent with commercial demands on employees of small firms. The provision of services to businesses, including ICT and connectivity will need to be delivered to an increasingly diverse and dispersed customer base.
3. A high percentage of global business opportunities and growth will, increasingly, be achieved between 'global regions' with the right ingredients to attract the successful multinational companies, world-class research and knowledge-based businesses. The South East is currently one such region, and has the potential to maintain and improve this position.
4. Supply chains are becoming global, characterised by co-operative relations between companies and through joint ventures and partnerships. At the same time, free trade will inexorably drive low value added, low skilled and low productivity activities (across all sectors, including manufacturing, commodities and service operations) towards low cost and less developed regions. The South East will therefore undergo continued and substantial structural change, as businesses adjust to the international distribution of economic activity.
5. Businesses' knowledge-based activities and operations will become highly mobile among more advanced regions, constantly searching for 'best in class' facilities. The South East is currently a beneficiary of this mobility, but must strive to maintain its competitive edge if it is to retain these high added value activities.
6. ICT - enabled business practices will increasingly serve as an alternative to physical relocation of organisations, as businesses become able to co-ordinate supply chains and projects spanning different parts of the globe. The South East is already a European centre for the technologies and businesses that will drive this change, but to see the full benefits of this development, the region's broader business base will need to remain at the forefront in terms of broadband connectivity and exploitation of e-business models.
7. The biotechnology and genetic engineering sectors are poised for explosive growth, with some applications already entering the market. The South East currently sits at the centre of Europe's leading concentration of research and development in this field, and can be expected to emerge as a leading centre of production.
8. Early nanotechnology applications (including display technologies, medical devices and more powerful computers) will begin to emerge during the current decade. The South East is one of several UK centres of basic research in this field, but is less clear whether it will emerge as a major production centre for these applications.

LEARNING, SKILLS AND WORKFORCE

Key Impacts and Implications for the South East

1. The knowledge-driven economy is creating new priorities for education and learning, placing increased emphasis on responsiveness, innovation and adaptation to change among learning providers.
2. The South East could continue to witness high skill shortages as its service-based economy becomes more 'digital' and the demand for IT skills continues to grow. However, the region has a number of opportunities to address these shortages. For example, there is significant untapped potential in the 2.7million South East residents of working age (representing 58% of the region's total workforce) whose current level of achievement is below NVQ level 3. The advent of the knowledge-based economy will increase social exclusion unless this is positively addressed.
3. Ageing populations are becoming the norm all over the world and in Europe in particular. In 2000, 20% of people in Western Europe were aged over 60. That figure is expected to rise to 45% by 2100. The success of regional economies will depend increasingly on the extent to which a culture of lifelong learning is successfully embedded.
4. As businesses constantly upgrade to maintain their competitiveness, the adoption of entirely new technologies and practices will become an increasingly important feature of re-skilling and continued learning. Recent survey evidence in the South East, showing that the majority of people aged over 45 are reluctant to use ICT, demonstrates that the region cannot afford to be complacent in addressing this issue.
5. Flexible patterns of working will increase, as homeworking becomes further enabled by videoconferencing. As these patterns grow, they offer the longer term potential to have some benefit in easing traffic congestion. The South East is well placed to be in the forefront of this trend, although there is the potential for a 'digital divide' between the haves and have-nots to emerge within the region, shaped by access to broadband connections.
6. Globalisation and ICT developments will enable companies to employ contract workers and freelance specialists from anywhere for specific projects. Sections of the South East's workforce are already well-versed in these working practices, but support for learning and professional development among these groups remains under-developed.
7. Many in-house corporate activities will be outsourced to different service providers. Managing these external relations within increasingly global supply chains will require new forms of planning and co-ordination skills, relying heavily on information management via digital and broadband networks.
8. In order to capitalise on its leading-edge research in biotechnology and nanotechnology, the region will need far more people skilled in biochemistry, materials and related areas.
9. Distance learning will take-off as part of a balanced portfolio alongside learning in the workplace and within 'traditional' institutions. Meanwhile, learning practices will continue to be transformed by revolutions in ICT (including multimedia technology). The South East's existing strengths and expertise mean that its learning institutions are well-placed to benefit from these developments in order to reach global markets – but opportunities need to be grasped quickly in a very competitive market.

