

July 2007

THE IMPORTANCE OF THE ENVIRONMENT TO THE SOUTH EAST ECONOMY

Beyond the Environmental Economy

FINAL REPORT

Prepared for SEEDA
by Land Use Consultants
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EXECUTIVE SUMMARY

1. In September 2006, Land Use Consultants (LUC) and SQW Limited were commissioned by SEEDA to carry out a qualitative review of progress in the Environmental Economy in the South East of England.

Study brief

2. The purpose of the project was to:
 - (i) Assess how much the contribution of the environment to the regional economy has changed since the original report on the South East Environmental Economy was published in 2002¹.
 - (ii) Explore the value to the region of a high quality environment, and the potential impact on the economy if the quality of the environment declined.
 - (iii) Highlight areas of the Environmental Economy where progress has been made and identify the actual and potential barriers and action required to enable further progress.
 - (iv) Make recommendations as to where SEEDA and its partners should target their efforts to develop the Environmental Economy further.
 - (v) Strengthen the evidence base available to inform and influence the development of major policies and strategies for South East England, including future reviews of the Regional Economic Strategy and South East Plan (particularly the implementation plans), sub-regional strategies and action plans.
3. The original brief was further refined during the study to focus more on the usefulness of the Environmental Economy as a concept, the wider importance of the environment to the economy, the role of the environment in the sustainable business agenda, and how to measure success.

Method of approach

4. The research comprised a combination of desk-based research, stakeholder workshop, and targeted telephone interviews. The study was overseen by a Steering Group comprising representatives of SEEDA, SEERA, Natural England, the Environment Agency and English Heritage.

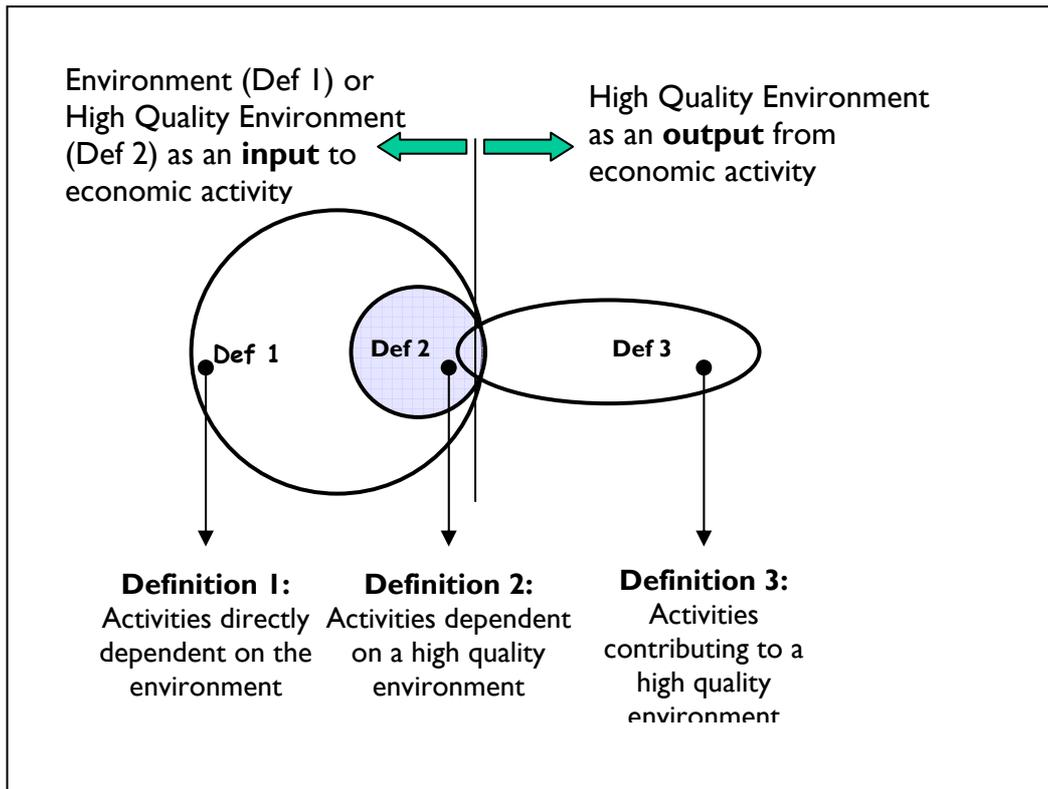
What is the Environmental Economy?

5. The Environmental Economy includes a disparate range of economic activities that are dependent upon the environment for their economic outputs. It comprises:

¹ Land Use Consultants, SQW Limited & Cambridge Econometrics (August 2002) *The Environmental Economy of the South East. Final Report.*

- 1) Activities directly dependent upon the environment (e.g. the minerals industry and agriculture).
 - 2) Activities dependent upon a high quality environment (e.g. tourism related).
 - 3) Activities contributing to a high quality environment (e.g. environmental technologies).
6. The relationship between the three definitions is illustrated below.

Relationships between the Three Definitions of the Environmental Economy



Findings of the research

The concept of the Environmental Economy

- The concept and quantitative measurement of the Environmental Economy has proved useful in raising awareness of the important contribution that economic activities with strong links to the environment make to the region's economy.
- The Environmental Economy itself comprises a disparate range of economic sectors and activities that are often not related to one another, and are not always sustainable – in policy terms, it is not a coherent concept.
- The Standard Industrial Classification (SIC) codes used to measure the performance of the Environmental Economy are a blunt instrument, and their use is heavily dependent upon the assumptions applied to generate performance data.

Nonetheless, in the absence of better data, the SIC codes and assumptions should continue to be used in order to measure trends over time.

The prospects for the Environmental Economy

- The prospects for the Environmental Economy are not as strong as for the South East economy as a whole, particularly in GVA terms. Activities dependent upon the environment, particularly primary industries, show the lowest growth prospects; conversely, activities contributing to a high quality environment, and those dependent upon a high quality environment (such as tourism) show the highest growth prospects.

Use of the Environmental Economy in regional strategies

- Although the concept of the Environmental Economy has proved useful, many of the principles that underpin it are beginning to be integrated and 'mainstreamed' within wider regional strategies, most notably the most recent Regional Economic Strategy and draft South East Plan.

The wider value of the environment to the economy

- The wider value of the environment (and specifically the role of the Environmental Economy) in making the South East an attractive place in which to live and do business (e.g. landscapes, biodiversity historic heritage, etc.), and in providing the essential services without which the economy could not function (e.g. water, soils, air, flood storage, etc.) are not as well understood, measured or valued as they should be.

Placing the South East Economy on a more sustainable trajectory

- It is now widely recognised that the South East economy has to be placed on a much more sustainable footing. Studies of the region's environmental sustainability and ecological footprint suggest that there is a significant amount of progress that needs to be made, which will require radical thinking and a step change in performance. This is needed if the economy of the South East is to stand the test of time, and to make it more resilient to external shocks, such as climate change.
- At the same time, the 'softer' elements of the environment, that are not readily appreciated for their economic value, such as habitats, biodiversity, landscape character, and historic heritage, must not be forgotten.
- The overall aim should be to foster an economy that is much lower on waste and resource use, produces fewer greenhouse gas emissions, is much less transport dependent, and is fully integrated with and supported by a high quality natural, historic and built environment. Businesses need to be part of the solution. Currently, there appears to be a mixed picture of awareness and understanding of these issues amongst South East businesses, and of the importance of adopting sustainable business practices for the long-term health of the economy as well as the environment.

- This in turn requires a different way of measuring economic success: one that is linked more closely to people's well-being, and to environmental and social as well as economic performance. The proposed adoption in the RES of the Index of Sustainable Economic Welfare (ISEW) is a step in the right direction.

Conclusions

7. There is widespread acceptance amongst regional bodies that environmental considerations, as part of the broader sustainability agenda, need to be properly integrated within the future development of the economy of the South East. Whilst significant progress has been made in the latest version of the RES, there is more to be done in embedding the environment fully in decision-making, prioritisation and resource allocation (i.e. spending decisions). The true value of the environment to the economy does not appear to be fully understood and appreciated.
8. In part this reflects the fact that regional strategies are still heavily focused on production/productivity considerations (i.e. the supply side), leaving the patterns and characteristics of consumption to one side: the danger is that any efficiency gains are more than cancelled out by increased consumption. Influencing patterns of demand must become a key consideration in moving forward.
9. At the same time as dealing with production considerations, therefore, there is an urgent need to consider patterns of consumption, recognising their relationship with the South East's very high ecological footprint: improving the resource efficiency of production is necessary in this context, but in isolation, it is unlikely to be sufficient.

Key recommendations

10. The recommendations are divided into three components:
 - (i) Overarching recommendations from the study that relate to ensuring that economic development is consistent with reducing the region's ecological footprint, and the specific recommendations for the Environment Economy.
 - (ii) Recommendations relating to the 'production' side of a sustainable economy.
 - (iii) Recommendations relating to the 'consumption' side of a sustainable economy – infrastructure – that the regional agencies are best placed to address.

Overarching recommendations

11. Ensure that existing and future economic development is consistent with stabilising and then reducing the region's Ecological Footprint:
 - Determine which measure of sustainable economic performance is most suitable for measuring the environmental performance of the economy, and prioritise this over other measures.
 - Examine how the 'consumption' component of a sustainable economy can best be addressed at the regional level, to complement the current emphasis upon the

‘production’ component, linked to the development of a better understanding and measurement of ‘well-being’.

- When reviewing regional strategies, ensure that different options (and their individual components) are properly tested for their ecological footprint. Only select the strategy and its individual components that will meet the region’s goal of stabilising and reducing its ecological footprint by 2016 – if none of the alternatives meet this goal, then develop a strategy that does.

12. Adopt the environment and economy measures of success:

- Further refine, test and populate the ‘measures of success’ proposed in this study with the aim of measuring (i) the economic performance of the Environmental Economy (ii) the extent to which the environment is fully integrated into regional decision-making (iii) whether the South East economy is moving on to a more sustainable trajectory.
- Seek to quantify and value the role that the Environmental Economy plays in maintaining the health, integrity and coherence of the region’s environment, and separate out those components of the Environmental Economy that are having a detrimental effect.
- Seek to quantify and value the service functions that the Environmental Economy plays in supporting the wider economy, and without which both the environment and the economy could not function or would be significantly impaired.
- Target support and investment on those components of the Environmental Economy that combine maintenance of the health, integrity and coherence of the region’s environment with the provision of service functions that support the wider economy.

Production-side recommendations

13. Increase understanding, intelligence and awareness of the contribution of the environment to economic success:

- Determine what aspects of the environment are most critical to economic success in the South East at different scales (e.g. local, sub-regional, regional, global), and why.
- Assess how the current and likely future status of these environmental aspects might affect future economic success, including the risk to the economy of environmental degradation and damage, and failure of ecological systems.
- Establish a clear system of recording and monitoring the relative importance of environmental factors in business decision-making, both direct (e.g. energy use) and indirect (quality of the environment in attracting skilled workforce).

14. Promote the ‘bottom line’ benefits to business of acting sustainably:

- Promote the South East Sustainable Business Strategy as a core strategic document for the region.
 - Monitor resource use (e.g. energy, water, raw materials, etc.) across economic sectors in the South East economy to establish a baseline for measuring improvements over time.
 - Identify excellent and poor performance in resource use, and establish the marginal costs and impacts on productivity and competitiveness on South East business in different economic sectors.
 - Include the above information as part of the Resource Efficiency Programme for South East businesses, with greater emphasis on the need to improve efficiency in water use and a step-change in reducing unsustainable business travel.
 - Investigate the feasibility and benefits of a South East equivalent of a 'kite mark' for businesses in the region that demonstrate achievements and improvements in sustainable business practices (similar to 'Green Mark' in London, run by the London Environment Centre).
15. Develop the skills and knowledge base needed to move the South East economy on to a more sustainable footing
- Assess which sectors offer the greatest opportunities and benefits for securing resource efficiencies and maintain environmental quality, the current adequacy of skills and knowledge in these sectors, and develop a targeted programme for skills improvement.
 - Review the different types of skills and training that are required for each sector to ensure that such training is tailored to the sector concerned, and mechanisms for providing and promoting the training are put in place.
 - Develop and maintain an information resource of environmental standards, the most up-to-date technologies and cutting-edge best practice clearly setting out relevance and benefits to each economic sector, and promote through economic partnerships, Business Links, etc.
 - Include in the next review of the RES prioritised actions to ensure that skills development to enable sustainable development practices will be delivered.

Consumption-side recommendations

16. Invest in essential infrastructure and reduce demands on other infrastructure:
- Systematically evaluate the contribution that investment in infrastructure will make to stabilising and reducing the region's ecological footprint by 2016, and commit only to support those aspects that will support this goal.
 - Before investing in new infrastructure, properly assess the extent to which there are alternative approaches to satisfying the identified need, for example through

technology and demand management, which will offset the need for new infrastructure.

- Establish a clear mechanism for evaluating the costs and benefits of investing in different types of infrastructure that properly evaluates the full range of benefits, services and impacts that will result from such investment, to take into account their contribution to all aspects of the sustainable development agenda.

Land Use Consultants
SQW Limited
June 2007

I. INTRODUCTION

- I.1. In September 2006, Land Use Consultants (LUC) and SQW Limited were commissioned by SEEDA to carry out a qualitative review of progress in the Environmental Economy in the South East of England. The review was intended to build on the 2002 report on the South East Environmental Economy, and on further work carried out by Cambridge Econometrics in 2005, which sought to provide an updated analysis of the contribution and future prospects for the Environmental Economy in employment and Gross Value Added (GVA) terms.

STUDY BRIEF

- I.2. The brief for this study states that the purpose of the project was to:
- (vi) Assess how much the contribution of the environment to the regional economy has changed since the original report on the South East Environmental Economy was published in 2002².
 - (vii) Explore the value to the region of a high quality environment, and the potential impact on the economy if the quality of the environment declined.
 - (viii) Highlight areas of the Environmental Economy where progress has been made and identify the actual and potential barriers and action required to enable further progress.
 - (ix) Make recommendations as to where SEEDA and its partners should target their efforts to develop the Environmental Economy further.
 - (x) Strengthen the evidence base available to inform and influence the development of major policies and strategies for South East England, including future reviews of the Regional Economic Strategy and South East Plan (particularly the implementation plans), sub-regional strategies and action plans.
- I.3. The output from the review was to be a Progress Report, incorporating the following elements:
- A review and summary of the actions and initiatives currently taking place to develop the environmental component of each economic sector, with particular emphasis given to activities that are likely to reduce the ecological footprint of the South East, a goal that was articulated in the draft Regional Economic Strategy, published in April 2006.
 - An analysis and assessment of the progress and effectiveness against expectations of action taken by key players in each sector.

² Land Use Consultants, SQW Limited & Cambridge Econometrics (August 2002) *The Environmental Economy of the South East. Final Report.*

- Identification of the factors that have encouraged progress, barriers that are preventing progress and priorities for further action, to include stakeholders' perceptions of the environment as an asset or barrier to economic development.
- Based on the results of the analysis and assessment, the identification of examples of good progress in the Environmental Economy, demonstrating any learning points, replicable approaches and/or best practice.
- Recommendations for the development of policies for inclusion in forthcoming regional and sub-regional strategies and plans and particularly for the development of implementation plans for the Regional Economic Strategy and the South East Plan.

I.4. As a result of discussions with Steering Group, the scope of the work was refined from that set out in the original brief. The main refinements were in relation to:

- An assessment of the usefulness of the concept of the Environmental Economy in helping to place the economy of the region on to a more sustainable footing.
- Improved understanding of the importance of a 'high quality environment' to the regional economy.
- Disaggregating the various levels of environmental issues in relation to the economy, particularly between global environmental issues (especially climate change), and local environmental quality.
- The development of 'measures of success' to determine how well the region is performing across the environment and economy spectrum.

I.5. The review has taken place over a six month period, and comprised desk top research, a business investor survey, stakeholder workshop, and targeted interviews. The detailed method is described in the next chapter.

2. METHODOLOGY

- 2.1. In order to carry out this study and address the brief stated above, the following scheme of work was carried out:

DEFINING THE ENVIRONMENTAL ECONOMY

Review of Regional Economic Strategies

- 2.2. The RES for the South East and those for eight other English Regions were reviewed in order to determine how the concept of the Environmental Economy has been defined and used. The purposes of this review were to ascertain consistency of the concept across the Regions and to determine whether the South East apply any of the work done elsewhere to better manage its own Environmental Economy.

THE CONTRIBUTION OF THE ENVIRONMENTAL ECONOMY TO THE REGIONAL ECONOMY

Review of Cambridge Economics 2005 report on the contribution of the Environmental Economy

- 2.3. In March 2005, Cambridge Economics updated their top-down analysis of the contribution of the South East's Environmental Economy to the regional economy in terms of the contribution of different sectors to employment and output (measured as GVA). Their numerical report was analysed and the latest estimates of the current size and forecast growth of the Environmental Economy presented, both in total and in terms of the differing prospects of individual sectors.
- 2.4. The next two tasks were aimed at exploring how useful the concept of the Environmental Economy is proving to be as a focus for actions aimed at improving the economic and environmental performance of the South East.

THE USEFULNESS OF THE ENVIRONMENTAL ECONOMY AS A CONCEPT TO MAKE THE SOUTH EAST ECONOMY MORE SUSTAINABLE

Assessment of the profile of the Environmental Economy

- 2.5. Key regional documents were reviewed, with a particular focus on the previous (2001-2012) and current (2006-2016) versions of the RES, together with a selection of other documents including the South East Plan. The review aimed to establish how high a profile the Environmental Economy is given in key policy documents and whether this focus is increasing or decreasing over time.

Determination of adoption of recommendations on the Environmental Economy

- 2.6. LUC's 2002 report on the Environmental Economy of the South East put forward two main sets of recommendations to maximise the potential of the Environmental

Economy of the South East, one strategic set and one set focused on particular sectors. In order to further investigate the usefulness of the Environmental Economy concept as a focus for action, this task sought to determine the degree to which the recommendations have been adopted, tabulating evidence for each recommendation.

- 2.7. The work above was used to inform a discussion on the extent to which promotion of the Environmental Economy rather than promotion of sustainability across the whole economy of the South East is likely to provide the greatest contribution to achievement of the region's sustainable development goals.

THE RELATIONSHIP BETWEEN THE ENVIRONMENT AND ECONOMIC SUCCESS

Assessment of perceptions on the relative importance of the environment

- 2.8. The newly adopted RES asserts that environmental quality is a vital for economic success, for example by contributing to a high quality of life that attracts skilled workers. However, there is little hard data as evidence for this assertion. In the absence of such data, the results of an Ipsos MORI survey on South East residents' views of the region was examined to determine the relative importance of aspects of environmental quality to well-being. This was used as a proxy for employee and business perceptions.

Business investor survey

- 2.9. To supplement the secondary research evidence provided by the Ipsos MORI poll, a short email survey was carried out to investigate the relative importance which businesses attach to different factors (including environmental ones) when deciding to invest in the region. This required respondents to rank separately the broad locational factors (e.g. excellent and uncongested access to the strategic road network) and site-specific factors (e.g. ample parking provision at the workplace) they took into account when deciding to locate in the South East. The survey also asked businesses to define what they understood by a 'high quality environment' in the vicinity of the workplace and in residential areas serving the workplace.
- 2.10. The business investor survey was circulated by SEEDA to approximately 50 businesses in the South East. Despite sending reminders, the response to the survey was poor, with only four businesses responding, which meant that limited reliance could be placed on the results. The views of business therefore remain a gap in the research that may require alternative research routes beyond the scope of this project in order to be filled. Towards the end of the project, the authors of this report were made aware of some survey work of businesses in the South East of England commissioned by Business Link relating to sustainability issues, which provides an insight into current interest, awareness and action amongst business practitioners. The Business Link survey work is referred to in this report where appropriate.

MEASURING SUCCESS AND TARGETING ACTIONS

Definition of 'success' in relation to the Environmental Economy

- 2.11. To further test the usefulness of continuing to promote the Environmental Economy as a sector in its own right and its contribution to broader sustainability goals for the regional economy, it was deemed useful to define what success means for the Environmental Economy. A set of success measures intended to capture the desired activities and outcomes of the Environmental Economy was devised during an internal brainstorming meeting and then refined by discussion with the steering group. The measures of success addressed three over-arching objectives, high performance of the Environmental Economy itself, a raised profile for the environment in decision-making and increased environmental quality and well-being for the region.

Assessment of progress to date and role of Environmental Economy sectors in ultimate success

- 2.12. Having agreed the measures by which the success of the Environmental Economy should be judged, the current baseline was then assessed as far as possible, by reference to published reports and statistics. Judgement was then applied to assess how different Environmental Economy sectors contribute to achievement of each desired outcome and the processes and drivers which are key dependencies for achieving those outcomes.

INTERIM PROGRESS REPORT

Consultation on Interim Progress Report

- 2.13. The interim findings of the study were set out in the report described below. In order to test and refine these findings, a copy of the report was sent for comment to a wider group of stakeholders than those represented by the project steering group and survey respondents. The stakeholders targeted for this consultation exercise included representatives of the following organisations:
- SEEDA.
 - Other regional public sector organisations e.g. SEERA, Environment Agency Southern, Natural England, South East Economic Partnerships.
 - Sustainability and special interest organisations e.g. RSPB, WWF-UK, Friends of the Earth.
 - Business sector representatives e.g. Tourism South East, EnviroBusiness South East, NFU.
 - The Sustainable Business Partnerships, sub-regional organisations that engage with businesses to help them become more sustainable.

Environmental Economy workshop

- 2.14. The consultation process was widened by inviting all the recipients of the Interim Progress Report, together with all recipients of the business investor survey to a workshop to discuss the environment and the economy in the South East. The key questions that the workshop aimed to address were:
- What does a high quality environment mean for businesses?
 - How important is a high quality environment for business relative to other factors?
 - Is the concept of the environmental economy useful and relevant to making the South East economy more environmentally sustainable?
 - What are the measures of success for the interface between the environment and the economy, and how is the South East performing?
 - What should be the focus for future action?
- 2.15. The format of the workshop comprised presentations on the findings of the Interim Progress Report, including the proposed measures of success for the Environmental Economy, small group discussion exercises and a plenary session to discuss and summarise delegates' views.
- 2.16. 90 stakeholders were invited to the workshop. 27 positive replies were received, although subsequently 6 of these sent notification that they would be unable to attend, and on the day of the workshop only 11 delegates actually turned up. Although the discussions and findings of the workshop were useful, they can only be considered to represent the views of a narrow selection of stakeholders. As a result, delegates and those who were unable to attend were also contacted after the workshop and invited to submit any additional comments, particularly case studies demonstrating positive links between the environment and the economy, suggestions for regional policy development or implementation and any further comments on the Interim Progress Report.

Follow-up interviews

- 2.17. To capture the views of key individuals and organisations unable to attend the workshop, a small number of follow-up telephone interviews were conducted, focusing on:
- Contributions to the global environment versus the importance of local environmental quality to the economy or business;
 - Concrete recommendations for policy and actions;
 - Case studies of good practice.

Case studies

- 2.18. Examples of positive links between businesses and the environment were collated from consultees and from independent research and presented in the final report to illustrate good practice in relation to moving the economy towards a more sustainable future.

FINAL REPORT

Report on findings and recommendations

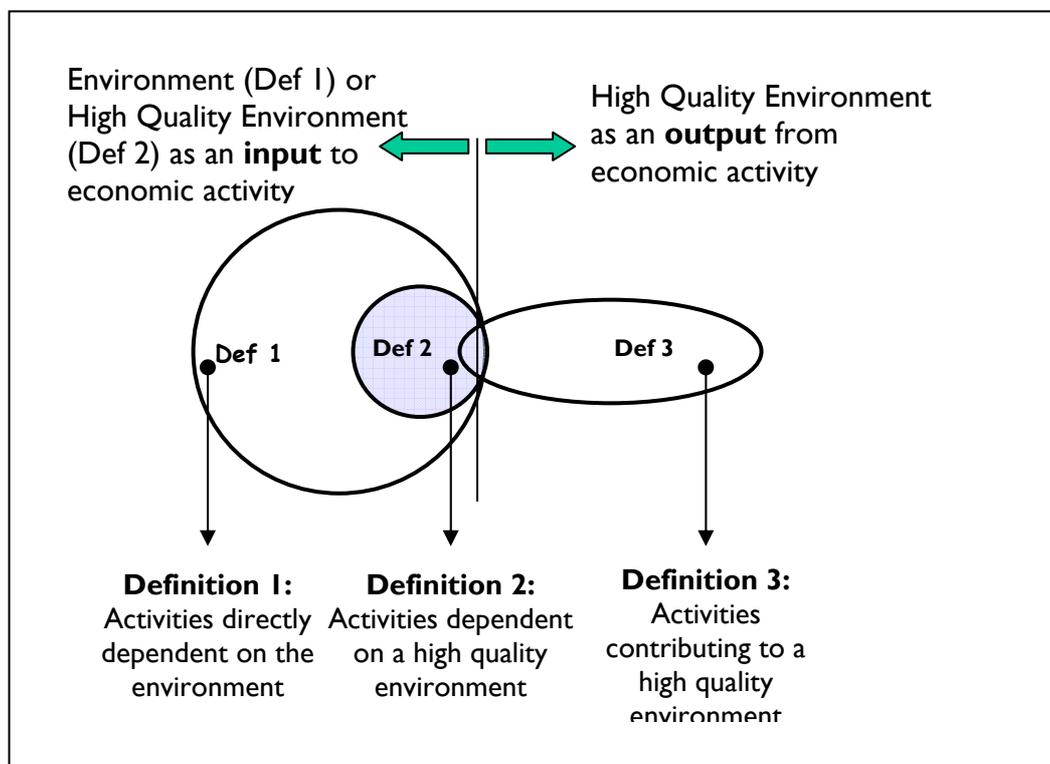
- 2.19. A draft final report was prepared for submission to the Steering Group at the end of March 2007. This set out the findings from the research and recommendations. Comments from the Steering Group on the draft final report were taken on board in order to produce this final report.

3. DEFINING THE ENVIRONMENTAL ECONOMY

INTRODUCTION

- 3.1. One of the key challenges when the original study was undertaken was to define precisely what the Environmental Economy is. The 2002 Report found that the Environmental Economy includes, in fact, a disparate range of economic activities that are not necessarily 'good' for the environment, even though they are dependent upon the environment for their economic outputs.
- 3.2. As a result, it was agreed with stakeholders that the Environmental Economy needed to be divided into different types of activity, depending upon their relationship with the environment:
- 4) Activities directly dependent upon the environment (e.g. the minerals industry and agriculture).
 - 5) Activities dependent upon a high quality environment (e.g. tourism related).
 - 6) Activities contributing to a high quality environment (e.g. environmental technologies).
- 3.3. The relationship between the three definitions is illustrated in Figure 2.1.

Figure 2.1: Relationships between the Three Definitions of the Environmental Economy



- 3.4. Figure 2.1 shows that some economic activities straddle two or even three of the above definitions. For example, the business undertaken by the water utilities is not only dependent upon the environment (Activities definition 1), but also contributes to a high quality environment, by – for example – improving the quality of waste water discharged to watercourses through treatment processes (Activities definition 3).
- 3.5. Measuring the Environmental Economy sector was further complicated, as it is not recognised in standard economic sector classification terms. This caused some difficulty for quantifying the Environmental Economy sector for the following reasons:
- The Standard Industry Classification (SIC) codes do not distinguish between the ‘sustainability credentials’ of the different activities, and so weighting needs to be applied to take this into account.
 - Some aspects are inherently difficult/impossible to quantify, such as ‘Quality of Life Benefits’, and the relative importance of a high quality environment for inward investment vis-à-vis other influencing factors.
 - Some aspects of the Environmental Economy (e.g. local authority activities, such as land use planning and environmental health protection) are not specifically captured in SIC codes.
- 3.6. For these reasons, a two-pronged approach was adopted in the 2002 report:
- Top-down analysis using SIC codes with notional weightings applied to reflect each economic activity’s contribution to each of the three definitions of the Environmental Economy.
 - Bottom-up analysis using secondary research studies and reports, plus primary research (e.g. questionnaire survey of all local authorities in the region) to test and provide further clarification of the extent and depth of the Environmental Economy.
- 3.7. For the top-down analysis, the economic activities listed under SIC codes were divided into 13 groups of activities sharing similar characteristics:
- Agriculture.
 - Hunting.
 - Forestry.
 - Fishing.
 - Mining of fuels.
 - Mining of metals.
 - Quarrying.
 - Other Mining and Quarrying.

- Manufacturing of Environmental Technologies.
- Waste Processing.
- Energy.
- Capitalising on a High Quality Environment.
- Sustainable Transport.
- Environmental Advice.

3.8. The SIC codes did not capture all of the aspects of the Environmental Economy. For example aspects of recreation (e.g. liveries) and the role that environmental quality plays in attracting inward investment and film and media were excluded. Nonetheless, the list of economic activities provided a starting point in calculating the size of the Environmental Economy. As described above, an element of weighting to the Environmental Economy sector was provided to reflect the strength of each activity's relationship to each of the three definitions. These varied depending on the economic activity concerned.

ENVIRONMENTAL ECONOMY IN THE REGIONS

3.9. In order to help improve our understanding of the concept of the Environmental Economy, it was considered that a rapid review of the way that the Environmental Economy had been defined and used in the RESs of other regions would prove useful. A comparison could then be made with the approach in the South East, to see how far there is consistency between the regions, and to determine whether there are any further benefits for the Environmental Economy of the South East that could be gathered from work in other regions.

Table 2.1: Approaches to the Environmental Economy in English Regions

Region	RES definition and approach
East of England	No reference to Environmental Economy in RES (adopted 2004), although environment and landscape are highlighted as assets to the economy: <i>“The region’s landscapes and environmental assets, which act as a national resource for food, farming and renewable energy - this strategy recognises the enormous potential that the region’s diverse landscapes bring to the regional economy”.</i>
East Midlands	The East Midlands RES (adopted 2006) makes one reference to the Environmental Economy: <i>“The region's environment is an important asset and protecting and investing in it makes economic sense. Environmentally sensitive farming and forestry practices such as agri-environment schemes, organic production and sustainable woodland management support approximately 4,300 land-based jobs in the East Midlands and are key elements of the region's broader</i>

Region	RES definition and approach
	<p><i>Environmental Economy. The East Midlands faces some significant challenges. It has, for example, almost 500 Sites of Special Scientific Interest (SSSIs); however, these cover a smaller proportion of the total land area than the national average. Biodiversity has declined faster in the East Midlands than elsewhere in the UK, in part due to the significant amount of high quality, intensively farmed land. The majority of wildlife indicators in the East Midlands, such as numbers of farmland birds, scarce plants and mammals, have all shown serious decline over the last 25 years”.</i></p> <p>The Environmental Economy of the East Midlands report (emda, 2002) states that it encompasses a wide range of growing activities, including:</p> <ul style="list-style-type: none"> • Businesses supplying environmental technologies and services. • Cost effective environmental improvements in industry. • Rural businesses relating to environmental improvements, such as agri-environment schemes and organic farming. • Tourism and leisure businesses which are dependent on the quality of the region’s natural and historic built environment. • An update report, due out shortly, builds on a study undertaken by emda and partners in 2002 to examine the contribution of the Environmental Economy to the region’s strategic economic aspirations.
London	No reference to Environmental Economy in the RES (adopted 2005).
South West	<p>No reference to Environmental Economy in the RES (adopted 2006). However, there are references to the links between the economy and the environment, such as:</p> <p><i>“Successful RES delivery will help ensure stronger and more sustainable communities in the region, as well as communities that connect and work better with each other. It is crucial for the region to plan for successful long-term growth – a key aim of the IRS. Successful RES delivery will include facilitating growth in places that can make a significant contribution to achieving regional objectives. This will recognise the diversity of the region, the need to reduce the region’s eco-footprint and enhance its special environment”.</i></p> <p><i>“We want a dynamic, growing economy to continue into the future so we have to manage the economy within environmental limits”.</i></p> <p><i>“Business efficiency can be enhanced through better environmental management”</i></p> <p>The Environmental Economy in the Rural Areas of South West England (2003) states that:</p>

Region	RES definition and approach
	<p><i>“The ‘Environmental Economy’ can be defined to include a variety of economic activities that are either concerned with the management and enhancement of the environment, or that benefit from the quality of the environment. The ‘Rural Environmental Economy’ is simply the subset of these activities that are concentrated in rural areas”.</i></p> <p>The Review of the Value of the Environment to the South West Region’s Economy (Countryside Agency, 2006) states that:</p> <p><i>“The ‘Environmental Economy’ has traditionally been described by identifying those industrial sectors most closely associated with the environment, usually land-based industries and others such as tourism that depend upon the landscape. More recently however, a more sophisticated approach has emerged that seeks to describe the functional relationship between different economic activities and the environment. This ‘environmental capital’ approach originates from the concept that the environment has embedded value and provides society and the economy with a range of raw materials, services and opportunities. The economy exploits this capital in a variety of ways some of which are positive (contribute to capital) and others that are negative (draw-down capital)”.</i></p>
North East	<p>The North East RES (adopted 2006) does not mention the Environmental Economy explicitly.</p>
North West	<p>The North West RES (adopted 2006) sets out ‘an Environmental Economy which contributes 2.7% of the region’s GVA’.</p> <p>‘The Environmental Economy of England’s Northwest: A driver for economic and social progress’ (2005) defines the Environmental Economy as <i>“activities that protect and improve the environment”</i> claiming that it contributes 109,000 jobs and £2.6bn in GVA. The Environmental Economy includes:</p> <ul style="list-style-type: none"> • Environmental Technologies sector – environmental goods and services industry including waste management, recycling and renewable energy sectors. • Land Based sector – includes environmentally beneficial farming (which is in accordance with the environmental stewardship scheme), organic farming, countryside sports, and aspects of forestry and wood processing. • Environmental Tourism sector – only includes tourism which is driven by a high quality environment.
South East	<p>There are many references to a high quality environment, environmental technologies, environmental infrastructure, but there is only one specific reference in the RES 2006-2016 to the Environmental Economy:</p>

Region	RES definition and approach
	<p><i>“One of the region’s major capital assets is the high quality of its environment. There is considerable scope to develop the Environmental Economy further and maximise its value to the region by maintaining and enhancing the region’s biodiversity, and by investing in its heritage assets and green infrastructure”.</i></p> <p>This compares to the adopted RES 2002-2012, which drew upon the 2002 Environmental Economy Report prepared by LUC, SQW and Cambridge Econometrics. It stated that:</p> <p><i>“The Environmental Economy of South East England is an asset of immense importance to the region. In 2000, the Environmental Economy contributed nearly £8 billion to the South East economy, and employed approximately 230,000 people (a higher figure in both cases than for any other English region). It comprises:</i></p> <ul style="list-style-type: none"> • <i>Primary industries that depend on environmental resources, such as agriculture, forestry, fishing and mineral extraction</i> • <i>Industries that depend on a high quality environment for their success, such as tourism, recreation and leisure</i> • <i>Activities that contribute to a high quality environment, such as conservation organisations, local authorities and government agencies</i> • <i>Organisations and businesses involved in developing environmental technologies that deliver an improved environment. (As defined in the Environmental Economy of the South East (2002))</i> <p>The goal of this objective was that by 2012, the South East will be <i>“one of the world’s leading environmental economies, with businesses in the region having made significant gains in safeguarding and enhancing this asset”.</i></p>
Yorkshire and Humber	<p>Para 2.27 of the RES (adopted 2006) refers to the Environmental Economy in conjunction with the Northern Way Growth Strategy 2005, setting out the proposals that will be taken forward in the region and other work outside the Northern Way. These include priorities that are important to Yorkshire and Humber (e.g. on urban and rural renaissance, economic inclusion, business support and the Environmental Economy).</p> <p>Annex I shows how the RES takes forward each Northern Way work-stream. The Northern Way city regions are covered both in Part I of this text and the Companion Document. The Environmental Economy is not however mentioned in the Northern Way Growth Strategy</p>

Region	RES definition and approach
	document itself – ‘Growth Strategy, Moving Forward: The Northern Way’ (NERDA, NWRDA, YHRDA, 2004) ³ .
West Midlands	<p>The RES (adopted 2004) states “<i>Our Environmental Economy is large and diverse. We estimate it employs more than 90,000 people in the private, public and voluntary sectors</i>”. ‘Developing an Environmental Economy’ is also highlighted as a Theme under the first strategic pillar, with section 4.7 providing more detail on how this is to be achieved. It notes that pressures for improved environmental practice will provide opportunities, and that the region’s manufacturing base, particularly through its expertise in engineering, is well placed to exploit major opportunities in environmental technologies and broaden the business base by developing this new growth area. This provides a valuable opportunity to integrate the environmental and economic themes of sustainable development.</p> <p>The Environmental Economy of the West Midlands 2001 defines the Environmental Economy as “<i>economic activities which are based on the high quality environment, and economic activities which provide benefits in terms of enhancing or protecting the environment</i>”.</p> <p>Opportunities for the region’s rural Environmental Economy are further explored in Developing the Rural Environmental Economy of the West Midlands (2005). It states:</p> <p>“<i>The Environmental Economy comprises:</i></p> <ul style="list-style-type: none"> • <i>Activities which are dependent on the high quality environment (e.g. environment based tourism, inward investment attracted by the high quality environment); and/or</i> • <i>Activities which are designed to protect or improve the environment (e.g. environmental management, agri-environment activities and land based products such as food and drink linked to environmental assets or management activities)”</i>.

3.10. Although six of the nine regions have undertaken investigations into the Environmental Economy, it is only referred to in five RESs but not in any detail in any of them. Definitions of the Environmental Economy vary between the regions. However, most focus on industries that contribute to environmental improvements,

³ The Northern Way is an initiative led by the three Northern Regional Development Agencies (RDAs) - Yorkshire Forward, Northwest Development Agency and One NorthEast. It will not replace existing regional strategies, such as the Regional Economic Strategy (RES) and the Regional Spatial Strategy (RSS). Instead it will contribute to the strategies as they are developed and reviewed by looking at the opportunities for the three northern regions to gain the most by working together on specific actions.

management or protection. They often split economic measures for traditionally defined sectors, such as agriculture, between those elements of the sector that bring environmental improvements and those that do not. The full South East definition however, based on the South East Environmental Economy (2002), is wider focusing on all sectors of the economy that interact with the environment, whether positively or negatively.

CONSULTATION FINDINGS

- 3.11. The choice of industrial sectors that make up the Environmental Economy, and the relative contributions to each of the three definitions on the Environmental Economy were tested at the workshop using small working groups of twos and three delegates.
- 3.12. It was recognised at the workshop that the choice of categories was constrained by the SIC Codes, and as a result, delegates found it a challenge to decide what should and should not be included, and whether there were any sectors that should be added or excluded. Similar challenges were evident in the weighting of the sectors according to how much it was felt each contributed to the three definitions.
- 3.13. It was generally considered that the right sectors were included in the definition of the Environmental Economy. However, the working groups presented quite different results on the weightings that should be applied to each sector for the three definitions, and in some instances these varied quite significantly from those currently being used to monitor the performance of the Environmental Economy.

DISCUSSION

- 3.14. The definition of the Environmental Economy in the South East is wider than some regions have been using, as it also includes those sectors of the economy that interact with the environment, whether positively or negatively. It is considered that this wider definition is still justified, because of the strong relationship that these sectors have with the environment and also because there is significant potential for encouraging a shift towards making a more positive contribution, as well as reducing negative impacts.
- 3.15. The research also found that there continues to be a lack of data upon which to determine how much each economic sector contributes to the three definitions of the Environmental Economy, or in broader terms to determine their overall 'sustainability'. As a result, any performance measures are only as rigorous as the assumptions upon which they are derived. Whilst the results of the workshop did not conclusively suggest a need for changes, there was a feeling of discomfort about how much reliance should be placed on the data generated.
- 3.16. In conclusion, therefore, in the absence of better data it is recommended that the current categorisation, definitions, and weightings of the Environmental Economy continue to be used at least in the short to medium term. This will ensure consistency with previous analyses of jobs and GVA of the Environmental Economy, which would be more useful in measuring trends, rather than absolute performance. It could be anticipated that this performance should improve over time, which in turn could affect the weightings particularly in relation to definition 3 economic activities.

- 3.17. Taking a longer view, the usefulness of continuing to use the SIC codes may need to be revisited, as they are a fairly blunt tool for trying to determine what should and should not be included in the Environmental Economy.
- 3.18. Perhaps more important is the need for a much better understanding of the 'sustainability' performance of sectors included in the Environmental Economy, and potentially the wider economy as a whole. These issues are considered in the next chapters of this report.