ENVIRONMENT

Key Impacts and Implications for the South East

1. Climate change is certain to impact on the region:
 - Average temperatures are likely to rise
 - Sea levels are likely to rise between 12 and 67 cm over the next 50 years;
 - Winter storms may be more severe, rainfall patterns may change and demands for water could rise;
 - Climate change will bring opportunities to grow new crops, and to develop new tourist activities.
2. Environmental sustainability will become a mainstream, and rapidly growing, business market. The global market for new and replacement electricity generating capacity over the next 20 years is estimated to be some £2,000 billion. The world market for environmental goods and services alone is expected to grow tenfold, to reach £1,000 billion by 2010. The market for new engineering and construction solutions will grow strongly across the globe.
3. Drainage and waste management practices will need to undergo substantial change in order to cope with the implications of climate change, and controls on water use may intensify during the frequent hot summers. There will be a strong market for processes that improve water efficiency, and reduce wastage. The construction and engineering sectors will enjoy a huge global market for developing new coastal protection systems raising challenges for the provision of skills and training in this area.
4. Domestic and industrial demand for water is increasing due to rising population and economic growth, as well as growing industrial use. For the South East as for the UK as a whole, industrial use is expected to soar by 45% by 2020 whilst domestic use will increase by 17%. Engineering solutions such as sustainable drainage systems and re-use of grey water are likely to become everyday practice, alongside demand management through meters.
5. Small scale industrial gas-fired power stations are already appearing – neighbourhood scale power stations look increasingly feasible. There is a strong chance that these will be dual capacity systems, using solar power whenever possible and with gas as the back-up supply. If so, the reliance on fossil fuels may in future be lower than it is today. The development of such capabilities is a major market opportunity, and South East firms need to be at the forefront of developing the systems.
6. Nevertheless, the current trend towards increased reliance on gas for energy generation cannot be sustained in the longer term. Although manufacturing in the South East tends to be less energy-intensive than in many other regions, the region is currently a net importer of energy since it generates little itself. This implies either a return to nuclear energy or the emergence of alternative energy sources.
7. Gross waste generation in the South East will continue to increase – partly due to increases in population and industrial activity but also because waste generation per capita is on the increase, reflecting improvements in economic wealth. This will stimulate new business opportunities in waste minimisation techniques and waste market development.

TRANSPORT

Key Impacts and Implications for the South East

1. The national economy is forecast to continue expanding at a healthy rate, and the South East is likely to retain its status as one of the fastest growing regions in the UK. World trade growth will continue to be strong, underpinned by the continuing trends towards globalisation, further expansion of the World Trade Organisation and healthy global growth. Over the long term, increasing prosperity is expected to increase demand for international travel.
2. In the long term, e-commerce and broader Information and Communications Technology (ICT) developments may not eliminate congestion on our roads, but they may well have a beneficial effect. In the near future, they must be borne in mind in the development of public policy and working practices as they facilitate green travel plans, satellite working centres and more diverse inward investment possibilities by providing a different kind of accessibility to remote sites.
3. Demand for car travel and road haulage will continue to rise and result in increased congestion. This will further increase the costs to the economy and cause more environmental damage. The freight market (which is dominated by road haulage) is likely to expand, with growth underpinned by increasing trade and the development of e-commerce.
4. Increasing demand and congestion will further pressurise strategists and planners to encourage alternative forms of sustainable transport and the development of better links between different modes (e.g. road, rail, bus interchanges). Congestion on land may well stimulate the use of smaller South East ports as goods are either picked up or delivered closer to source.
5. Against this, the Government is forecasting that motoring costs will fall by 20% over the next decade, largely resulting from more fuel-efficient vehicles. By 2010 vehicle emission levels will be about one fifth of what they were in 1990 and advances in technology will continue to reduce emissions in the very long term. Meanwhile, developments in technology, and increase in travel information provided to travellers, will improve efficiency and make better use of capacity.
6. On current trends, the Government is forecasting an increase of 34 per cent in rail passenger demand by 2010, but limited capacity will constrain actual growth to 23 per cent. The Government's 1998 Transport White Paper states that if they reach their targets, the share of freight going by road would be 10 per cent lower than forecast for 2010. Although primarily a high-speed passenger railway, the Channel Tunnel rail link will provide some opportunities for moving freight between the UK and Europe, as trade with Europe increases.
7. Around 65 per cent of passengers flying to and from the UK use Heathrow or Gatwick Airport. Air freight in the UK is projected to grow at a rate of 7.5 per cent a year to 2010. Rising demand for air travel will have a positive impact on growth, expanding trade and increasing (direct and indirect) employment opportunities. Airport capacity constraints may emerge as a limiting factor which, as demand for air travel increases, may weaken the South East's competitiveness as a business location.
8. World seaborne trade is estimated to increase by 4 percent a year to 2010, nearly a 40% increase by 2010. Demand for cruise travel looks set to increase: growth in the North European cruise market will benefit Southampton and Dover.