4. THE CONTRIBUTION OF THE ENVIRONMENTAL ECONOMY TO THE REGIONAL ECONOMY

INTRODUCTION

- 4.1. The Cambridge Econometrics report⁴ presents an updated top-down analysis of the contribution of, and prospects for, the Environmental Economy to the wider economy of the South East, based on SIC codes and weighted according to their contribution to the three definitions of the Environmental Economy, in terms of employment and output (measured as GVA). It is consistent with the work carried out by LUC, SQW and Cambridge Econometrics for their 2002 report *The Environmental Economy of the South East*.

CURRENT SIZE AND GROWTH OF THE ENVIRONMENTAL ECONOMY

- 4.2. The 2005 report showed that the Environmental Economy employed 236,000 people in 2003⁵, representing 5.5% of the South East's workforce and generating 6.0% of its £130,214m output. Between this date and 2015, the size of the Environmental Economy in the South East is projected to grow by 16,200 jobs or 6.9% and by £1,706m or 21.6% in terms of output.
- 4.3. Although forecast to grow in absolute terms, the Environmental Economy as a proportion of the regional economy actually reduces over the same period, with its contribution to total employment shrinking by 3.6% and its contribution to GVA by 15%. The differential decline between employment and output also demonstrates that the Environmental Economy's productivity, as measured by GVA per capita, is growing less quickly than that of the rest of the regional economy.
- 4.4. The more detailed analysis reveals a more mixed picture. The Environmental Economy will continue to be both bigger and have better growth prospects (especially employment) than a number of other major sectors. However, other sectors, such as electronics, electrical and instrument engineering are predicted to contract in terms of jobs but have high GVA growth rates – reflecting an improvement in GVA per capita. The Environmental Economy is unlikely to achieve such increases in productivity, although those contributing under Definition 3 show most potential.

PROGRESS SINCE THE EARLIER REPORT

- 4.5. At the time of the earlier report, the size of the Environmental Economy was forecast to shrink by 7,800 jobs in the subsequent 10 years (9% reduction in contribution to regional workforce). In the latest report, which contains an

⁴ Cambridge Econometrics (March 2005) *The Environmental Economy of the South East*

⁵ Last available actual data for Environmental Economy

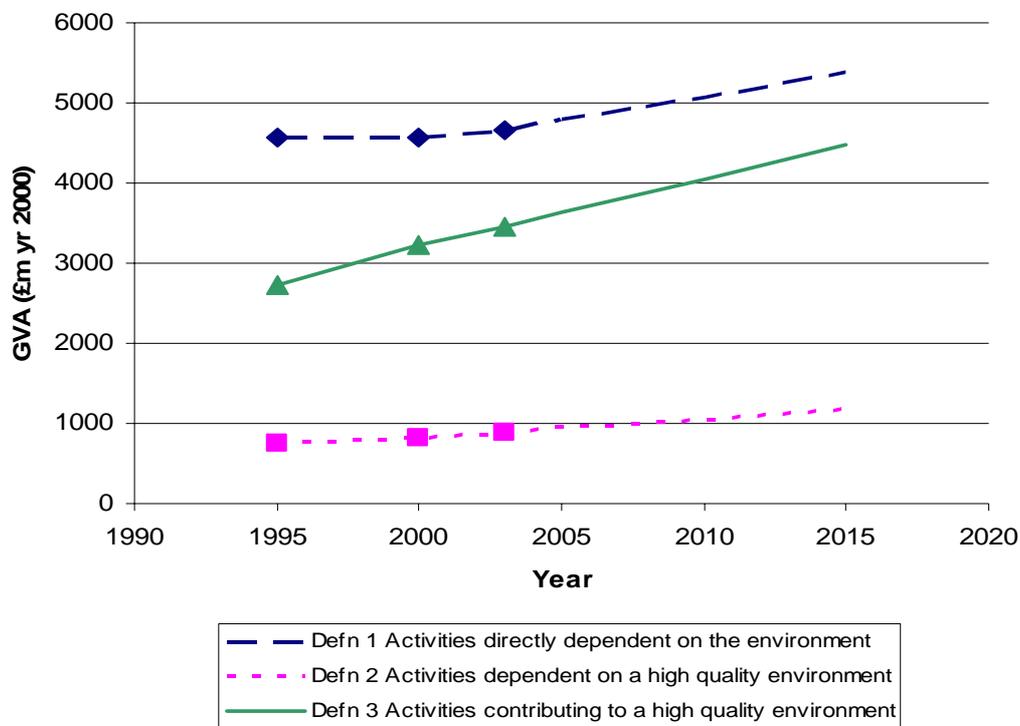
additional three years of actual data and revised forecasts, the figures for the same period are a growth of 6,800 jobs (but with a 7% reduction in contribution to the total regional workforce).

- 4.6. The improved employment position reflects stronger growth than previously forecast in jobs associated with activities dependent on a high quality environment (such as tourism-related) and in activities contributing to a high quality environment (such as environmental technologies) while job losses in activities directly dependent on the environment such as agriculture are significantly lower than previously forecast.

FORECAST PERFORMANCE OF ACTIVITIES WITHIN THE ENVIRONMENTAL ECONOMY

- 4.7. In order to better understand the implications for environmental quality, it is necessary to disaggregate the figures above into their three component activity types. As Figure 3.1 illustrates, whilst activities directly dependent on the environment (definition 1) remain the biggest component of the Environmental Economy in absolute terms, GVA growth for the forecast period 2003-2015 is greatest for activities contributing to a high quality environment (definition 3 +£1,017m). Although growing from a low base, activities dependent on a high quality environment (definition 2) actually have the highest forecast growth rate at +31%, with definition 3 activities close behind at +29% and definition 1 activities lagging a poor third at +16%.

Figure 3.1: GVA of the South East Environmental Economy by activity



- 4.8. Similarly, the pattern across the region is varied. Hampshire and Kent are strongest in those parts of the Environmental Economy falling under definition 1. But the strongest prospects for growth are in Oxfordshire, Surrey and Buckinghamshire, because of the relative importance of the environmental advice element of the Environmental Economy (which falls under definition 3).

IMPLICATIONS FOR TARGETING PERFORMANCE IMPROVEMENT

- 4.9. Since definition 2 and 3 activities both surpass the GVA growth rate for the South East economy as a whole (+22%) and can respectively leverage or help to deliver environmental improvement, there would seem to be a strong case for actively supporting their development. It must, however, be borne in mind that although tourism-related and other activities within definition 2 capitalise on a high quality environment, they have the potential to develop in an unsustainable way.
- 4.10. Definition 1 activities are most readily considered by stripping out activities dependent on a high quality environment since these definition 2 activities are almost entirely a subset of definition 1. When this adjustment is made, the GVA of the remaining activities which use the environment but do not require it to be of high quality is forecast to grow by just 12% during 2003-2015, well below the South East average. The largest absolute GVA growth in this category comes from energy production and distribution (+£254m, +16%) with water collection / treatment and sewage / refuse disposal (+£128m, +13%) and agriculture (+£106m, +13%) also significant⁶. Although demand for all of these essential activities will be relatively inelastic, the proportion within definition 1 rather than definition 3 can be expected to shrink as the effects of the sustainability agenda become more significant (e.g. development standards that encourage energy efficient buildings, regulatory pressure on water utilities to reduce leakage, CAP reform supporting more sustainable agricultural practice).

DISCUSSION

- 4.11. The updated analysis undertaken by Cambridge Econometrics shows that, under the broadest definition, the Environmental Economy will grow but not by as much as the regional economy as a whole. The reduction in its contribution will be particularly marked for GVA. However, this is based on the assumption that the proportional contribution to definition 3 (activities contributing to a high quality environment) within each economic sector will remain the same. In practice, it could be anticipated that the increasing emphasis upon more sustainable approaches could increase this contribution over time. Even with a constant weighting in terms of contribution, it is noticeable that definition 3 economic activities are those that exhibit the strongest growth prospects, albeit from a lower base than definition 1 and 2 activities. Geographically:

⁶ The total output figures for these activities were apportioned between definition 1 and definition 3 by Cambridge Econometrics – the amounts stated here relate solely to the proportion falling within definition 1

- Hampshire and Kent continue to have high levels of jobs in definition 1 activities, although these show low growth prospects.
 - The Isle of Wight has a strong dependence upon activities dependent upon a high quality environment (definition 2), specifically tourism, with strong growth anticipated, along with Oxfordshire, Kent and Surrey.
 - The strongest prospects for growth in definition 3 activities are in Oxfordshire, Surrey and Buckinghamshire.
- 4.12. However, measurement of the performance of the Environmental Economy purely in terms of numbers of jobs and GVA is only part of the picture. Many of the economic activities in the Environmental Economy either provide a contribution to the wider success of the economy (e.g. land management activities that help to maintain the attractiveness of the region's landscapes as a place in which to live and do business), provide essential resources for the wider economy (e.g. minerals industry and water utilities), or help industry to become more efficient and competitive, and meet ever-tightening regulations (e.g. environmental technologies and environmental advice). In this sense, the Environmental Economy can be thought of as not only a contributor to the economy in its own right, but also as a 'service industry' for the whole of the South East economy. Without a healthy Environmental Economy, the South East could lose its competitive edge. Without the Environmental Economy, the whole of the South East economy would not be able to function.
- 4.13. Furthermore, if the greatest potential for environmental improvement and economic growth is to be achieved blanket support for the Environmental Economy may not be appropriate. Instead careful targeting of those employers engaged in sustainable activities could be required. Whilst some will be relatively easily identified (e.g. manufacturers and operators of sustainable transport systems), those engaged in other activities such as energy production will require more detailed consideration to focus on those with the greatest environmental, economic and social development potential. A third activity category, those dependent on a high quality environment, will reap the environmental benefits of growth in other sustainable business but may need to be carefully managed to ensure that their success does not become self-limiting by degrading the very environmental quality on which they depend.

5. THE USEFULNESS OF THE ENVIRONMENTAL ECONOMY AS A CONCEPT TO MAKE THE SOUTH EAST ECONOMY MORE SUSTAINABLE

INTRODUCTION

- 5.1. The concept of the Environmental Economy has now been established for over five years. Chapter 2 of this paper has shown that the Environmental Economy represents a disparate range of activities that are not always strongly linked, either with each other, or with improved environmental performance. It was also found that the South East definition of the Environmental Economy is wider than some of the other regions that are using the concept.
- 5.2. Chapter 3 of this paper has further shown that overall trends in economic performance and prospects of the Environmental Economy tend not to match that of the wider economy of the South East as a whole (although some components of the Environmental Economy are expected to perform more strongly than the regional average), and that these trends are expected to continue.
- 5.3. Given these factors, it is worth exploring how useful the concept of the Environmental Economy is proving to be in providing a focus for action and improved performance (environmental and economic), through the previous RES when the concept was first introduced, and more recently through the newly adopted RES, the draft South East Plan, and other initiatives with which SEEDA is involved.

ANALYSIS OF PREVIOUS REGIONAL ECONOMIC STRATEGY

- 5.4. The Environmental Economy was given a moderately high profile within the previously adopted RES⁷. It was cited six times within the 84 page document and underpinned 'Sustainable Use of Natural Resources', one of the five objectives of the strategy that together comprise 'Smart Growth'. The stated goal of this objective was that by 2012, the South East will be 'one of the world's leading environmental economies, with businesses in the region having made significant gains in safeguarding and enhancing this asset'. Three of the RES's 18 priorities were dedicated to supporting this objective ...
 - Invest in environmental capital to maximise its contribution to a sustainable regional economy.
 - Secure greater prosperity for the land-based sector through sustainable land management.
 - Achieve sustainable management of water, waste and energy.

⁷ SEEDA (No date) *Regional Economic Strategy for South East England 2002-2012*

... and a number of more detailed actions supported each of these priorities. In addition, the RES provided a table of time-bound indicators against which achievement of the five objectives were to be measured. Sustainable Use of Natural Resources had targets covering reduction of per capita CO₂ emissions, water consumption and energy consumption; an increase in the proportion of energy produced from renewable sources and reduction in the proportion of waste going to landfill.

ANALYSIS OF THE NEW REGIONAL ECONOMIC STRATEGY

5.5. The recently updated RES now includes Smart Growth as one of three objectives:

- **Global Competitiveness – investing in success** through assisting more businesses to operate internationally and maximising the South East's share of foreign direct investment; increasing business expenditure on research and development, and encouraging greater collaboration with the region's knowledge base; increasing the percentage of total South East business turnover attributable to new and improved products and services; and securing the infrastructure needed to secure continued prosperity.
- **Smart growth – lifting underperformance** through increasing the region's stock of businesses; maximising the number of people ready for employment at all skill levels, and ensuring they are equipped to progress in the labour market; increasing the participation of South East businesses (especially small businesses and social enterprises) in tendering for public sector contracts; reducing road congestion and pollution levels by improving travel choice, promoting public transport, managing demand and facilitating modal shifts; ensuring sufficient and affordable housing and employment space of the right type and size to meet the needs of the region and create the climate for long-term investment through efficient use of land resources, including mixed-use developments; and improving the productivity of the workforce and increasing economic activity.
- **Sustainable Prosperity – supporting quality of life** through reducing CO₂ emissions attributable to the South East and increasing the contribution of renewable energy to overall energy supply in the region; reducing per capita water consumption and increasing the Gross Value Added per tonne of materials entering the waste stream; achieving measurable improvements in the quality, biodiversity and accessibility of green space, open space and green infrastructure; and enabling more people to benefit from sustainable prosperity across the region and reducing polarisation between communities.

5.6. Smart Growth has effectively been redefined to focus on economic targets that will increase productivity per worker and the profile of environmental sustainability issues has been raised by setting them within the new objective of Sustainable Prosperity (although reducing road pollution remains under Smart Growth).

5.7. In contrast to this increased prioritisation of sustainability, the specific concept of the Environmental Economy now occupies a more peripheral position within the RES and is now explicitly cited only once. However, the contribution of the Environmental

Economy (even if the term itself is not actually used) to the regional economy is clearly set out under ‘Sustainable Prosperity’, along with sustainable consumption and production, energy, water, sustainable communities, cultural assets, and health:

“The quality of the natural and built environment is a major element in the quality of life in the South East, and a key source of competitive advantage. The environment is an economic asset in its own right: in 2003, activities linked to the environment contributed almost 250,000 jobs and nearly £8 billion GVA to the regional economy. Culture and the environment are also important drivers of the visitor economy; can help build integrated, sustainable communities; and can lead and support regeneration in both urban and rural areas.” (page 18).

- 5.8. The draft of the newly adopted version of the RES included two other references to the Environmental Economy in relation to one of the six targets set to meet the Smart Growth objective, namely the reduction of road congestion and pollution by improving travel choice, managing demand and facilitating modal shift. In providing context to this infrastructure target, the Environmental Economy was described as one of the region’s major capital assets and the potential for its growth was restated. In the list of 14 actions set out to deliver the infrastructure target, the draft RES stated that development of the Environmental Economy should continue to be analysed to help to target investments in the environment towards those providing the greatest returns to quality of life and economic success, thus helping to create a climate for long term investment in infrastructure through the efficient use of land. Both these specific references to the Environmental Economy were not included in the final adopted version of the RES. It is maintained that this was because of the new emphasis upon specific initiatives relating to activities within the Environmental Economy, such as the Transformational Action on Global Leadership in Environmental Technologies, rather than a deliberate intention to downplay the Environmental Economy as a sector in its own right.

SMART GROWTH: THE REEIO MODEL

What is REEIO? The Regional Economy Environment Input Output (REEIO) model was developed by Cambridge Econometrics (CE) in consultation with the Environment Agency and Regional Development Agencies as a framework to examine the links between economic development and selected environmental pressures such as waste arisings and CO₂ emissions.

Results from illustrative scenario analysis using REEIO CE have modelled for SEEDA the environmental impacts of 2 or 3 different illustrative economic growth scenarios over the period 2003-2015. All scenarios assumed SE population grows by 360,000 over the period and the approximate outcomes were as follows.

Baseline scenario: Assumed current trends continue e.g. gradual increases in efficiency of energy and water use. 2.75% pa growth in GVA results in >25% growth in waste and >20% growth in CO₂ emissions (excluding from power generation) over the 12 year model period.

'Unimpeded Growth scenario: If productivity improvements (rather than population growth) increased GVA growth to 5.5% pa, the growth in waste arisings would double compared to the baseline and CO₂ emissions would grow by 50% over the model period.

'Smart Growth' climate change scenario: This scenario assumes baseline GVA growth and that climate change mitigation policies are targeted at the 4 most CO₂ intensive sectors (mineral extraction; chemical production; food, drink & tobacco; papermaking, printing & publishing), doubling the rate at which energy efficiency gains are made in these. This would only succeed in reducing the proportionate growth in CO₂ over 2003-2015 by a couple of percentage points.

'Best use of resources' waste scenario: 90% of waste arising in the South East is generated by business. This scenario assumes baseline GVA growth and that the 4 sectors which together produce 35% of non-household waste (food, drink & tobacco; paper, printing & publishing; pharmaceuticals; retail) achieve 2% pa savings in waste arising from inputs to production. Such measures would more than half the growth in business waste over the model period.

Conclusions: This methodology could be further used to examine the scale of environmental benefits that may result from different mitigation policies, whilst allowing GVA growth to continue.

Source: 2006 presentation by Cambridge Econometrics 'The links between the South East economy and the environment'

ANALYSIS OF OTHER KEY DOCUMENTS

- 5.9. The concept of an Environmental Economy merits only a single mention in the 342 pages of the Draft South East Plan (2006-2026) in a footnote citing the headline contribution to the regional economy. It also receives a passing mention in the Integrated Regional Framework as an important component of the regional economy in the South East. No reference is made to the Environmental Economy in the Revised Implementation Plan for the Draft South East Plan or in SEEDA's Corporate Plan 2005 – 2008, although there are a number of milestones in the latter under 'Sustainable Development' relating to issues such as sustainable business, sustainable construction, sustainability appraisal, climate change, water, environmental capital (including environment-led regeneration), energy, and material resource management.

THE CONCEPT OF THE ENVIRONMENTAL ECONOMY AS A FOCUS FOR TARGETED ACTION

- 5.10. The 2002 LUC report recommended that the Environmental Economy be recognised as a key sector of the regional economy and that awareness and understanding of the linkages between its activities be improved. It was suggested that by investigating the common role of the environment in apparently disparate activities, its contribution to

business decision making and its wider value within the region could be better understood.

- 5.11. The 2002 study provided two main suites of recommendations to maximise the potential of the Environmental Economy of the South East:
- 1) Strategic Recommendations: Recognise the Environmental Economy as a key sector of the regional economy.
 - 2) Sectoral Recommendations: Develop a flexible approach that harnesses the strengths of different sectors and locations of the Environmental Economy.
- 5.12. In order to assess the extent to which these recommendations may have helped the development of the Environmental Economy, evidence of the subsequent adoption of their supporting actions was sought within key regional documents, particularly the previous (2002-2012) and current (2006-2016) versions of the RES and the draft South East Plan. Reference was also made to the Sustainability Appraisals of these documents, and other known initiatives where SEEDA is playing a prominent role. The results of this analysis are set out in **Appendices I and 2**.
- 5.13. The analysis found that it is difficult to point to explicit documentary evidence linking uptake of actions to the concept of an Environmental Economy or to determine whether the Environmental Economy concept has provided a significant focus for regional sustainable development actions. However, the review of key regional documents indicates that many of the recommendations within the previous report have been at least partially adopted, and there is a wide range of actions occurring across a number of fronts, but not necessarily under the 'Environmental Economy' banner. This is particularly apparent in the newly adopted RES, which gives a high profile to a number of themes and actions that are within the bounds of the Environmental Economy, even though the term is not specifically used:
- The potential of the environmental technology sector to achieve Smart Growth.
 - The need to deliver products and services that have lower environmental impacts and greater resource efficiency.
 - The need to develop more environmentally sustainable buildings and use of more sustainable construction techniques.
 - The role of the environment as a driver of the visitor economy and as an important component in sustainable communities.
 - The importance of investing in environmental infrastructure, such as waste management, water resources and waste water treatment, and management of flood risk.
 - The need to invest in improvements in the quality, biodiversity and accessibility of green space, open space and green infrastructure, particularly in and around the region's towns and cities.