COMMUNITIES AND URBAN RENAISSANCE

Key Impacts, and Implications for the South East

1. The future economic success of the region's urban areas will depend on their ability to compete within an increasingly global knowledge-based economy. This means that they must provide attractive locations for high value-added investment.
2. 200,000 people of working age in the South East live in households where no-one works. While almost 1,000,000 residents lack basic literacy and numeracy skills. Enabling these groups to reach their full economic potential will play a key part in ensuring the success of the region as a whole.
3. Changing life patterns associated with increased life expectancy, work patterns and the development of new lifestyle choices will lead to a different set of demands on urban planners:
 - The growth of one-person households points towards a diverse and growing consumer base for local services;
 - The amount of time and income devoted to leisure, culture and educational activities will continue to increase;
 - Homes will need to become increasingly adaptable to changing requirements and become alternative places from which to work.
4. Demand for smaller dwellings will rise further in response to the increase in the number of people living alone. Built density is likely to continue increasing to cope with high pressure on space in the region.
5. The region's limited supply of brownfield sites is found in areas where it is least required, whereas there is a significant shortage in areas where demand is currently highest, such as Surrey and the Thames Valley. Greater focus will be placed on smaller infill sites.
6. Increased demand for housing, and therefore rising house prices, may increase demand for housing in deprived (and therefore less expensive) areas, injecting them with much needed investment. The key deciding factor, however, will be peripherality. Deprived areas connected through either transport or communications infrastructure will benefit.
7. The continued growth of London, and its status in the international economy will put particular pressure on communities in the South East. Young people will continue to be drawn to the capital, but quality of life issues will encourage Londoners out into the South East region as incomes increase and people seek to move out and raise families.
8. The costs of health provision in the South East are the highest in the UK. The region demonstrates the lowest level of health among its residents while having the lowest per capita investment on health expenditure. This high cost and low delivery of health services and the resulting low public health levels must be addressed to ensure the region remains competitive.
9. One of the South East's greatest assets is its heritage and cultural resources. These factors will continue to play a significant role in encouraging inward investment and in sustaining the region's overall quality of life.
10. The integration and use of new communications technology will have profound effects on the way communities interact, providing opportunities and threats to social cohesion and inclusion. The physical connectivity, use of local public transport and land use planning will need to reflect the extent and use of new telecommunications (broadband) infrastructure.

RURAL ECONOMY

Key Impacts and Implications for the South East

1. Continuing globalisation, free trade, enlargement of European Union and reforms in CAP (Common Agricultural Policy) imply a new context that farmers of the region will have to operate within. Competition will stiffen and farmers will have to increasingly diversify into products in which they hold a competitive advantage or where they can add value to commodities or develop niche products. Those products will not be exclusively agricultural commodities, but may involve differentiated products and even services.
2. New opportunities will arise in terms of diversifying economic activity through the use of redundant buildings, in changing their use and in developing new businesses on farms which will require sympathetic planning approaches. Alternative crops (e.g. through climate change) and the enhancement of the rural environment through initiatives like countryside stewardship are also likely to come to the fore.
3. Changing natural habitats will offer the chance to enhance biodiversity, and renewable energy sources will also have an impact on the possibility of growing new crops, while a growing consumer preference for safe and traceable food will lead to increased opportunities for local produce and organic farming.
4. Demand for local services will increase as employment and rural populations rise. These population increases are likely to be concentrated among the 60+ age groups, however, as younger age groups are forecast to decline. Migration of the relatively wealthy is likely to continue from towns and cities to suburbs and rural areas.
5. New technology and advances in communications will increasingly make the countryside an easier place into which new enterprises can move and conduct businesses. This is likely to provide new networks and connectivity between settlements virtually reducing the need for commuting, with a greater focus on long distance journeys.
6. The increasing demand for recreation and leisure will continue to encourage more use of the region's countryside by urban and rural dwellers alike. Thus, developing higher value added tourism will continue as a key challenge sector in rural areas.
7. The provision of adequate services and affordable housing will continue to be crucial in terms of maintaining a mix of young and old in rural areas.
8. In 1999, house prices in the South East were higher in rural than in non-rural wards. In-migration will continue to raise demand while planning controls restrict supply, forcing up prices.
9. It should be recognised that because of the population density, the proximity of London and access to the continent the rural economy in the South east has, in many ways some additional opportunities to adapt and change. The proximity to urban centres, the demand for offices, the demand for leisure, for homes and for a wide range of products and services is likely to offer greater opportunities for farm businesses to adapt than other more isolated rural areas.

ANNEX A – KEY DRIVERS OF CHANGE

DRIVER 1: Globalisation and Free Trade

Current Features and Shaping Factors

- Strong growth in global trade and investment
- Growth of global supply chains
- Low trade barriers
- Easier access to global markets
- Strengthening regional blocs, facilitating multilateral trade
- Locational flexibility, allowing businesses to exploit new markets and manufacturing opportunities
- Enlargement of the European Union
- Increased concentration of businesses in a few global regions

DRIVER 2: Information and Communications Technologies

Current Features and Shaping Factors

- Continuing rapid developments in technology reaching the marketplace
- Steady growth in e-commerce
- A developing convergence between media, telecommunications and financial services
- Innovations in ICT will continue, enhancing capacity at continually falling prices
- Continuing growth in number of web-users - 75% penetration within UK over next 5 years, 1 billion users worldwide
- An increase in communications bandwidth (by a factor of 200) over the next 5 years will enable the internet to deliver much richer multimedia content
- Continuing rapid developments in virtual reality, ubiquitous computing, mobile computing, communications & display technologies will open up new opportunities
- Strong growth in the technology of neural networks and artificial intelligence
- Development of intelligent software for information management (e.g., replacing call centres)

DRIVER 3: Emerging Technologies

Current Features and Shaping Factors

- Extensive research is underway in key fields with recognised potential for ‘explosive’ growth, e.g. nanotechnology, biotechnology and genetic engineering; some applications already entering the market.
- Ethical concerns will circumscribe applications of genetic engineering in certain areas, although public opinion is likely to shift in favour where health care benefits result
- Applications of genomics in public health, plant breeding and environmental remediation are likely to accelerate
- Continuing advances in robotics, both for industrial and domestic applications

ANNEX A – KEY DRIVERS OF CHANGE (continued)

DRIVER 4: Demographic Change

Current Features and Shaping Factors

- World population is expected to peak in 2070 at around 9 billion, falling to 8.4 billion in 2100
- UK population will increase to 62 million by 2021 (from 59 million in 2000)
- The demographic support ratio - i.e., the ratio of the number of people of working age (16-64) to older people (65+) will fall from its current level of 4:1 to 2.5:1 by 2030
- By 2030 the UK will have 19 million people aged 60 or over
- By 2050, 34% of the EU population will be over 65 (currently 21%)

DRIVER 5: Environmental Sustainability

Current Features and Shaping Factors

- Climate Change will have significant affect on the UK, with implications for climate extremes, insurance, development (*cf* sea level rise), coastal zone management, health, agriculture, tourism and population movements.
- Rising proportion of population living in areas of water stress and scarcity
- Emergence of environmental technologies as a high growth business area, with innovation as a response to regulation, environmental need and market requirement (incl. public demand)
- Alternative energy sources becoming more significant (in response to both regulation and economic factors):
 - For power generation (incl. trend towards small-scale/neighbourhood generation)
 - For transportation (possible run-down of oil production as stimulus to hybrid vehicles/ development of affordable fuel cell technology)
- Trend towards a low waste-high value economy (with greater emphasis on resource efficiency *cf* 'factor 4' and even 'factor 10')
- Greater emphasis on waste minimisation in response to growing waste management problems; associated emphasis on re-use, recycling and producer responsibility
- More extensive fiscal regimes and development of alternative transport modes to address traffic congestion and associated environmental and quality of life impacts.
- Rising mean temperatures across the UK
- Emergence of environmental technologies as a high growth business area
- Alternative energy sources becoming more significant (in response to both regulation and economic factors)
- Rising proportion of the population living in areas of water stress and scarcity

ANNEX A – KEY DRIVERS OF CHANGE (continued)

DRIVER 6: Skills and Employment

Current Features and Shaping Factors

- A continuing shift away from manufacturing jobs to service jobs in the developed world, together with an increased polarisation between high-tech jobs and unskilled labour
- A continuing trend for more women to enter the labour market
- Age profile of the workforce becoming progressively older
- Part-time employment continuing to increase
- Further bouts of technological unemployment, as jobs are replaced by computers and advanced automation
- New skills demanded by knowledge based activities, as these become a major engine of future growth.
- Lifelong learning becoming increasingly important, with individuals needing to continuously update, improve and enhance their skills.
- Overseas competition due to labour which is both skilled and cheap will become more acute, as a large reservoir of qualified yet cheap workers become available in China and elsewhere over the next 20 years
- While tele-commuting and home-based working have not yet taken off as forecast, both are likely to expand with improvements in ICT

DRIVER 7: Social Cohesion and Deprivation

Current Features and Shaping Factors

- International disparities due to lack of resources, unpopular regimes, or historical circumstances, particularly international debt, will result in people living under basic subsistence levels and could lead to more migration to affluent countries.
- Persistent disparities within the South East in terms of net earnings, cost of living, employment opportunities and education etc.
- As the region becomes more enmeshed in the knowledge-based economy, access to technology as a learning tool will become essential. Social or economic barriers to this learning would exacerbate the gap between those who have relevant skills and those who don't.
- Expansion and reforms of the European Union will decrease the availability of funding from the European Commission which has been available to redress social imbalances in the South East.
- Shifts in the population's age profile will decrease the resources available for social security and support services targeted at deprived communities.
- The growth of new markets and new technologies, and the continuing buoyancy of the South East's economy will provide more opportunities and threats for social inclusion and economic integration in the South East than in any other region in the UK. Allowing us to take advantage of the diversity and strengths of our many different communities.