- The importance of agriculture and land based activities in managing environmental assets and their contribution to the attractiveness of the region and quality of life.
- 5.14. This suggests that the value of the concept of the Environmental Economy as a focus for action may have been supplanted to some degree by an increased focus on broader environmental sustainability since the earlier report. For example, while the 2002 report suggested that insights into the full value of the Environmental Economy would result from understanding its contribution to quality of life as well as to economic prosperity, adoption of quality of life assessment in the form of ISEW is now justified on the basis of its potential insights into environmental sustainability⁸.
- 5.15. In particular, the question arises whether greater sustainable development ‘wins’ could be achieved by focusing attention on the most unsustainable economic activities in the region (some of which may fall within definition 1 of the Environmental Economy), rather than promoting a sector as a coherent entity whose performance itself is mixed in sustainability terms. The role of at least some components of the Environmental Economy as an ‘enabler’ of better environmental performance could be particularly important.
- 5.16. In this context, it is pertinent to note the conclusions of the Sustainability Appraisal/Strategic Environmental Assessment of the RES (ERM, October 2006), which states that:

“It is important that the RES views reduction of the region’s ecological footprint as a challenge to innovation and an opportunity – this is very much in line with current Government policy and actions on resource efficiency and resource consumption.

...and that...

“The region’s strong research base and good representation of businesses in both the product design and environmental technology sectors will enable it to address and take advantage of the opportunities arising from sustainable consumption and production.”

- 5.17. This is recognised in the RES (page 103), which has as one of its eight transformational actions ‘Global leadership in environmental technologies’:

“The global market for environmental technologies and services is estimated to be worth £515 billion, and is growing dramatically driven largely by legislation to curb global warming. This is a major opportunity for businesses in this sector.

There are currently 1,200 environmental technology businesses in the South East with a combined annual turnover of £4.6 billion, and the region is home to 21% of the UK’s environmental research and development capacity. There is a major opportunity to develop this sector further using the 2012 Olympic Games and Paralympic Games, which are to be ‘low carbon’, as a catalyst.

Key actions for the South East are to:

1. Develop the skills necessary to support environmental technologies

⁸ SEEDA RES 2006-2016 p.98

2. *Increase collaboration between businesses and the region's environmental technologies knowledge base*
3. *Develop technology validation programmes*
4. *Invest in early stage environmental technologies and their commercialisation*
5. *Target environmental technology enterprises around the world as potential inward investors*
6. *Implement exchange programmes, scholarships, technology transfer and capability projects for developing countries*
7. *Encourage businesses to develop sustainable procurement programmes"*

CONSULTATION FINDINGS

- 5.18. Given the above findings, it is appropriate to question how much focus should continue to be placed on the Environmental Economy in achieving the region's goals for sustainable development, when it is not a coherent sector in its own right, and given that the promotion of sustainability more widely across the economy appears to be gaining ground.
- 5.19. This question was explored with delegates at the workshop. It was generally felt that the concept was useful insofar as it provided a 'label' with which to embrace economic activity that interacted closely with the environment, and for measuring performance over time. But it was also acknowledged that its lack of coherency meant that the concept is limited in its usefulness beyond these basic purposes.
- 5.20. The general feeling of the workshop delegates was that, rather than continue to place too much time and effort on developing the Environmental Economy as a sector in its own right, it may be more useful to concentrate on desired outcomes, and in particular:
- Reducing the global impact of the South East economy, particularly in relation to addressing greenhouse gas emissions, which are amongst the highest of any region in the UK.
 - The maintenance and creation of high quality natural and built local environments that retain and attract business and employees.
 - Making the link with the 'bottom-line' for business – establishing the environment as an important consideration in profitability, in order to generate amongst businesses a desire and need to know and engage, beyond just image and public relations.
- 5.21. The need to promote and support environmental technologies was also mentioned in the consultation interviews. For example, one interviewee suggested that regional NGO partners knew little about SEEDA's support for environmental technologies, and that a particular focus for SEEDA could be on sustainable energy, taking a higher profile regional policy lead, and pursuing specific initiatives such as setting up of ESCOs (Energy Services Companies), and promotion/mainstreaming of good practice examples, such as TV Energy and the Woking Combined Heat & Power (CHP) system.

DISCUSSION

- 5.22. The concept of the Environmental Economy has proved to be useful in raising the profile of the environment as an economic asset. However, since the concept was first introduced, sustainability issues in general, and environmental considerations in particular, have become more 'mainstreamed' within economic thinking in the region, although there is significant progress still to be made.
- 5.23. There is, for example, a need to understand better the contribution that the wider Environmental Economy sector makes to maintaining and enhancing the quality of the environment of the region. This is particularly important in the context of definition I, whose low growth prospects and low GVA per capita, may well belie the important contribution that the more sustainable component activities within this definition make to the environmental quality of the region, and therefore wider economic prospects. Given the considerable growth that the region is likely to experience under the proposals in the draft South East Plan, there will be a need for investment in green and environmental infrastructure, and adaptation to climate change that components of the Environmental Economy should be in a position to deliver.
- 5.24. There is also a need to establish more clearly the role and importance of the environment in contributing to economic competitiveness, and in particular the 'bottom-line'. This may not be as much of a challenge as it might have been as little as a year ago. As one of the consultation interviewees stated:
- “There has been a sea change in attitude towards the environment amongst businesses in the South East over the last 12 months – companies are now starting to think about the environment from an economic point of view. There has been a particularly notable change in ‘prime contractors’ (e.g. in the aerospace and automotive sectors, marine industries and large retailers), which has subsequently led to raised awareness amongst smaller companies who form part of the supply chain. Sector groups run by SEEP on anything with environment in the title previously attracted half a dozen people – they now regularly attract 40 to 50 people desperate to come along. And the region is well placed to respond to the environmental agenda, because of its high value, niche industries.”*
- 5.25. The relationship between the environment and the economic success is explored in more detail in the next Chapter.

6. THE RELATIONSHIP BETWEEN THE ENVIRONMENT AND ECONOMIC SUCCESS

INTRODUCTION

- 6.1. Following on from analysis of the Environmental Economy itself, the second main component of the research was to examine in more detail the relationship between the environment and the region's economy. The Steering Group requested that the primary focus should be on the importance of local environmental quality, as this is not that well understood.
- 6.2. However, during the course of the research, stakeholders requested that two further aspects should be considered: the environment as a provider of benefits and services, including the need to invest in environmental and green infrastructure; and the importance of reducing the ecological footprint of the region, as part of economic success, should also be considered.

PERCEPTIONS ON THE INFLUENCE OF THE ENVIRONMENT

- 6.3. The final aspect of the research, which has yet to be fully captured by any of the studies to date, and for which there is currently limited empirical but much anecdotal evidence is the importance of the quality of the environment to maintaining a successful economy in the South East.
- 6.4. The region is particularly rich in the diversity and coverage of its environmental assets. Its National Parks, Areas of Outstanding Natural Beauty, important wildlife sites, historic towns and villages, all combine to provide a high quality environment that is attractive to people, and – it is maintained in the RES – to business (page 20):

“It is essential to invest to sustain and further develop the region’s cultural, environmental and creative asset base, in order to preserve its distinctive identity, promote its competitive advantage in world markets, and preserve its quality of life for future generations. Actions should include supporting active yet sensitive management of the landscape and built environment, investing in cultural infrastructure and developing a sustainable visitor economy.”
- 6.5. However, it has been difficult to distil the influence of the environment as opposed to other factors (e.g. access to markets, access to skills and labour, economic clusters, proximity to London and the continent, international gateways, etc.) in business and investment decisions.
- 6.6. It may be that a high quality environment is considered by many business decision-makers to be almost ‘a given’ in parts of the South East. Its importance as a factor, like the quality of the transport system, would probably only become explicit as an influencing factor if it were to undergo significant adverse change. A poor quality environment would highly likely be bad for business. On the other hand, the degree of protection afforded to the environment (e.g. Thames Basin Heaths; availability of

water resources) could constrain opportunities for economic and related (e.g. housing) development and undermine overall economic prospects.

6.7. The newly adopted RES maintains that (page 96):

“Quality places are a vital asset for economic success, as well as community well-being. A quality environment and quality of life are important factors in attracting investment and skilled people to the region. Equally a run down, degraded environment is one of the main barriers to economic and neighbourhood revival, where the costs of crime drain resources from local authorities and affect the bottom line of local business.”

6.8. However, there is little empirical evidence relating to the South East underpinning this assertion. A survey undertaken by Ipsos MORI for SEERA provides an indication of how the quality of the environment of the South East is positioned against other factors in determining its importance in perceptions and influencing decisions. The survey was focused on residents rather than businesses, but it is thought to be the best available data of its type.

6.9. The research was carried out in the early part of 2006 and comprised a representative survey of 1,854 adult residents of the South East, spread across 153 randomly selected Output Areas. The survey formed part of a larger research study for SEERA into resident, assembly member and stakeholder perceptions of the region and the work of the assembly. For the purposes of this report, the focus is on residents’ views of the region, particularly in relation to its economy and environment.

Quality of life

6.10. Residents were generally satisfied with their local area within the South East as a place to live (88%), with the two most important reasons being its proximity to London and the strength of its economy, although the environment also featured strongly. Similar overall satisfaction levels had been reported in the previous two surveys (2002 and 2004).

6.11. 88% of residents were fairly (43%) or very (45%) satisfied with their local area in the South East as a place to live. Satisfaction levels were quite similar across all age groups and social classes although older and wealthier groups had higher proportions reporting they were ‘very’ rather than ‘fairly’ satisfied as well as slightly higher total satisfaction. Satisfaction was also high across all counties surveyed, with Isle of Wight (96%) residents reporting highest satisfaction and those in Kent (81%) the lowest.

Main reason for moving to the South East

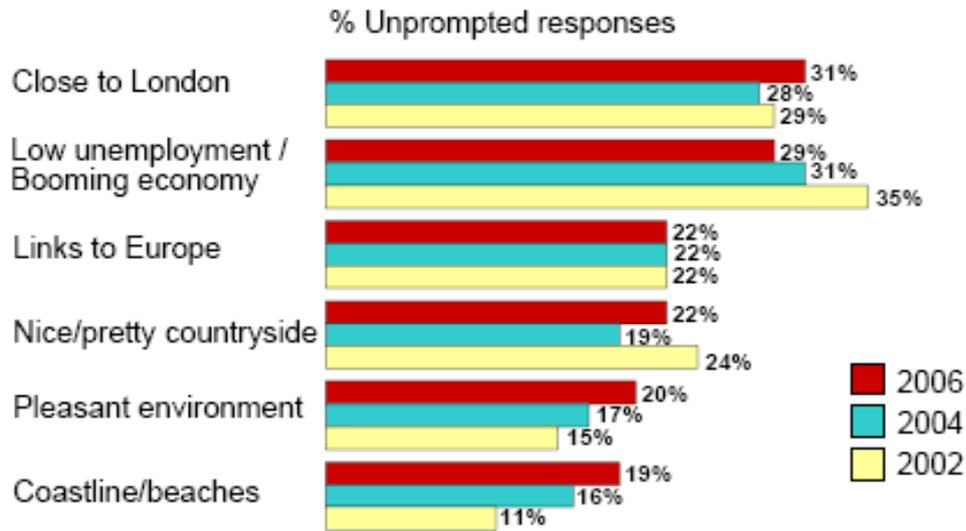
6.12. When asked to pick their main reason for moving to the South East from a list, ‘family reasons’ were most common (39%), with relocation of their job to the region in second place (18%). As might be expected, this economic reason was less common for those aged 55+ and those in social class DE. Oxfordshire residents were most likely to have relocated due to their job (35%). After those coming to the South East to study (9%), the fourth most common reason for relocation was ‘looking for work’ at 6%. Very few respondents chose pure environmental reasons

such as 'quiet/peaceful' (1%), 'get away from city/London' (1%) or 'better environment' (<0.5%).

Strengths and weaknesses of the region

- 6.13. Relative to the other English regions, the main spontaneously named major strengths of the South East were as follows:

Figure 6.1: Perceived strengths of the South East



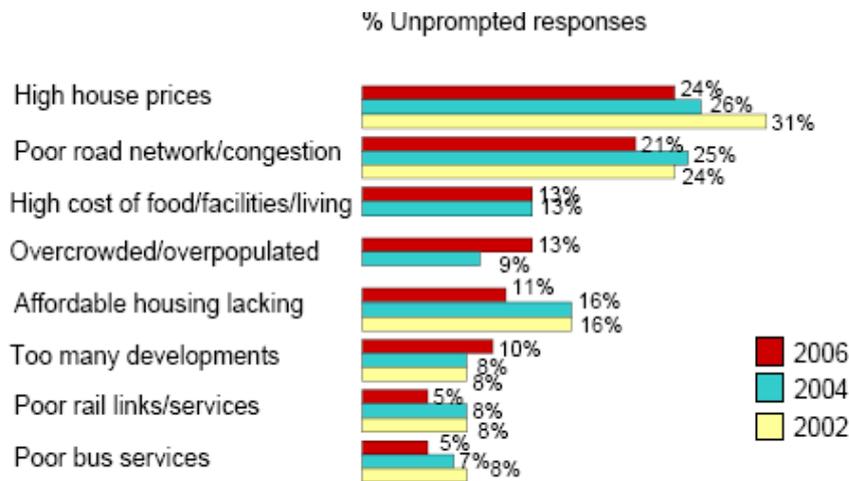
Base: All respondents aged 16+ (1,854), interviewed 11 February to 26 March, 2006 Source: Ipsos MORI

- 6.14. Thus, while proximity to London and a strong economy are most commonly cited as regional strengths, environmental factors are also deemed to be a significant and (mainly) growing asset. There was significant variation within the region, with its perceived strengths reflecting county attributes – residents of more rural counties such as West Sussex were more likely to state the countryside as a regional strength while more urbanised ones closer to London (e.g. Buckinghamshire) focused more on their proximity to London and economic strength.

Perceived weaknesses of the South East

- 6.15. Residents' responses when asked to spontaneously identify major regional weaknesses were also revealing. High house prices (24%) and traffic congestion (21%) were of greatest concern while environmental weaknesses such as excess development (10%), loss of countryside (5%) and too much pollution/waste (4%) were much lower down the list of weaknesses.

Figure 6.2: Perceived weaknesses of the South East



Base: All respondents aged 16+ (1,854), interviewed 11 February to 26 March, 2006 Source: Ipsos MORI

Residents' priorities for the Regional Assembly

- 6.16. When asked to pick two or three priorities for SEERA to work on, environmental issues scored very highly, with 'environmental protection' equal highest alongside 'advise on transport' (both chosen by 33%). 'Water management' (23%), 'waste management (recycling, incineration and landfill)' (21%) and 'renewable energy' (16%) were also amongst the top priorities for many residents. Environmental protection was a priority across all age groups but varied somewhat by county, being chosen by 40% of East Sussex residents but only 27% of those in Kent.
- 6.17. Attitudes towards the environment of the region therefore show a mixed picture. Few residents chose to move to the region primarily for environmental reasons with personal and economic factors representing a greater draw. In addition while more residents perceive regional environmental strengths (e.g. attractive countryside) than weaknesses (e.g. overcrowding and pollution), the key strengths are again proximity to London and the strong economy.
- 6.18. Nevertheless, the environment appears to be very important to the population of the South East since they believe that environmental protection and sustainable resource management should be amongst the top priorities for SEERA. In addition, most people are satisfied with their local area as a place to live. Overall, these responses may indicate that while the people of the region attach great importance to their environment, they find the environmental quality of the South East to be acceptably high and are thus able to focus on other economic and quality of life issues, whilst being keen to ensure that current environmental quality is protected.

Consultation findings

- 6.19. The workshop was used to further test the importance of the quality of the environment for the region's economy. Workshop delegates were asked to rank a number of factors for their relative importance in the success of the economy. The

results of the five working groups were generally consistent, finding that the highest rating factors (out of 13 in a pre-prepared list) were:

- Proximity to London.
- International gateways.
- Access to markets/customers.
- Skilled labour force.

- 6.20. The workshop ranked a 'high quality environment' as eighth on average, some way behind the top four or five factors. Again, this may mirror the findings of the Ipsos MORI survey, in that it may be thought of as 'a given' in much of the South East, and not much of an advantage compared to similarly high environmental quality regions such as the South West, whereas proximity to London and a skilled labour force are significant advantages that the South East can point to.
- 6.21. These views were echoed by one of the consultation interviewees, who highlighted that even for environmental businesses, the key locational criteria were proximity capital markets in London (the fastest growing location globally for investing in environmental businesses, offsetting carbon, etc.), and the people/skills base of the region. To these he added the region's track record of commercialisation of innovation and high research and development (R&D) spend.
- 6.22. Another interviewee specifically emphasised the need to protect the high quality environment of the region through tourism, and view it as an 'environmental economic product'. Whilst he maintained that Tourism South East does try to promote the region's high environmental quality, there is still a perception that it is congested and crowded. Attention was drawn to the Green Tourism Business Scheme as a valuable tool for acknowledging the achievements of tourism related firms on sustainable good practice.

THE ENVIRONMENT AS A PROVIDER OF BENEFITS AND SERVICES

- 6.23. The physical quality of the natural and built environment is important in determining the attractiveness of the region as a place in which to live and work. However, the environment also plays an often 'hidden' role as a provider of benefits and services that help to support the economy, such as water, food, minerals, flood storage, etc.
- 6.24. This role of the environment is also recognised in the current RES, for example (page 79):
- “All new development must be supported by adequate and timely provision of environmental infrastructure that meets the highest standards of design and sustainability. This includes waste management, water supply and resources, wastewater treatment, sewerage, surface drainage capacity and flood risk management.”*
- 6.25. Whilst these factors may not necessarily be important consciously to individual businesses, except those with a direct interest, the greater the strain on these

environmental functions the greater the likelihood that the wider economy will be affected.

- 6.26. This issue has become even more pressing in the light of a recent report from the Environment Agency, which highlights the amount of investment in 'hidden infrastructure' required in the region in order to deliver the development proposals set out in the draft South East Plan⁹:
- £20,200 – the expected cost for each new home in the South East for environmental infrastructure, including £5,400 for flood risk management, £1,700 for water resources and supply, £13,000 for water quality, and £100 for waste.
 - £7.5 billion – the cost of providing sewage treatment for the new housing proposed over the next 20 years.
 - 200 litres per person per day – the amount of water that each person in the South East may be using by 2030, up from 150 litres per day today.
- 6.27. It is essential, therefore, that the benefits and services provided by the environment and 'such 'hidden infrastructure' continue to function smoothly and without significant disruption, particularly given the potential impacts of climate change.

Consultation findings

- 6.28. The above findings were supported by those attending the workshop. However, delegates also raised the importance of investing in local environments for well-being and to support the economy. For example, the 'biodiversity, habitat fragmentation and functioning ecological systems' were highlighted as one of three key sustainability issues facing the South East in a report to inform Natural England's contribution to the South East Plan¹⁰. This report also noted that five out of thirty countryside character areas that can be found in the South East has experienced 'marked changes inconsistent with character' between 1990 and 1998. Delegates were concerned that the 'commonplace' as well as the 'special' (e.g. designated) environmental assets need to be maintained and enhanced in order to maintain the region's overall attractiveness to business.
- 6.29. It was acknowledged that the influence of local environmental quality on economic success is difficult to measure. However, it was suggested that this should not be used as a reason to not to examine this further. It was also recognised that what might be considered to be a 'high' local environmental quality for business may be very different to 'high' environmental quality for environmental interests. For example, businesses are probably as interested in the attractiveness of premises and their surroundings, and the overall 'image' of an area, whereas environmental interests would be more likely to be interested in the richness of biodiversity, or the

⁹ 'Four pillars' for sustainable housing growth. Environment Agency press release 19 March 2007

¹⁰ Land Use Consultants (October 2006) *Environmental Sustainability in South East England. Developing a Preliminary Evidence Base and Embracing the Concept*. A report to Natural England.

maintenance of landscape character – a mudflat may be considered an eyesore by some businesses, but a rich resource by naturalists.

- 6.30. A potential ‘proxy’ indicator of the role that environmental quality plays in business investment decisions is employment land values. Some businesses probably choose to go to degraded locations because land and property are cheap. Others are prepared to pay higher prices to locate in more attractive places – the ‘environmental premium’. For example, proximity to London is often cited as a major strength of the South East, yet within 45 minutes travel time of the capital land values can vary significantly, and one of the factors is likely to be the quality of the business location on offer.
- 6.31. Delegates specifically called for targeted investment in green infrastructure as well as environmental infrastructure, particularly where development pressure was greatest and where there was a need for regeneration and a change of image. Green infrastructure can be defined as the network of multi-functional green space, and is set within and contributes to a high quality natural and built environment and is required to deliver ‘liveability’ for new communities. Green infrastructure is multi-functional in that green space itself if properly planned and managed provides environmental services (also termed ‘functionality’) in addition to access and biodiversity benefits (e.g. local climate and air quality amelioration, additional floodplain capacity, coastal sea defences), and so contributing to overall environmental infrastructure.

ECOLOGICAL FOOTPRINT

- 6.32. The other key aspect that delegates raised was in relation to reducing the region’s ecological footprint – some thought this should be the top priority. Whilst this broadens the definition of a high quality environment to embrace the global environment, the significance of climate change for the economy and well-being of the South East, as well as for much more vulnerable populations around the world, is such that it merits special attention.

ECOLOGICAL FOOTPRINT OF THE SOUTH EAST

One method by which regional sustainability can be assessed is the increasingly prominent concept of the ecological footprint. This estimates the area of land and water that would theoretically be required to supply a population with its resource needs and absorb all of its waste.

What is the target? No national target exists, although the Government Strategy for Sustainable Development includes a section on ‘one planet living’, which states that in future Government policy will be developed in terms of sustainable production and consumption. The South East RES seeks to ‘Reduce the rate of increase in the region’s ecological footprint (from 6.3 global hectares per capita in 2003, currently increasing at 1.1% per capita per annum), stabilise it and seek to reduce it by 2016.’

Current regional performance: As stated in the RES, the evidence shows that the region already far exceeds a globally equitable ecological footprint (c. 1.9 global hectares per person), and that the per capita footprint is increasing. The total ecological footprint of the region is 29 times its physical land area. Various regional studies recognise that if we are to stabilise and subsequently reduce ecological footprint, a profound change is required in resource consumption. Achieving the RES target will therefore be very challenging and will depend greatly on changing behaviour by organisations and individuals which relies on action by Government to implement legislative and fiscal measures.

Source: LUC 2006 report for Natural England 'Environmental Sustainability in South East England'

- 6.33. The views of the workshop delegates are largely captured in subsequent correspondence with one of the consultation interviewees representing economic interests, although some aspects may not be fully supported by all who attended:

"In my opinion the most important issues environmentally are not relative competitiveness, but how we can achieve real progress towards a more sustainable way of life and creating wealth? The key indicator is the ecological footprint. From a business perspective we need to think radically".

- 6.34. He highlighted six areas where progress needed to be made:

- Reducing per capita carbon consumption as this leads to carbon waste and carbon emissions, through 'cap and trade', and not by moving it to another source or carbon trade the problem to someone else's backyard.
- Reducing the region's dependence on fossil fuels and other finite sources, by sourcing renewable energy and sustainably sourced raw materials.
- Reducing water consumption and prioritise who is supplied water and for what purpose.
- Reducing waste production, particularly to landfill (attention is drawn to Japan where waste arisings are very low as it is designed out in the production processes and there is a market for the remainder).
- Reducing transport demand, which is still rising as a direct result of increased prosperity – reducing traffic and emissions have to be seen as a sign of success, and as a result needs prioritisation.

- 6.35. The continuing increase in traffic volumes in the region was seen by delegates as perhaps the greatest challenge that may well require some contentious solutions. Three issues in particular were highlighted:

- The relative cost of travel by car compared to public transport had reduced significantly over the last ten years.

- Public transport systems in the South East are under considerable strain, with trains often over capacity with limited scope for expansion at least in the short term, and with buses often proving unviable.
- The loss of local services and facilities, and the increase in choice across a whole range of factors, such as education, shopping, and employment location, had led to a disparate pattern of travel patterns that are resulting in diluted links with where people live.

6.36. Attention was drawn to the initiatives being introduced in London to grapple with the rising traffic volumes. Some saw this as an opportunity to move towards more carbon friendly vehicles. For example, a consultation interviewee representing transport interests suggested that current and/or future developments may focus around London. In particular, the 'London Low Emission Zone', which will apply from 2008, could stimulate demand for abatement technologies from operators around London which deliver into the capital on a regular basis. Similarly, the congestion charge exemptions are likely to make the use of low emissions vehicles more attractive to a number of firms that frequently deliver into London.

THE VIEWS OF BUSINESS

6.37. Despite the increasing profile of environmental issues, particularly relating to climate change, the understanding and awareness of 'sustainable' business practices by businesses remains confused or of low importance. In August 2006, at least 1,200 telephone interviews were conducted with business owners and senior decision-makers of small and medium-sized enterprises (SMEs) based in the South East as part of a rolling programme of monitoring undertaken by Business Link¹¹. The August 2006 theme was 'sustainability'. The survey found that:

- Whilst over half (57%) of SMEs interviewed have heard of the term 'sustainability' in a business context, a third of businesses understand this as meaning "ensuring future business profitability", and another third said it meant nothing to them or did not know what it meant. Some 12% related the term to environmental issues.
- Of those SMEs that had heard of the term 'sustainability' in a business context, 11% said that it meant caring for the environment, 8% using resources more efficiently, 7% recycling/producing less waste, and 5% using renewable energy resources.

6.38. However, when promoted with more detailed suggestions of what might constitute sustainable business practices, the majority of SMEs agreed that sustainability had an environmental dimension:

¹¹ Business Link (November 2006) Hot Topic Spotlight 7: Sustainability. South East Business Monitor. Survey of Business Owners and Senior Decision Makers

Table 6.1: Understanding sustainable businesses – prompted (%)

	Agree	Disagree	Don't know
Using resources more efficiently	89	4	7
Ensuring future business productivity	88	4	9
Good staff recruitment and development	82	8	10
Caring for the environment	77	15	8
Recycling/producing less waste	77	16	8
Using renewable energy sources	69	20	12
Succession planning for businesses	69	13	18
Supporting your local community	69	23	9

Source: SE Business Monitor (August 2006). Unweighted base: All SMEs = 1,806

- 6.39. Furthermore the business survey found that 88% of those interviewed felt they were using resources efficiently, 86% believed they were producing minimal waste/pollutants, that 80% were having a minimal negative impact on the environment, and 75% were recycling materials. This suggests that businesses, despite their low awareness of what 'sustainability' means in a modern context, nevertheless feel they are operating 'sustainably'. The only indicator that this might not be the case, at least from a business perspective, was that only 17% stated they were using renewable sources of energy, possibly because opportunities to purchase energy from renewable sources is relatively new.
- 6.40. A more recent survey undertaken by Step Ahead Research on behalf of Business Links, found that, despite there being no widespread agreement on what constitutes the core components of sustainable business practice, nearly all SMEs (94%) believe that adopting responsible business practices makes good business sense¹².

¹² Step Ahead Research Ltd (21 March 2007) *South East Business Monitor, Wave 6: Sustainability*

Table 6.2: Importance of sustainable business practices to SMEs in the South East (%)

	Very important	Somewhat important	Not important
Meeting customer demand for more environmentally or ethically acceptable products	27	29	29
Planning for and adapting to climate change	21	26	37
Reducing energy, water and transport use and costs	33	30	28
Using materials more efficiently and recycling or reusing them	45	26	20
Recruiting and retaining staff by promoting their safety, well-being, and personal development	44	18	18
Being involved with or supporting the local community	36	38	19
Buying ethically from suppliers with similar values	27	33	26
Buying locally to support the local economy	35	27	23
Developing a statement or entering a business award that promotes these business practices	11	27	48

- 6.41. Of particular note with respect to the environment is that around 75% of SMEs place at least a degree of importance upon reducing energy, water and transport use and costs, and using materials more efficiently and recycling or reusing them.
- 6.42. SMEs were also asked whether they had implemented any of the sustainable business practices set out in Table 6.2, and the survey found that 83% had introduced at least one of the nine business practices. 15% of SMEs had never implemented any of the sustainable business practices listed.
- 6.43. SMEs most likely to have introduced a sustainable business practice were found to reflect the importance they attached to each of the practices. SMEs expecting to grow are slightly more likely to have implemented most of the nine sustainable business practices than those who do not foresee an expansion of their business in the next year.

- 6.44. Of particular concern is the lack of awareness and urgency relating to climate change, which was considered “very important” in relation to businesses practices by one-fifth of SMEs felt was “very important” to their business practices. This mirrors national research undertaken by Professor David Crichton, which found that 46% of small businesses think that climate change is blown out of all proportion, and that only 26% think it is a threat to them¹³. This is despite the assertion by Professor Crichton that climate change has already impacted dramatically on British Business. Insurance companies have seen the average costs of business interruption soar, with costs having risen by almost 60% in just four years to £35,000, a sum which has a potentially devastating impact on SMEs, and that by 2080 flooding could cost the UK economy up to £42 billion every year, in today’s prices.

DISCUSSION

- 6.45. Whilst an indication of the importance of environmental considerations in quality of life and decision-making has been gleaned from the Ipsos MORI research, it is still not very well understood with respect to business decision-making. It appears that a high quality environment does not appear to rate highly as a key factor in differentiating the South East from other regions, although this conclusion is based on slim evidence, and may be more a reflection of it being regarded as ‘a given’ rather than conscious criterion in business investment decisions. It is far more likely, for example, that ‘image’ is an important issue for business, and that a location with a poor quality natural and built environment would be a deterrent to business, all other things being equal.
- 6.46. Similarly, the pressures on the environment and environmental resources in the South East are well documented, and there is considerable attention paid to reducing the region’s ecological footprint in regional documents, and in investing in key environmental infrastructure. However, the extent of awareness of businesses about the benefits of ensuring that the environment continues to function smoothly, and the importance they attach to it, appears to be low. This is particularly the case with respect to the biggest threat to the economy – climate change. Indeed, like the transport network or computer systems, the benefits may only be properly appreciated when things go wrong.
- 6.47. Whilst there appears to be an increasing awareness of the importance of the environment as an economic consideration, and in particular the need to reduce the region’s ecological footprint including its greenhouse gas emissions, this has yet to translate fully into the ‘radical thinking’ that is called for, even by those involved in promoting economic development in the region.

¹³ Professor David Crichton FCII (August 2006) *Climate Change and its Effects on Small Businesses in the UK*. Report prepared on behalf of AXA Insurance.

7. MEASURING SUCCESS AND TARGETING ACTIONS

- 7.1. The early stages of the research indicated that a better understanding of ‘success’ related to the Environmental Economy was needed, in order to help test the usefulness of continuing with the concept of the Environmental Economy as a sector in its own right, as well as bringing into the equation the higher level objective of ensuring that the South East economy is placed on a more environmentally sustainable footing.
- 7.2. This chapter introduces a potential set of measures that could be used to measure ‘success’, and briefly examines how they are already reflected in the recently adopted RES. The approach and proposed set of measures were tested with both the Steering Group and workshop delegates. The approach met with broad support, and refinements to the measures of success table have been made to reflect comments received.
- 7.3. The set of key measures taken together are intended to capture the success or otherwise of the disparate activities which the Environmental Economy embraces, and the outcomes it aims to achieve. These are listed in Table 7.1 and are arranged in three thematic groups:
- The economic success of activities within the Environmental Economy itself, particularly in relation to the wider South East economy.
 - Progress in raising the profile of the South East’s environment in relation to decisions affecting its economy.
 - Progress in improving the environmental quality of the South East and the well-being of its inhabitants.
- 7.4. For the specific measures within each of these groups, a current baseline has been established where possible, and activities within the Environmental Economy identified that are either moving the region towards attainment of success in that area or which are holding it back. Finally, the importance of the identified activities relative to broader processes outside of the Environmental Economy are examined to establish whether attainment of the desired outcome is best directed at the Environmental Economy or elsewhere. The detailed results of this analysis are presented in **Appendix 3**.

Table 7.1: Suggested measures of success

	Measure of success
Category A: High performance of the Environmental Economy itself	
A1	Business start-up, survival and expansion in the Environmental Economy sector is occurring at a faster rate than across all sectors in the regional economy
A2	Employment growth in the Environmental Economy is faster than for the regional economy as a whole
A3	GVA per worker in the Environmental Economy is increasing faster than in the regional economy as a whole
A4	Environmental Economy businesses in the South East are seen as leading exponents in the efficient use of natural resources
A5	Innovation linked to the Environmental Economy is a major focus for R&D and business growth
A6	Business investment and upskilling within the Environmental Economy is relatively greater than in other sectors
Category B: Raised profile of the environment in decision-making	
B1	The South East's environmental quality is a key locational factor for businesses
B2	The South East's environmental quality is a key locational factor for economically active people to live in the region
B3	The South East's environmental quality is deemed significant by visitors in making decisions to visit the region
B4	Environmental quality is better understood and valued in regional economic discussions
B5	Businesses, organisations and key regional-decision makers in the South East believe the case has been made for significant investment in regional environmental enhancement
B6	Environmental issues are given a higher profile within key regional planning documents e.g. South East Plan, Regional Economic Strategy, Integrated Regional Framework
B7	Businesses in the South East are more aware of sustainability issues and are taking action to reduce their environmental impact
Category C: Increased environmental quality and well-being	
C1	The region's performance on quality of life indicators (e.g. ISEW) is improving
C2	The region's contribution to climate change is reducing
C3	Growth in the regional ecological footprint for the South East is halted and then reversed
C4	Regional biodiversity is protected and enhanced
C5	Regional heritage assets are protected and enhanced

	Measure of success
C6	Activities directly dependent upon the environment but not positively contributing to its quality become more sustainable
C7	Pollution from economic activity including transport (e.g. impacts on air, water, soil, dark skies, tranquillity) is reducing.

FIT BETWEEN THE NEW RES AND THE SUCCESS THEMES

- 7.5. In Chapter 5 of this paper, our analysis suggested that there is considerable activity happening in the region that relates to the Environmental Economy, but that the use of the term ‘Environmental Economy’ to describe them has not been obvious and, if anything, it receives reduced prominence in the current RES (October, 2006) than in the previous RES.
- 7.6. However, we concluded that this does not necessarily reflect poorly on the Environmental Economy, since sustainability principles and objectives now appear to have been embraced more widely and integrated more fully and transparently into decision-making and funding processes.
- 7.7. To examine this further, we have carried out a summary analysis to determine the extent to which each of the three key thematic groups of success indicators set out in Table 6.1 relate to the content of the new RES.
- 7.8. The summary is structured according to the three RES headline **Objectives** and for each, **Targets** and **Actions** are identified where relevant. The range and depth of links is greater than those we have identified. For example, the summary here does not identify generic connections (e.g. general business support may be helpful to businesses within the Environmental Economy sector).

First theme: Strong performance of the Environmental Economy as a sector

Contributions from the new RES

Global Competitiveness Objective

- Included in the new RES are **Actions** to support further the development of Envirobusiness South East, one of the key sector consortia with a focus on environmental technologies and services. The work of the South East Centre for the Built Environment will also be supported.

Smart Growth Objective

- One of the **Actions** is to “support new and growing businesses in the creative, cultural, leisure, sporting and visitor economy sectors”.

- Another **Action** is to “stimulate rural enterprise and nurture new and existing businesses”.
- Under the *Smart Growth* objective, an **Action** is identified to “ensure that development is supported by the delivery of adequate and timely environmental infrastructure”. This includes water supply, sewerage, flood risk management, etc.

Sustainable Prosperity Objective

- Four of the **Actions** are to:
 - Maximise opportunities for South East businesses arising from energy policy.
 - Support initiatives that integrate local demand and supply of energy with energy efficiency, building on exemplar projects in the region.
 - Promote opportunities for businesses in the environmental technology sector, through the design and manufacture of water-efficient components, water treatment and recycling systems.
 - Support and facilitate the creation of demonstrator Resource Recovery Parks, housing clusters of businesses which extract maximum value from waste.
- In addition, “*Global leadership in environmental technologies*” is identified as one of the **Transformational Actions**

Cross-Cutting Themes

- Various **Actions** to support *rural areas* are identified as a cross-cutting theme. Some of these are relevant to the environmental economy as a sector, including:
 - Exploiting the potential for real premium products through “added value”.
 - Create new opportunities in the land-based sector for new uses of land, new premium products and processes and new opportunities arising from climate change.
 - Explore the potential of new crops for industry (including biofuels and bioenergy).

Second theme: Greater profile of environmental perspectives and issues in decision-making

Contributions from the new RES

Sustainable Prosperity Objective

- “Sustainable Prosperity” is one of the three **Headline Objectives** for the new RES as a whole. This means that across the RES, it is very prominent.
- Some of the linked **Actions** ought to mean that the profile of environmental issues and perspectives is increased in the context of decision-making processes. For example:
 - Further develop and promote SEEDA’s sustainability checklist as a regional sustainability tool for delivering mixed-use sustainable developments.
 - Adopt the regional index of sustainable well-being as an additional indicator of sustainable prosperity.

SOUTH EAST SUSTAINABILITY CHECKLIST

What is it? The Checklist is a recently redesigned online tool developed by SEEDA and the Building Research Establishment which brings together policy and best practice to provide guidance on sustainable community design.

Approach: While Ecohomes/BREEAM and the Code for Sustainable Homes assess the sustainability of designs for individual new homes and buildings, the Checklist complements these by looking at issues relevant at the overall development scale. It takes account of regionally specific sustainability and planning issues, emphasising those of higher priority by, for example, assessing the extent to which a proposed development will deliver on each sustainability issue identified in the Regional Spatial Strategy. The Checklist’s questions and criteria are organised under the headings of Climate Change and Energy; Community; Place Making; Buildings; Transport and Movement; Ecology; Resources; Business.

Demonstration of good practice: The South East Sustainability Checklist is an example of how regional bodies with a shared interest in sustainable development can work together to provide concrete, practical assistance which helps developers, local authorities and other interested parties to deliver sustainable communities.

Sources: Checklist South East website

Third theme: Increased environmental quality and well-being across the South East

Contributions from the new RES

Smart Growth Objective

- High level **Targets** include “reduced road congestion and pollution by improving travel choice, promoting public transport, managing demand and facilitating modal shifts”.

Sustainable Prosperity Objective

- High level **Targets** include those relating to climate change and energy; sustainable production and consumption; and natural resources and the environment.
- Under this Objective, there are a very large number of **Actions**, all of which are relevant to “increased environmental quality and well-being across the South East”. These include:
 - Achieve measurable improvements in the quality, bio-diversity and accessibility of public space (including green space, open space and the green infrastructure) in and around towns and cities.
 - Promote sustainable production and consumption among businesses and improve support on resource efficiency.

- 7.9. The analysis has not attempted to determine what parts of the RES potentially conflict with the measures of success identified in Table 6.1. However, the above summary analysis shows that the new RES already is beginning to grapple with the themes of success. Other findings in this report tend to support this view, although the extent to which the concept of the Environmental Economy itself is a catalyst for action and success is still open to question.

SEEDA SUSTAINABLE BUSINESS AWARDS

Each year since 2001, SEEDA has held an awards ceremony that recognises excellence and inspirational success in the field of business sustainability. The stated purpose of these awards is to ‘*vigorously challenge businesses throughout the South East to embrace the many facets of sustainability to accelerate business competitiveness, generate cost efficiencies, drive forward greater innovation and enterprise and enhance business reputation*’.

The 2006 winners of the awards in each size category were as follows:

- *Small Business Category* – Ceres Power
- *Medium Business Category* – Sheep Drove Organic Farm
- *Large Business Category* – Vesta Blades UK Ltd

The achievements of these award winners are set out in Appendix 5 of this report.

SEEDA's Sustainable Business Awards provide a showcase for regional business leaders in sustainable development. Promotion of these examples of best practice is critical to encouraging wider adoption of business models which are not only economically successful but environmentally friendly and socially responsible.

Source: SEEDA Sustainable Business Awards 2006 website

DISCUSSION

- 7.10. The need for a fresh perspective on Environmental Economy, and in particular a greater focus on establishing and raising the awareness of the positive relationship between the environmental performance and economic success gained a significant amount of support amongst those consulted during the research.
- 7.11. The proposed 'measures of success' were also welcomed, especially their focus on outcomes from both an environmental and economic point of view. Business interests stressed the importance of making links with the 'bottom line' and environmental interests the need to make a fundamental shift towards a reduction in the region's ecological footprint. The importance of local environmental quality was also stressed, and should not be forgotten in the overall drive towards a low carbon economy.
- 7.12. Comparison of the measures of success with the themes, objectives, targets and actions in the recently adopted RES revealed many synergies. The challenge will be to turn this into reality on the ground, and to ensure that the other priorities in the RES, and wider factors driving forward the economy in general, are brought into line, and inconsistencies ironed out. In this respect, increased globalisation is perhaps the most difficult one to grapple with.

8. CONCLUSIONS AND RECOMMENDATIONS

KEY FINDINGS AND CONCLUSIONS

Key findings

- 8.1. The research undertaken in this review of progress on the Environmental Economy has revealed the following:
- 1) The concept and quantitative measurement of the Environmental Economy has proved useful in raising awareness of the important contribution that economic activities with strong links to the environment make to the region's economy (see paras. 5.4 and 5.22).
 - 2) The Environmental Economy itself comprises a disparate range of economic sectors and activities that are often not related to one another, and are not always sustainable – in policy terms, it is not a coherent concept (see paras. 3.1 to 3.4 and para. 3.14).
 - 3) The Standard Industrial Classification (SIC) codes used to measure the performance of the Environmental Economy are a blunt instrument, and their use is heavily dependent upon the assumptions applied to generate performance data. Nonetheless, in the absence of better data, the SIC codes and assumptions should continue to be used in order to measure trends over time (see paras. 3.5 to 3.8 and para. 3.15 to 3.16).
 - 4) Using these data, the prospects for the Environmental Economy are not as strong as for the South East economy as a whole, particularly in GVA terms. Activities dependent upon the environment, particularly primary industries, show the lowest growth prospects; conversely, activities contributing to a high quality environment, and those dependent upon a high quality environment (such as tourism) show the highest growth prospects (see para. 4.3 and paras. 4.7 to 4.8).
 - 5) Although the concept of the Environmental Economy has proved useful, many of the principles that underpin it are beginning to be integrated and 'mainstreamed' within wider regional strategies, most notably the most recent Regional Economic Strategy and draft South East Plan (see paras. 5.5 to 5.17 and para. 5.22).
 - 6) The wider value of the environment (and specifically the role of the Environmental Economy) in making the South East an attractive place in which to live and do business (e.g. landscapes, biodiversity historic heritage, etc.), and in providing the essential services without which the economy could not function (e.g. water, soils, air, flood storage, etc.) are not as well understood, measured or valued as they should be (paras. 6.3 to 6.31).
 - 7) It is now widely recognised that the South East economy has to be placed on a much more sustainable footing. Studies of the region's environmental sustainability and ecological footprint suggest that there is a significant amount of progress that needs to be made, which will require radical thinking and a step

change in performance. This is needed if the economy of the South East is to stand the test of time, and to make it more resilient to external shocks, such as climate change (see paras. 6.32 to 6.36 and para. 6.44).

- 8) At the same time, the 'softer' elements of the environment, that are not readily appreciated for their economic value, such as habitats, biodiversity, landscape character, and historic heritage, must not be forgotten (see para. 6.18).
- 9) The overall aim should be to foster an economy that is much lower on waste and resource use, produces fewer greenhouse gas emissions, is much less transport dependent, and is fully integrated with and supported by a high quality natural, historic and built environment. Businesses need to be part of the solution. Currently, there appears to be a mixed picture of awareness and understanding of these issues amongst South East businesses, and of the importance of adopting sustainable business practices for the long-term health of the economy as well as the environment (see paras. 6.37 to 6.44).
- 10) This in turn requires a different way of measuring economic success: one that is linked more closely to people's well-being, and to environmental and social as well as economic performance. The proposed adoption in the RES of the Index of Sustainable Economic Welfare (ISEW) is a step in the right direction (see paras. 7.1 to 7.4 and paras. 7.10 to 7.12).

Conclusions

- 8.2. In summary, the research undertaken for this study has indicated that there is widespread acceptance amongst regional bodies that environmental considerations, as part of the broader sustainability agenda, need to be properly integrated within the future development of the economy of the South East. Whilst significant progress has been made in the latest version of the RES, there is more to be done in embedding the environment fully in decision-making, prioritisation and resource allocation (i.e. spending decisions). The true value of the environment to the economy does not appear to be fully understood and appreciated.
- 8.3. In part this reflects the fact that regional strategies are still heavily focused on production/productivity considerations (i.e. the supply side), leaving the patterns and characteristics of consumption to one side: the danger is that any efficiency gains are more than cancelled out by increased consumption. Influencing patterns of demand must become a key consideration in moving forward.
- 8.4. At the same time as dealing with production considerations, therefore, there is an urgent need to consider patterns of consumption, recognising their relationship with the South East's very high ecological footprint: improving the resource efficiency of production is necessary in this context, but in isolation, it is unlikely to be sufficient¹⁴.

¹⁴ Levett et al (2003) *A Better Choice of Choice – Quality of life, consumption and economic growth* (Fabian Society) provides a useful analysis of the drawbacks of the current emphasis on 'resource productivity' and 'eco-efficiency' when set against the conflicting aims of economic growth and 'consumer choice'.

RECOMMENDATIONS

- 8.5. Given the above findings, our recommendations are divided into three components. The first focuses on overarching recommendations from the study that relate to ensuring that economic development is consistent with reducing the region's ecological footprint, and the specific recommendations for the Environment Economy. The second component sets out recommendations relating to the 'production' side of a sustainable economy. The third deals with one component of the 'consumption' side of a sustainable economy – infrastructure – that the regional agencies are best placed to address. This, clearly, is part of a much wider discussion about broader and engrained patterns of consumption that need to be dealt with at a national, European, and global level.

Overarching recommendations

Ensure that existing and future economic development is consistent with stabilising and then reducing the region's Ecological Footprint

- 8.6. Recent research has shown that the South East has one of the highest ecological footprints of all regions in the UK, and hence globally. This is unsustainable in the longer-term. Traditionally, measures of success have been dominated by short to medium-term targets linked to political and financial cycles. It has been a challenge to think inter-generationally. Climate change is beginning to change this way of thinking, but it also needs to be broadened out to more than just carbon emissions. In this respect, it is notable that the recently adopted RES refers to 'ecological footprint' rather than the more narrowly defined 'carbon footprint', even though the latter is in more common usage.
- 8.7. The RES and South East Plan, and their respective implementation plans are already subject to Sustainability Appraisal/Strategic Environmental Assessment. Whilst these have proved to be a useful check on the likely sustainability outcomes of their implementation, they still leave unresolved tensions and conflicts.
- 8.8. For example, the biggest challenge in economic terms is globalisation and the dependence of the region on international trade in goods and services, and on its international gateways. These are promoted as key regional strengths, but there is a need to consider how they can be used effectively whilst also reducing the region's ecological footprint. Steps ought to be taken to decouple the benefits of international connectivity from the physical need to travel: why – with excellent ICT infrastructures and scope for high quality video conferencing and the like – is the need for face-to-face meetings as strong as ever?
- 8.9. Although ecological footprint models are still in their infancy, they offer a useful composite tool for capturing a wide range of impacts on the environment that human activity, and economic activity in particular is having. If the region is successful in reducing its ecological footprint, then it should be making progress across a range of fronts. The extent to which the region can control its own destiny with regard to its ecological footprint will need to be considered as part of this process. Similarly, precautions will need to be taken to ensure that, in aiming to stabilise and then reduce its ecological footprint, the impacts are not transferred elsewhere (especially

to developing nations that are likely to be less able to cope with the results). Seeking to influence patterns of consumption will be key to this.

- 8.10. There are a number of tools that are related to ecological footprinting that SEEDA and partners are already using or considering using, including:
- REEIO (Regional Economy Environment Input Output model).
 - REAP (Resource and Energy Analysis Programme).
 - ISEW (Index of Sustainable Economic Welfare).
- 8.11. A representative of SEEDA also chairs the management board of SCPNet (the Sustainable Consumption and Production Network).
- 8.12. Whilst they have different purposes and uses, there is a danger that using different tools will add confusion rather than clarity. ISEW is currently being promoted with the RES as an alternative indicator of performance, but the relative merits of the different models for use in truly capturing the interactions between economic activity and environmental impacts need to be understood, so that the most appropriate measure is used.

Recommendations:

- Determine which measure of sustainable economic performance is most suitable for measuring the environmental performance of the economy, and prioritise this over other measures.
- Examine how the 'consumption' component of a sustainable economy can best be addressed at the regional level, to complement the current emphasis upon the 'production' component, linked to the development of a better understanding and measurement of 'well-being'.
- When reviewing regional strategies, ensure that different options (and their individual components) are properly tested for their ecological footprint. Only select the strategy and its individual components that will meet the region's goal of stabilising and reducing its ecological footprint by 2016 – if none of the alternatives meet this goal, then develop a strategy that does.

Adopt the environment and economy measures of success

- 8.13. The research has indicated that the concept of the Environmental Economy has proved useful in promoting the environment as an economic asset, but that as a concept it is flawed as a discrete sector and that recent strategies have tended to focus on broader sustainability considerations. Despite this, it is considered that there is merit with continuing with the concept for the foreseeable future, not least for monitoring purposes, but that greater emphasis should be placed on understanding and supporting those elements of the Environmental Economy that can help to move the economy of the South East on to a more sustainable footing, and those aspects that help to maintain the environmental qualities of the region as one

of the reasons for its economic performance. In this sense, a broader set of measures of success are required.

- 8.14. The proposed measures of success in Table 7.1 provides a first attempt at a template for measuring performance across a range of criteria related to the Environmental Economy but broadening these out across wider environment and economy interactions. These criteria have therefore been developed not only to measure performance of the Environmental Economy in its own right, but also outcomes relating to environmental performance of the economy as a whole. It is recommended that the measures of success are further refined, tested, and populated.
- 8.15. Since the research also indicated that within the Environmental Economy are some 'unsustainable' activities (e.g. waste to landfill under 'waste management'), care will need to be taken to ensure growth in such activities is discouraged, which would otherwise undermine the achievement of the wider measures of success.

Recommendations:

- Further refine, test and populate the 'measures of success' proposed in this study with the aim of measuring (i) the economic performance of the Environmental Economy (ii) the extent to which the environment is fully integrated into regional decision-making (iii) whether the South East economy is moving on to a more sustainable trajectory.
- Seek to quantify and value the role that the Environmental Economy plays in maintaining the health, integrity and coherence of the region's environment, and separate out those components of the Environmental Economy that are having a detrimental effect.
- Seek to quantify and value the service functions that the Environmental Economy plays in supporting the wider economy, and without which both the environment and the economy could not function or would be significantly impaired.
- Target support and investment on those components of the Environmental Economy that combine maintenance of the health, integrity and coherence of the region's environment with the provision of service functions that support the wider economy.

Production-side recommendations

Increase understanding, intelligence and awareness of the contribution of the environment to economic success

- 8.16. Although there is an increasing body of research on the links between the environment and economic activity, there is still a limited amount available at a regional level, and many of the more qualitative aspects of the environment and well-being are not at all well addressed. For example, although the impacts on the environment of development in general and economy activity in particular are well documented, the positive relationships between the two need more research,

recognising that they are usually grounded in particular places. In particular, there is little hard evidence to support the contention that the quality of the environment gives the South East a competitive advantage. Similarly, it is not clearly understood what would happen to the economy if the environment were not to be protected and enhanced.

- 8.17. The poor response to the business survey illustrated that it is still very difficult to engage with busy business leaders on environmental issues, despite increased awareness of high profile issues such as climate change. Although recent South East Business Monitor surveys have begun to build up a picture of how SMEs are engaging with resource issues (e.g. energy, water, waste), the importance of qualitative aspects of the environment (e.g. landscapes, townscapes, etc.) to business is not well understood. SEEDA's own monitoring records of business investment in the region do not systematically capture the full range of environmental issues. This is a gap in data that should be filled.
- 8.18. One of the reasons for this lack of engagement may be because businesses tend to be place-based. It is unlikely that many businesses relate too strongly to the South East as a region (some may not even realise they are in the administratively defined South East region at all). They are more likely to relate to specific cities, villages and towns or networks of settlements within the South East. At this level, the environment is likely to be more tangible, immediate and influential. Given the pace of growth proposed for the South East over the next 20 years, a key route into making the links between the environment and the economy is likely to be at this local place-based scale. The growth, whilst bringing challenges, will also open up opportunities to engage meaningfully in the delivery of more sustainable communities, based on character and function. This will be critical to achieve to secure the future well-being of the region as a whole.

Recommendations:

- Determine what aspects of the environment are most critical to economic success in the South East at different scales (e.g. local, sub-regional, regional, global), and why.
- Assess how the current and likely future status of these environmental aspects might affect future economic success, including the risk to the economy of environmental degradation and damage, and failure of ecological systems.
- Establish a clear system of recording and monitoring the relative importance of environmental factors in business decision-making, both direct (e.g. energy use) and indirect (quality of the environment in attracting skilled workforce).

Promote the 'bottom line' benefits to business of acting sustainably

- 8.19. Over recent months, there has been a notable change in the political, public and – potentially – business 'mood' with regard to environmental concerns. The publication of the Treasury-sponsored Stern Report in 2006 – and the 'carrot' it provided in terms of the opportunities for business and economic growth in the context of climate change – was one significant development. Another – related

again to climate change – has been a number of regulatory and fiscal changes which again are raising awareness of the direct ‘costs’ of environmental impacts.

- 8.20. Over the duration of this study there has, arguably, been a sea-change in public/media perceptions of the issue. Hence businesses in particular are likely to be far more receptive than they were even six months ago: no longer is ‘the environment’ of marginal day-to-day relevance but instead, every Board in the region is being forced to think about carbon footprints, impacts of regulation, etc. This does represent a real and current opportunity. And with its links to the business community, there is an important role for SEEDA to play.
- 8.21. The research undertaken as part of this study provided conflicting evidence of the extent to which businesses in the South east are responding to this agenda. On the one hand, the poor response to our business survey seemed to support the findings of other studies, such as those reported in the South East Sustainable Business Strategy that, in broad terms, businesses tend to have low awareness of what ‘sustainable’ business practices mean within the context of the sustainable development agenda. On the other hand, recent Business Monitor surveys, which aimed to interrogate this issue in more detail, have found that a significant proportion of SMEs in the region do think that sustainable business practices are important, and many claim to have implemented or have plans to implement one or more of such business practices. A very high proportion of SMEs consider that they are already using resources efficiently, producing minimal waste or pollutants, and are having a minimal negative impact on the environment. Whether this is genuinely the case or not is not known.
- 8.22. It is not clear from the research whether SMEs are beginning to pursue more sustainable business practices because of real concerns about their environmental impact, or because it makes good business sense. However, given the mounting evidence that acting in an environmentally efficient way is good for competitiveness and profitability, this message needs to be reinforced by SEEDA and partners, across all workstreams and sectors, so that businesses see this as a natural course of action, rather than another hurdle to cross. The emphasis should change from ‘why’ this should be done, to ‘how’ this can be achieved.
- 8.23. SEEDA and its partners are already supporting and promoting good practice in sustainable economic activity, for example through the Sustainable Business Awards and the Sustainability checklist. Some examples identified through this research are included in **Appendix 5** to this report. However, these examples only touch the surface of what could be achieved in the region in order to embed sustainable business practices in mainstream economic thinking and business decision-making. Most progress appears to have been made with respect to energy use and waste, but there is still some way to go with respect to water use and sustainable transport in particular.
- 8.24. SEEDA and its partners could actively help in promulgating good practice by ensuring that only economic activity and economic development will be supported that meets standards of good practice, and by actively seeking to reconfigure activities and development proposals that are consistent with reducing the region’s ecological

footprint. Such an approach will be challenging in the short term, but essential if the region is to achieve the goal of long-term sustainable prosperity.

- 8.25. The recently adopted RES includes a number of actions that will help to facilitate businesses move towards more sustainable practices. This also sets down commitments that SEEDA will follow with respect to its own developments and through its funding activities.
- 8.26. The South East Sustainable Business Strategy¹⁵ includes a number of objectives, targets and actions, including, for example, investing in a regional team of specialist Sustainable Business advisers as part of Business Link. Currently, this strategy is difficult to find on the SEEDA Website, and was rarely mentioned by consultees during the research. Rather than suggest a number of new actions arising from this research, it is recommended that the Sustainable Business Strategy is given a much higher profile by SEEDA, and that it sits alongside the RES as a core reference point for all economic activity in the region.

Recommendations:

- Promote the South East Sustainable Business Strategy as a core strategic document for the region.
- Monitor resource use (e.g. energy, water, raw materials, etc.) across economic sectors in the South East economy to establish a baseline for measuring improvements over time.
- Identify excellent and poor performance in resource use, and establish the marginal costs and impacts on productivity and competitiveness on South East business in different economic sectors.
- Include the above information as part of the Resource Efficiency Programme for South East businesses, with greater emphasis on the need to improve efficiency in water use and a step-change in reducing unsustainable business travel.
- Investigate the feasibility and benefits of a South East equivalent of a 'kite mark' for businesses in the region that demonstrate achievements and improvements in sustainable business practices (similar to 'Green Mark' in London, run by the London Environment Centre). This is likely to be more appropriate for SMEs, but nonetheless can be used as a possible stepping stone to ISO 14001 accreditation.

Develop the skills and knowledge base needed to move the South East economy on to a more sustainable footing

- 8.27. A frequently mentioned concern amongst stakeholders was the need to ensure that the region's workforce has the necessary skills and knowledge at all levels and across all sectors to deliver a more sustainable economy. There continues to be limited understanding of what, in practical terms, is needed to respond to the opportunities

¹⁵ SEEDA (June 2006) *Sustainable Business. A Strategy for the South East*

and challenges. There is no specific mention of this issue in the 'skills' actions in the recently adopted RES.

- 8.28. If the region is to reduce its ecological footprint, then every business will need to be playing its part. Skills development and education therefore needs to be made relevant to the mainstream activities of different business sectors – and linked to the marketing, business development and profitability. SMEs will clearly be an important target, given their importance to the South East economy and the limited internal resources and skills they have to call upon.
- 8.29. However, a particular focus should be placed upon those components of the economy where there are the greatest wins to be secured in terms of efficient resource use, and those components that have a significant influence on the quality of the South East's physical environment (both natural and built).
- 8.30. Particular concerns were raised by stakeholders about the agricultural sector and construction industry. For example, in the agricultural sector there is a need to ensure that businesses have the knowledge and skills to address new market opportunities, especially where high quality added value foods provide a unique selling point (e.g. Taste of the South East, Hampshire Fayre, etc).

Recommendations:

- Assess which sectors offer the greatest opportunities and benefits for securing resource efficiencies and maintain environmental quality, the current adequacy of skills and knowledge in these sectors, and develop a targeted programme for skills improvement.
- Review the different types of skills and training that are required for each sector to ensure that such training is tailored to the sector concerned, and mechanisms for providing and promoting the training are put in place.
- Develop and maintain an information resource of environmental standards, the most up-to-date technologies and cutting-edge best practice clearly setting out relevance and benefits to each economic sector, and promote through economic partnerships, Business Links, etc.
- Include in the next review of the RES prioritised actions to ensure that skills development to enable sustainable development practices will be delivered.

Consumption-side recommendations

- 8.31. The brief for this study focused upon the role that the environment plays in the economic success of the South East, and the specific contribution of the Environmental Economy.
- 8.32. However, during the course of the research, it became evident that managing demand (in order to reduce the propensity to consume more) should be seen as an essential component of the solution. As far as this study is concerned, consultees drew attention in particular to the regional approach to infrastructure provision, and

the need to make this more sustainable. As a result, this provides the focus of our recommendations on the consumption-side of the sustainable economy agenda.

- 8.33. However, we suggest that there are much broader issues relating to economic growth, consumption, and the promotion of choice, that need specific examination, and that will be essential to address if the region's goal of reducing its ecological footprint is to be achieved.

Invest in essential infrastructure and reduce demands on other infrastructure

- 8.34. The recently adopted RES gives support to both environmental and green infrastructure, and also refers to demand management (e.g. congestion charging), but nonetheless includes significant investment in infrastructure that could increase travel and the region's ecological footprint. Furthermore, such infrastructure investment is likely to be expensive, and could reduce the funds available for more sustainable forms of infrastructure at the local level, such as green infrastructure (which in turn could help to reduce the desire to travel). A concern raised by consultees was that one of the major challenges facing the region in sustainability terms is the increase in traffic with rising prosperity.
- 8.35. A twin-tracked approach is required to achieve a switch from investing in non-essential infrastructure to investing in essential infrastructure, in line with sustainable development principles, supported by targeted intervention. The aim should be to make the best use of existing infrastructure before investing in new. Particular targets should be road and water infrastructure, with demand management a key mechanism for delivery. For example, congestion should be addressed not by providing additional capacity on existing strategic routes, but by using pricing mechanisms to achieve a behavioural shift, coupled with improved provision of local services and facilities in order to reduce the need to travel in the first instance. Walking and cycling in particular need to be made more attractive, and virtual services brought to the home and businesses rather than sought by travelling. Similarly, with water, greater emphasis is needed on reducing leakage, and water efficiency including higher prices for all use over basic requirements, and restrictions on high water use luxury fittings.
- 8.36. There will be a need for new investment in essential infrastructure, as has been highlighted by the Environment Agency report on 'hidden infrastructure'. The same principles should apply – reducing the need for such infrastructure in the first instance through demand management, and then ensuring that the infrastructure is provided is phased in time for use.
- 8.37. Reducing the demands on built infrastructure should help to release funds for other essential 'soft' infrastructure. In particular, it will be important to maintain investment in the landscapes and habitats that support the essential ecological and natural functions (e.g. aquifer recharge and flood storage) upon which the economy depends and which help to make the South East an attractive region in which to live and work. Particular attention needs to be paid to investment in green infrastructure in areas where intensive levels of development are proposed or where ecological functions have broken down, habitats lost, and degraded landscapes created – all of which are poor for the region's image and economy.

- 8.38. There are some components of the Environmental Economy that have an essential role to play in delivering essential infrastructure, ranging from those involved in delivering sustainable transport, water supplies, energy, etc., to those involved in restoring and regenerating landscapes and townscapes.

Recommendations:

- Systematically evaluate the contribution that investment in infrastructure will make to stabilising and reducing the region's ecological footprint by 2016, and commit only to support those aspects that will support this goal.
- Before investing in new infrastructure, properly assess the extent to which there are alternative approaches to satisfying the identified need, for example through technology and demand management, that will offset the need for new infrastructure.
- Establish a clear mechanism for evaluating the costs and benefits of investing in different types of infrastructure, that properly evaluates the full range of benefits, services and impacts that will result from such investment, to take into account their contribution to all aspects of the sustainable development agenda.

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July 2007

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APPENDIX I

Analysis of progress on recommended strategic actions from 2002 South East Environmental Economy Report

Recommended strategic actions – evidence of adoption

Initiative	Recommended action	Evidence of adoption	Analysis
Strategic recognition	Embrace the Environmental Economy within regional and local economic development strategies	<ul style="list-style-type: none"> • EE given high priority within previous RES but peripheral in current RES, although it explicitly recognises the importance of maintaining a high quality environment and quality of life as competitive advantages of the region – the environment more generally receives a high profile 	+/- Reduced importance of EE as a focus for regional development
Branding and marketing	Promote the Environmental Economy as a strength of the South East Economy	<ul style="list-style-type: none"> • No citations in Milton Keynes, Oxon & Bucks Business Link website, the sub-region identified in the 2002 report as having considerable activity in environmental technology and provision of environmental advice; • Not mentioned in SEEDA's report on Sustainable Business Awards or Business Links homepage 	? No evidence found of explicit marketing of the Environmental Economy
Promote sustainable economic activity	Support a shift within both the Environmental Economy and the wider economy to those activities that are environmentally sustainable	<ul style="list-style-type: none"> • Regional vision and objectives for sustainability within SEERA Integrated Regional Framework; • SEEDA Sustainable Business Awards; • The SEEDA Sustainability Checklist for Developments in the South East (set to become a national precedent for other regions); • Sustainable Prosperity is one of three objectives of the current RES; • Plans set out in Sustainable Food and Farming Action Plan to encourage environmental stewardship through 'whole farm planning, soil and water management'; • Strategy on Sustainable Business Practices focus on increasing the number of businesses adopting sustainable business practices (including general resource use and local 	+/- Sustainable development is a clear objective for the South East but SAs of the draft RES and the draft SE Plan raise important questions on how proposed sustainability improvements will actually be delivered GVA of activities contributing to a high quality environment increased by 7% during 2000-2003 but static as a

Initiative	Recommended action	Evidence of adoption	Analysis
		procurement); <ul style="list-style-type: none"> • 'Envirobusiness South East' funded by SEEDA to support businesses working in environmental technologies; • Regional Manager of Carbon Trust (supporting businesses with carbon reduction) now 'hosted' by SEEDA. 	proportion of the total SE economy ¹⁶
Regional level intelligence	Improve knowledge about the Environmental Economy, its opportunities and needs, and disseminate good practice	<ul style="list-style-type: none"> • SEEDA has 'lead role' amongst RDAs for both Energy and Water; • South East Sustainable Business Partnership (SESBP) established in 2001 by GOSE and SEEDA to support networking and dissemination of good practice; • SEEDA Sustainable Business Awards; • Current Environmental Policy Progress Report project 	+/- Although current LUC/SQW project demonstrates a desire to improve knowledge of the EE, no evidence was found of routine intelligence gathering at the regional level
Appraisal and monitoring	Monitor the development of the Environmental Economy, and ensure that objectives consistent with the Environmental Economy are integrated into appraisal systems	<ul style="list-style-type: none"> • Cambridge Econometrics Mar 05 report 'The Environmental Economy of the South East'; • Introduction in the new RES of an Index of Sustainable Economic Welfare, measurement of the region's ecological footprint, and formulation of a headline target to stabilise and ultimately reduce it; • A Sustainable Development Advisory Committee was established by SEEDA to advise the Board on how it should develop policy and scrutinise delivery through its projects 	+/- Single follow-up report from in Mar 05 updates original report but sector employment / output not tracked by SEE-iN

Key: + strongly adopted, +/- partly adopted, - not adopted, ? unknown/ no evidence of adoption found

¹⁶ Cambridge Econometrics (2005) *The Environmental Economy of the South East*

APPENDIX 2

Analysis of progress on recommended sectoral actions from 2002 South East Environmental Economy Report

Recommended sectoral actions – evidence of adoption

Sector	Recommended action	Evidence of adoption	Analysis
Sustainable Agriculture	Implement the recommendations of the Curry Report	<ul style="list-style-type: none"> SE Sustainable Farming and Food Board (SFFB) set up with responsibility to implement Sustainable Farming and Food Policy which followed the Curry Report 	+ Action adopted
	Support farmers markets and local produce schemes and outlets	<ul style="list-style-type: none"> GOSE 2003 Strategy for Sustainable Farming & Food aims to build the market for local food in the SE and empower SE suppliers to exploit it; SEEDA support for SE Food Group Partnership promoting and selling local foods (e.g. oily fish from South Coast small boat fishery to local school dinners¹⁷) and providing info. on local farmers' markets; SEEDA and local authority support for Hampshire Fare locally produced food group 	+ Action adopted
	Promote sustainable agriculture flagship schemes (e.g. High Weald Land Management Initiative; Whole Farm Plans)	<ul style="list-style-type: none"> 'Farming for the Future' leaflet sent by SFFB to farmers in SE managing > 20 ha to promote best practice and achievements of sector champions; Promotion of Sir Don Curry visit to Rowley farm, Bucks; Natural England leaflet on High Weald LMI; Sheepdrove Organic Farm recognised as winner of 'medium-sized business' category in 2006 Sustainable Business Awards 	+ Action adopted
	Ensure diversification proposals deliver sustainable development	<ul style="list-style-type: none"> GOSE 2003 Strategy for Sustainable Farming & Food aims to overcome barriers to diversification into non-food crops (e.g. biomass fuels) and tourism 	? Clear support for diversification but not clear whether it has delivered - while farms in the South East have highest incidence of diversified activity of any

¹⁷ F3 (2006) South coast oily fish for school meals <http://www.localfood.org.uk/library/SE%20Oily%20Fish%20Case%20Study.pdf>

Sector	Recommended action	Evidence of adoption	Analysis
			English region, diversification data for 2003/04 and 2004/05 not comparable to earlier agricultural census diversification results ¹⁸ so unable to ascertain trends
Sustainable Forestry	Promote sustainable forestry in a Regional Forestry Strategy	<ul style="list-style-type: none"> 'Seeing the Wood for the Trees', sets out a framework for the future development of woodlands and forestry in the SE with a vision to make an increasing contribution to sustainable development; Supported by Sustainable Business Awards e.g. in 2003 to Stamco Timber, a large wholesale supplier of wood from sustainable forests 	+ Action adopted
	Promote the accreditation scheme for sustainable sources of timber and woodland products, and encourage key players to lead by example	<ul style="list-style-type: none"> TimberBuild Network is supported in SE by SEEDA and East Sussex CC – promotes use of locally grown timber from its members to construction industry; 'WoodLots' initiative of Weald WoodNet supported by local authorities promoting timber and wood products grown sustainably in SE; Defra set up national helpline 'CPET' in 2005 to provide government and companies supplying government with information on how to specify legal and sustainable timber; SEEDA Sustainability Checklist for new developments encourages use of reclaimed timber and use of materials suppliers with environmentally friendly supply chains 	+/? Some evidence of promotion of sustainable timber but unclear which accreditation scheme recommendation refers to; public sector purchasers are being encouraged to lead by example
Sustainable Mineral Operations	Promote the use of secondary and recycled aggregates	<ul style="list-style-type: none"> SE Plan Policy W2: '<i>Local Development Documents will require development design, construction and demolition which minimises waste production and associated impacts through the re-use of construction and demolition materials</i>' with Strategic 	+ Action adopted N.B. Impacts not yet visible - amount of secondary aggregates and recycled

¹⁸ Defra *Diversification in Agriculture – Statistical Release* reports 2004, 5 & 6 <http://statistics.defra.gov.uk/esg/publications/diversification.asp>

Sector	Recommended action	Evidence of adoption	Analysis
		<p>Growth Areas to demonstrate best practice</p> <ul style="list-style-type: none"> SE Plan Policy M1: <i>'Local Development Documents should promote the use of construction materials that reduce the demand for primary minerals, by requiring new projects to include a proportion of recycled and secondary aggregates wherever practicable.'</i> SE Plan Policy M2: Provides sub-regional targets for use of secondary aggregates and recycled materials SEEDA Sustainability Checklist for new developments encourages use of locally reclaimed materials 	material actually used was static at 6.6mt per annum from 2001 to 2003 ¹⁹
	Ensure RPG and mineral local plans promote sustainable restoration schemes providing habitat, landscape and community benefits	<ul style="list-style-type: none"> SE Plan Policy W14: <i>'Local Development Documents should secure high quality restoration...of waste management sites'</i>. Also calls for restorations to be more imaginative, providing not just agricultural use but helping to meet LBAP targets or provide public amenity or recreation space; Mineral BAP website developed by SEEDA to provide practical steps to operators in implementing the UK Biodiversity Action Plan 	+ Action adopted
Sustainable Water Management	Ensure RPG and development plans promote water efficiency, and assess water resource availability in determining type and location of development	<ul style="list-style-type: none"> SE Plan Policy NRM1 requires local authorities to: <i>'Ensure that the rate and location of development...is in step with current and planned provision of adequate water supply'</i> <i>'Require development that would use significant quantities of water to incorporate measures to achieve high levels of water efficiency, and reflect current best practice including BREEAM2 "very good" and increasingly "excellent" standards';</i> Key target within the RES Objective 3 ('Sustainable Prosperity') to reduce per capita water consumption in the 	+/- Action adopted insofar as region is promoting efficient water use in new developments. However, the SA of the draft SE Plan points to: <ul style="list-style-type: none"> - over-reliance on behavioural change and an absence of Central Government policy to

¹⁹ SEERA (2005) *Regional Monitoring Report 2005* <http://www.southeast-ra.gov.uk/publications/monitoring.html>

Sector	Recommended action	Evidence of adoption	Analysis
		region by 20% by 2016	support this - a risk that the SE Plan will exacerbate existing water resource shortages if these efficiencies do not materialise
Sustainable Waste Management	Introduce 'waste audits' for business and retailers	<ul style="list-style-type: none"> • Envirowise provides checklist to help businesses do their own waste audit and a day's free on-site advice; regional manager based at SEEDA offices; • 'Taking Stock' mass balance study funded by SEEDA to analyse resource flows and compile data 	+/? DTI & Defra-backed organisation available to help businesses carry out their own waste audits but unclear what uptake levels are for this voluntary scheme
	Develop market opportunities for recycled waste products and provide an advisory service	<ul style="list-style-type: none"> • SE Plan Policy W9: <i>'The Regional Assembly, SEEDA, Waste Resources Action Programme (WRAP) and other partners will work together to establish regional and local programmes to develop markets for recycled and recovered materials and products.'</i>; • Waste Market Development Group established and funds research and demonstration projects. However, Resource Recovery Parks feasibility study found only limited interest; • Key target within RES Objective 3 ('Sustainable Prosperity') to achieve a 30% increase over 2003 baseline in GVA generated per tonne of materials entering the waste stream by 2016 	+/? Intention to develop markets for recycled materials / products is clear – success in doing so and existence of an advisory service less clear
Sustainable Energy	Develop a regional strategy for renewable energy, and promote a 'Centre of Excellence'	<ul style="list-style-type: none"> • <i>'The Energy Efficiency and Renewable Energy Strategy (Proposed alterations to Regional Planning Guidance, South East - Energy Efficiency and Renewable Energy)'</i> was published by SEERA Nov 2004 and targets carried forward into SE Plan; • South East Sustainable Energy Partnership chaired by GOSE set up to share best practice, support local projects and 	+/- Regional strategy developed but no evidence of existence or promotion of a SE centre of excellence for renewable energy

Sector	Recommended action	Evidence of adoption	Analysis
		<p>raise awareness of the benefits and opportunities of renewable energy in the region;</p> <ul style="list-style-type: none"> • SEEDA's RDA 'lead role' in Energy given added importance when Energy was included within the National-Regional Partnership project with DTI (June, 2004); • South East Sustainable Energy Partnership (SESEP) established, and annual conference ('South East Renewable Sustainable Energy Conference') held 	
	Ensure RPG and development plans promote energy conservation, and appropriate renewable energy projects	<ul style="list-style-type: none"> • SE Plan Policies: promote development design for energy efficiency and renewable energy (EN1); • Encourage the integration of combined heat and power (CHP) in all developments (EN2) 	+ Action adopted
	Increase significantly renewable energy production	<ul style="list-style-type: none"> • Key target within the RES Objective 3 ('Sustainable Prosperity') to increase the contribution of renewable energy to overall energy supply in the region to 8% of generation capacity by 2016; • First windfarm co-operative in the south of England (Westmill windfarm) financially supported by SEEDA; • SE Plan: Regional (policy EN3) and sub-regional (policy EN4) targets set to increase proportion of electricity generated from renewable sources to 5.5% by 2010 and 10% by 2020 	+/- Action adopted insofar as targets set and renewable generation increased but SA of SE Plan notes absence of any mechanisms to deliver on challenging future targets; Actual renewable generation increased by 70% from 2001-2003 ²⁰
Sustainable Tourism	Introduce tourism 'pay-back' schemes to invest to maintain	<ul style="list-style-type: none"> • 'Gift to Nature' payback scheme of Island 2000 Trust on Isle of Wight 	? This scheme is well established but failed to find evidence of support for new

²⁰ KPMG (2005) SEEDA: Economic Impact Assessment of the RES

Sector	Recommended action	Evidence of adoption	Analysis
	high quality environments and improve poor quality environments		schemes by SEEDA, Tourist Board etc
	Encourage integration between tourism, farming and environmental interests to help ensure tourism enhances sustainable access, biodiversity, and landscape enhancements and landowners' income	<ul style="list-style-type: none"> SE Tourist Board's 'Rural Ways' website promotes farm-based attractions and farmers' markets 	? Some evidence of adoption found but absent from tourism chapter of SE Plan
	Promote 'sustainable tourism' through RPG, development plans, and flagship schemes (e.g. East Kent Biosphere proposal)	<ul style="list-style-type: none"> None found 	? Little evidence of this in tourism chapter of SE Plan and no promotion of East Kent Biosphere or similar schemes found
	Introduce accreditation scheme to brand 'sustainable tourism' products and services	<ul style="list-style-type: none"> Tourism SE ran two pilot accreditation schemes for sustainable tourism businesses in 2004/05. The Basic 'general entry' scheme in the New Forest and a more rigorous one based on the national Green Tourism Business Scheme (GTBS) in the Kent Downs & South Downs are now being adopted more widely with 150 businesses in former and 100 in latter. 	+ Action adopted

Sector	Recommended action	Evidence of adoption	Analysis
Environmental Technology	Support the continuing development of a South East Environmental Technology Sector Group	<ul style="list-style-type: none"> RES (Sep 06) has 'Transforming the South East (for) global leadership in environmental technologies' as one of its 8 Transformational Actions; Envirobusiness Ltd – Envirobusiness South East funded by SEEDA to support businesses working in environmental technologies through support of new business opportunities and development/support of a network to promote collaborative projects 	+ Action adopted
	Develop the Enterprise Hub at Reading University as a Centre of Excellence, and encourage satellite centres at other regional education and research establishments	<ul style="list-style-type: none"> Reading Hub continues to operate. RES (Sep 06) sets out SEEDA commitment to encourage establishment of at least two new Science and Innovation Campuses. 	? Unclear whether Reading Hub developed since 2003 or how large a part Environmental Technology will play in planned new campuses
	Investigate markets and business needs in UK and overseas, and promote SE strengths (water, environmental monitoring research, contaminated land and waste management, environmental consultancy)	<ul style="list-style-type: none"> Virtual Centre of Excellence in sustainable design and innovation funded by BREW (Business Resource Efficiency and Waste) Programme 2006 – with the ultimate aim to design out waste from the manufacturing process. Aim to develop international linkages (e.g. sorting and reprocessing from the Far East) 	? Success unclear

Sector	Recommended action	Evidence of adoption	Analysis
	Support development of other parts of the sector where less strong (air pollution control, noise and vibration control, energy management and renewable energy, cleaner technologies and processes)	<ul style="list-style-type: none"> • None found 	? Unknown
	Support commercialisation and manufacturing of environmental technologies to capitalise on strong research base	<ul style="list-style-type: none"> • Reading Hub continues to operate. RES (Sep 06) sets out SEEDA commitment to encourage establishment of at least two new Science and Innovation Campuses. 	? RES (Sep 06) sets out SEEDA commitment to encourage establishment of at least two new Science and Innovation Campuses – unclear whether these will deliver on this action
Sustainable Transport	Use RPG, RTS and RES to 'break the link' between economic growth and traffic growth, and significantly boost investment in alternatives to roads to achieve a significant modal shift to public	<ul style="list-style-type: none"> • Final RTS published July 04 with one of three strategy aims being '<i>rebalancing the structure and use of the transport system in favour of more sustainable modes</i>' and policies aimed at delivering an improved integrated network of public transport (T9), new charging initiatives (T11) and development of the rail system to carry an increasing proportion of freight movements (T14); • Transport strategy within the Draft SE plan seeks to '<i>encourage modal shift and significantly improve the attractiveness of local public transport services</i>' and utilise '<i>management measures that reduce our dependence on the</i> 	+/- Clear aspiration to adopt this action but RES lacks detail on how policy will be achieved. RES policies also support further development of Heathrow, Gatwick and Southampton airports. Of the capital investments committed to, most relate to the road network rather than public transport, notable exceptions

Sector	Recommended action	Evidence of adoption	Analysis
	transport, cycling and walking	<p><i>private car</i></p> <ul style="list-style-type: none"> • Current RES has action to ‘<i>reduce road congestion and pollution levels by improving travel choice, promoting public transport, managing demand and facilitating modal shift</i>’ but lacks detail. 	<p>being phase 2 of the Channel Tunnel Rail Link, upgrade of the West Coast Mainline and improvements for Thameslink 2000 and the trains and power supply of the Southern rail network. SA of SE Plan states that there is an over-reliance on behavioural change in transport policy which SEERA’s limited powers are unlikely to be in a position to deliver. Proportion of workers travelling to work by car increased from 74% to 78% from 2000-2002²¹</p>
Conservation of the Natural, Historic and Built Environment	Recognise the role and economic value of the voluntary sector in maintaining a high quality environment, and provide support and include in economic development partnerships accordingly	<ul style="list-style-type: none"> • SEEDA membership of South East England Biodiversity Forum (SEEBF), an independent advisory group comprising statutory bodies, local authorities and NGOs. SEEBF inputs to policy development, including the RES and SE Plan, sets biodiversity targets and monitors their achievement 	+ Action adopted

²¹ KPMG (2005) *SEEDA: Economic Impact Assessment of the RES*

Sector	Recommended action	Evidence of adoption	Analysis
	Avoid development that erodes or destroys the natural, historic and built environment of the region	<ul style="list-style-type: none"> • SE Plan policies on the natural environment are mainly targeted at protection of nationally designated areas such as AONBs and the New Forest National Park but also state that planning policies outside these areas should protect distinctive qualities, contribute to landscape conservation and avoid habitat fragmentation; • SE Plan policies on the built and historic environment aim to concentrate development on existing urban areas and market towns, avoiding green field sites and also call for local authorities to support conservation of the historic environment; • Quality Built Environment Strategy will establish processes through which all SEEDA-funded developments will have to pass before approval, ensuring urban renaissance and environmental sustainability issues will be considered 	+/- Aspiration to adopt the action is clear and data for new housing illustrates successful shift to brownfield development; % of key habitats in unfavourable condition increased from 27% to 34% from 2002-2003 ²² ; Proportion of dwellings built on previously developed land increased from 55% - 71% during 1999-2003 ²³
	Support investment in damaged and degraded environments to improve their contribution to the economy and society	<ul style="list-style-type: none"> • SE Plan policies call for enhancement of distinctive landscape qualities, landscape renewal and linking of habitats. • SE Plan policies instruct local authorities to manage for an 'Urban Renaissance' by ensuring that community and green infrastructure form part of new developments, proactive management for suburban renewal and bringing under-used historic buildings into appropriate use • Brownfield Land Assembly Trust (BLAT) established to identify and 'assemble' otherwise unviable degraded sites for development 	+/- SE Plan lacks detail of how aspirations will be achieved; need further info on actual investments which have delivered environmental restoration

²² KPMG (2005) *SEEDA: Economic Impact Assessment of the RES*

²³ KPMG (2005) *SEEDA: Economic Impact Assessment of the RES*

Sector	Recommended action	Evidence of adoption	Analysis
	Recognise the environment as having economic value, and harness it as an essential ingredient of economic regeneration	<ul style="list-style-type: none"> • Region's biodiversity strategy currently being reviewed by SEEBF – will show through case studies how individual sectors can benefit from biodiversity; • New post of South East Biodiversity Manager (funded by Defra and Natural England) filled April 2006 to oversee biodiversity strategy; • Articles by SEEDA chairman promoting biodiversity in 'South East Business' magazine 	+/? Recognition of the economic value of the environment will be clearer when revised regional biodiversity strategy published by SEEBF; need further info on how environment being 'harnessed for economic regeneration'
Greening Business Behaviour	Provide advice, education and training, to improve awareness of the benefits to business of good environmental housekeeping	<ul style="list-style-type: none"> • Envirowise, backed by DTI / Defra, provides advice on reducing environmental impact of business via employer information packs, website, workshops and a helpline; • SEEDA Sustainable Business Strategy published June 2006 includes intention to promote a 'Menu of Opportunities' for SMEs to become more sustainable and case studies of successful sustainable businesses, as well as provision of a Business Link Adviser, acting as a 'champion for sustainable business practices'; • Remit for 'sustainable business' within SEEDA has moved to the Business Support team (from Sustainable Development) ensuring further mainstreaming within SEEDA; • Sustainable Business Partnerships set up in all counties, supported by a regional umbrella body (including all SBPs, GOSE, SEEDA, SBS, Environment Agency, Carbon Trust, etc.) to support local networks for sharing experience and expertise; • Regional Manager of Carbon Trust (providing advice and supporting the business case for carbon reduction) and Regional Manager of Envirowise are both now 'hosted' by SEEDA; 	+ Action adopted

Sector	Recommended action	Evidence of adoption	Analysis
		<ul style="list-style-type: none"> SEEDA annual Sustainable Business Awards showcase best practice and ‘challenge businesses to improve productivity and competitiveness – as well as their public profile – through incorporating sustainable practices’; CENTRIM at University of Brighton are developing a computer-based management tool to monitor sustainability performance in SMEs (still under development) 	
	Promote environmental accreditation schemes across all sectors	<ul style="list-style-type: none"> Tourism sector schemes in place (see above) – no evidence found of schemes in other sectors 	+/- Limited uptake of this action
	Research the role of environmental quality as a reason for inward investment	<ul style="list-style-type: none"> No evidence found of this to date but will be included within current study 	+/- Limited uptake of this action

Key: + strongly adopted, +/- partly adopted, - not adopted, ? unknown/ no evidence of adoption found

APPENDIX 3

Measures of success

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome ²⁴ ?
Category A: High performance of the Environmental Economy itself				
A1	Business start-up, survival and expansion in the Environmental Economy sector is occurring at a faster rate than across all sectors in the regional economy	In UK, South East is second only to London in the number of businesses per head of population and 49% of employees work in businesses with < 50 employees, implying a healthy environment for entrepreneurs generally. ²⁵ Detailed analysis of the Environmental Economy beyond that in Chapter 3 was not carried out, but might be possible by reference to ABI data on business size and VAT registrations data.	As for A2 and A3	General buoyancy of South East economy. Introduction, and tightening up, of environmental regulations and standards from both EU and Government. Price of environmental resources, especially energy. Inward investment, especially from overseas companies, such as the water industry. For tourism, general increases in disposable income and size of retired population.

²⁴ Participants at the workshop stressed that there were some overarching factors (such as EU policy; climate change; the performance of the SE economy as a whole; immigration policy changes; terrorism; increasing population density) which may have an impact on all of these Measures. This column presents some specific factors which may be strongly linked to individual Measures of Success

²⁵ Small Business Service (2006) *SME Statistics UK 2005 – Excel Tables*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
A2	Employment growth in the Environmental Economy is faster than for the regional economy as a whole	EE employed 236,000 people in 2003 (5.5% of the SE workforce) ²⁶ . Projected growth of 16,200 jobs (6.9%) by 2015 (although projected to shrink as proportion of the regional economy)	Stronger recent growth in activities dependent on a high quality environment (such as tourism related) and in activities contributing to a high quality environment (such as Environmental Technologies) than forecast	As A1. Reform of CAP could influence buoyancy of agricultural sector, and could lead to investment in environmental improvements that could increase demand for labour inputs.
A3	GVA per worker in the Environmental Economy is increasing faster than in the regional economy as a whole	EE generates 6.0% of region's £130,214m output (compared with SE workforce) Projected growth of £1,706m (21.6%) by 2015 (although productivity (GVA/capita) is projected to shrink as proportion of the regional economy)	Growth anticipated to be strongest in activities dependent on a high quality environment (such as tourism related) and in activities contributing to a high quality environment (such as	As A1.

²⁶ Cambridge Econometrics (2005), *The Environmental Economy of the South East*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
			Environmental Technologies)	
A4	Environmental Economy businesses in the South East are seen as leading exponents in the efficient use of natural resources	SEEDA Sustainable Business Awards showcase leading South East businesses in this field e.g. Sheep Drove Organic Farm which saved over 1,600 m ³ of mains water by re-using waste water and introducing water efficiency measures in its facilities. No information found on the position of the South East relative to other regions.	Environmental technology companies developing more resource-efficient plant and processes are likely to be early adopters of such technologies themselves. Growing awareness of the technologies available will be assisted by higher education establishments, consultancies, Sustainable Business Partnerships etc.	As A1. Demand for resources in South East is very high. Initiatives, such as SEEDA's sustainable development checklist, and planning policies within the draft South East Plan which aim to improve resource efficiency.
A5	Innovation linked to the Environmental	Detailed analysis for Environmental Economy sectors was not possible	Renewable energy technologies and	As A1 to A4. Environmental regulation likely to play a key role. Government support for, and

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
	Economy is a major focus for R&D and business growth	<p>but potential sources of data for further analysis include:</p> <ul style="list-style-type: none"> - National statistics on R&D expenditure: approximately 25% of the UK business R&D spend is by the South East businesses²⁷ - Patent Office facts and figures - Eco-innovation (new products / services) <p>No evidence was found of actively marketing the Environmental Economy</p>	other environmental technologies are likely to be sources of innovation. Other recent examples are in printing and agriculture	investment in, renewable technologies should help act as a stimulus.
A6	Business investment and upskilling within the Environmental Economy is relatively greater than in other sectors	Potential sources of data: National Employers Skills Survey (NESS)	Some components of Environmental Economy likely to be highly skilled, such as environmental technologies, others less so such as tourism and	Linked to A1 to A5 above. Some components of Environmental Economy likely to be highly skilled, such as environmental technologies, others less so such as tourism and agriculture (although new land management/ecological skills may be required as a result of CAP Reform), but all will require a sound skills base.

²⁷ National Statistics (2006) *UK Business Enterprise Research and Development, 2005*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
			agriculture, but all will require a sound skills base.	
Category B: Raised profile of the environment in decision-making				
B1	The South East's environmental quality is a key locational factor for businesses	Information from LUC/SQW's 2002 report (Appendix 2) suggests that it is not a strong factor	Tourism-related businesses require this, as – increasingly – do businesses in the service sector	Already promoted by SEEDA and other regional stakeholders as a key ingredient of economic success, but not clear how important relative to other factors. Some locations that have suffered from environmental degradation in the past (e.g. parts of Thames Gateway) could have difficulty in attracting business due to image issues. Local planning and development frameworks, as well as availability of (and support for) sustainable construction, will also have a major role to play.
B2	The South East's environmental quality is a key locational factor for economically active people to live in the region	Few respondents to a recent SEERA survey ²⁸ cited environmental reasons as the 'main reason for moving to the South East', (with economic factors a greater draw): a) Quiet/peaceful = 1% b) Get away from city/London = 1%	Sustainable construction can help to support this	Evidence suggests that environmental quality is important for those who already live in the region, but the draw of employment or business relocation is a more important factor than environmental quality for those moving to the region. Environmental quality is likely to play a more important role in retaining economically

²⁸ SEERA/Ipsos Mori research (2006) – *Perceptions of the South East and its Regional Assembly*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome ²⁴ ?
		<p>c) Better environment = <0.5%</p> <p>However, these figures were higher for people already living there: 22% of unprompted responses referred to 'nice/pretty countryside', and 20% referred to the 'pleasant environment' as regional strengths.</p>		active population.
B3	The South East's environmental quality is deemed significant by visitors in making decisions to visit the region	Of the top ten most visited South East attractions charging for admission, all ten had a strong heritage (e.g. Canterbury Cathedral) or natural environment (e.g. RHS Wisley Garden) character. ²⁹	<p>Tourism sector as a whole</p> <p>Tourism South East endorses the Green Tourism Business Scheme (GTBS)</p>	<p>South East has high environmental quality but so do neighbouring regions especially South West. Also, proximity to continent could possible mean that people find trips abroad relatively attractive than staying within own region. Also, some parts of South East are becoming quite urbanised, especially close to London and in key transport corridors, so 'escape from the hustle and bustle' factors could drive visitors elsewhere. On the other hand, proximity of high quality coastal locations – resorts, cliffs/beaches – and countryside – e.g. Chilterns, New Forest, North and South Downs – attractive for weekend breaks and day trips e.g. from Londoners. Quality of accommodation, transport and other</p>

²⁹ Tourism South East (2005) *Facts of Tourism*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
				visitor related services and facilities important.
B4	Environmental quality is better understood and valued in regional economic discussions	<p>ISEW will take environmental quality into account, and be measured within the framework of the RES as an indicator of regional progress towards sustainable prosperity (RES 2006-2016, p.98)</p> <p>Strong focus identified regionally on water and waste (e.g. establishment of Waste market development group, South East water resources forum)</p> <p>A Sustainable Development Advisory Committee established by SEEDA to advise the Board on policy development and scrutiny of projects</p> <p>(Further work could check inclusion of key environmental metrics into local policies)</p>	Education sector (HE/FE) and consultancies are making positive contributions. Public sector also has a major leading role to play through sustainable public procurement	<p>Improved understanding, and valuation of 'environmental goods, services and benefits' (e.g. externalities, qualitative dimensions) beginning to be reflected in key regional strategies, especially Regional Economic Strategy.</p> <p>Intention to adopt ISEW as a performance measure in new RES is a move in this direction.</p> <p>Development and adoption of various regional strategies and other initiatives to support regional environmental quality: Sustainable Forestry strategy; Sustainable Farming and Food strategy; Sustainability Checklist for Developments developed; Strategy for Sustainable Business developed.</p> <p>There is a need to support skills development and education for key decision-makers in the region</p>

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
B5	Businesses, organisations and key regional-decision makers in the South East believe the case has been made for significant investment in regional environmental enhancement	<p>Sustainable Business Awards increasingly promoted</p> <p>Strategy for Sustainable Business developed by SEEDA</p> <p>Envirobusiness SE established by SEEDA</p> <p>Other potential sources of data:</p> <ul style="list-style-type: none"> - Number of participants in vocational/environmental training - Number of businesses involved with sustainable construction, waste market development, eco-enterprise , etc. 	Agriculture has a big part to play – particularly with regard to set-aside, farming diversification and land use	Key issues appear to be sustainable transport, water and energy related, although others such as countryside/agriculture also focus for attention. Similarly, major regeneration locations such as Thames Gateway and struggling south coast resorts. Recognised that, with climate change, investment in water infrastructure is essential to keep the economy moving.
B6	Environmental issues are given a higher profile within key regional planning documents e.g. South East Plan, Regional Economic	'Sustainable Prosperity' is included as one of three 'Key Challenges'/Objectives in the new RES (2006-2016) ³⁰ , and incorporates actions and targets in: Climate Change and Energy; Sustainable Consumption and Production;	n/a	Already happening – the main issue appears to be how to reconcile the need to achieve environmental objectives when the economy in general is dependent upon increasing consumption and globalisation of markets.

³⁰ *The Regional Economic Strategy, 2006-2016: A Framework for Sustainable Prosperity*, SEEDA, October 2006

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
	Strategy, Integrated Regional Framework	<p>Natural Resources and the Environment; Sustainable Communities</p> <p>Action is proposed in the new RES under the target “Achieve measurable improvements in the quality, biodiversity and accessibility of green space, open space and green infrastructure”</p> <p>However, EE is peripheral in draft RES and no evidence of routine intelligence gathering of the sector</p>		
B7	Businesses in the South East are more aware of sustainability issues and are taking action to reduce their environmental impact ³¹	<p>Only 12% of businesses relate the term sustainability to the impact a business has on the environment. The majority of businesses said that it meant either nothing or that they didn’t know what it meant.</p> <p>Nevertheless, the majority of the region’s SMEs believe that their</p>	Larger businesses across a variety of sectors tend to be well-represented here, both in terms of developing CSR policies, and in response to environmental	Environmental regulation is a key catalyst for change. However, increasing profile of Corporate and Social Responsibility (CSR), ethical investment (e.g. an ethical fund was top performing investment fund in 2006), carbon trading, etc., all raising awareness. Relative importance of such issues compared to interests of investors interested in short-term returns.

³¹ NB This is an objective within South East Sustainable Business Strategy

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
		<p>current business practices are environmentally sustainable³².</p> <p>SEEDA will be using the Business Link insights panel to monitor this on a quarterly basis and the actual benefit to the region and the environment will be measured using the Enworks toolkit</p> <p>Also, see: <i>Demand for Sustainable Business Advice in the South East</i> (Jacobs UK Ltd, research report for SEEDA, 2007)</p> <p>Other potential sources of data: - % of businesses measuring their environmental impact and resource efficiency (e.g. number of businesses with ISO 14001 accreditation)</p>	regulation	

³² South East Business Monitor: *Survey of Business Owners and Senior Decision Makers; Hot Topic Spotlight: Sustainability*, Business Link, November 2006

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome ²⁴ ?
Category C: Increased environmental quality and well-being				
CI	The region's performance on quality of life indicators (e.g. ISEW) is improving	<p>Resident overall satisfaction with the characteristics of the area in which they live³³ fell from 90% (1999-00) to 88% (2002-03). The region remained in second place.</p> <p>In 2006, 88% of residents were fairly (43%) or very (45%) satisfied with their local area in the SE as a place to live³⁴</p> <p>IMD 2004: 5.1% of the regional population are within the most deprived 20% nationally. 1.4% are in the most deprived 10%. This represents the lowest proportion of all regions.</p> <p>The number of deprived people in</p>	<p>Cambridge Economics forecast that activities contributing to a high quality environment will experience faster growth than the other parts of the Environmental Economy, contributing to improved environmental quality, a component of well-being.</p> <p>Any 'managed retreat' from agriculture would be likely to</p>	<p>Quality of life is dependent upon a range of factors. Access to rewarding employment, and education levels are key determinants of well being. Local environmental quality also important.</p>

³³ ODPM Survey of English Housing

http://www.odpm.gov.uk/stellent/groups/odpm_control/documents/contentservertemplate/odpm_index.hcst?n=1467&l=5 / Regional Sustainable Development Indicators 2005

³⁴ SEERA/Ipsos Mori research (2006) – *Perceptions of the South East and its Regional Assembly*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
		<p>2000 was over 700,000 and fell by 41.6% to just over 400,000 by 2004. However, the measurement was different, and figures fell significantly in every region.</p> <p>ISEW per capita grew by 53% between 1994-2004 (compared to a 30% growth in GDP/capita in the region, although the absolute gap between the two measures widened). This was faster than national growth of 35%.</p> <p>In 2004 it was £10,300/capita; 6% above the national average. (This compares to 93% of the UK average in 1994.)</p>	<p>increase the area of land managed for biodiversity or recreation, improving access to these environmental assets, with a positive impact on health and quality of life.</p>	
C2	The region's contribution to climate change is reducing	In 2003, 19.4million tonnes of CO2 emissions were produced in the South East, 17% of the total CO2 emissions in England.	Carbon dioxide emissions are worsening in transport ³⁶ Environmental	Environmental regulation and investment in low carbon technologies and energy efficient developments likely to play a key role. However, economy is still highly fossil fuel dependent and increases in consumption and traffic including air

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
		<p>“In contrast to many UK regions, the South East’s CO2 emissions from consumption are considerably higher than CO2 emissions from production. The South East CO2 emissions from consumption are 13.4 tonnes per person, 13 per cent higher than the national average, while emissions from production are more than 10 tonnes per person.” (lower than the national average) “Emissions from production are still significant, reflecting the fact that the South East has an active manufacturing base in addition to its service economy”³⁵.</p> <p>Regional trend data is not available.</p>	<p>technologies and environmental advice are key to contribute positively</p> <p>Energy production can have a negative impact, although support for renewables could have a positive impact</p>	<p>travel, as well as emissions from existing building stock and industrial processes, could more than offset any gains made.</p> <p>Past reductions resulting from the switch of energy production to gas cannot be repeated. CO2 outputs from production in the South East may decline as manufacturing continues to relocate to developing economies but these would be matched by increases in the CO2 associated with consumption, with an additional burden of emissions from international transport of goods.</p> <p>Emissions from increasing road traffic pose the greatest threat to air quality in the region (RES Evidence review) – the region has higher than average car ownership and car usage, and this is predicted to rise in the future³⁷.</p> <p>Adaptation to climate change is also a key factor, particularly re. impacts on quality of life.</p>

³⁵ RES 2006-2016 Evidence Base, p.21; source WWF-UK, 2006

³⁶ Defra (2004) *Regional Quality of Life Counts 2003*, Department for Food and Rural Affairs

³⁷ Environment Agency (2004) *State of the Environment 2004 in South East England*

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
C3	Growth in the regional ecological footprint for the South East is halted and then reversed	At 6.3 global hectares per resident, the South East England has the highest ecological footprint of all UK regions, 16.7 per cent above the UK average of 5.36 gha/cap ³⁸ “A recent report by the Centre for Urban & Regional Ecology and the Stockholm Environment Institute shows that ecological footprint in the region is currently increasing at a rate of 1.1 per cent per annum (the mid-point average of baseline trends).”	Environmental technologies have a positive role to play Agriculture is likely to have a negative impact, although sustainable agriculture could improve this	As C2. Increased globalisation of markets could work against this, particularly if this leads to the relocation of high energy consuming industrial processes to less well environmentally regulated countries, with imports back to South East for consumption – displacement will not reduce ecological footprint as effectively as replacement. Use of natural resources (e.g. water) may need to be separately identified as ‘measure of success’ in South East, especially re. ‘living within environmental limits’.
C4	Regional biodiversity is protected and enhanced	Over 14% of the region is covered by woodland, making the South East the most wooded region in England. This is increasing The region has 702 SSSIs, covering 134,000 ha (7% of region) – although	Agriculture and land management both have an important role to play	Economic processes and drivers more likely to work against this measure of success, hence the need for strong environmental policies and regulation (e.g. Habitats Directive). Some components of Environmental Economy sector, e.g. tourism and environmental advice, more

³⁸ *Counting Consumption – CO2 emissions, material flows and Ecological Footprint of the UK by region and devolved country*, (WWF-UK, Stockholm Environment Institute, CURE and Biffa, 2006)

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
		<p>30% need action to restore them to a favourable condition. In 2004, 67.4% was in 'favourable' or 'unfavourable recovering' condition (UK average 64.5%; UK target 95% by 2010).</p> <p>Bird population indices for (a) farmland birds (b) woodland birds (c) all bird species, have all shown a decline – and in all indices, the South East showed the greatest regional decline. From a base index of 100 in 1994, indices for 2003 were (a) 88 (b) 90 (c) 95 ³⁹.</p> <p>Between 1970 and 2000, there was a 13% decline in the all-bird species index in the region</p>		<p>closely linked. Investment via planning obligations (e.g. with respect to green infrastructure) offer opportunities for wins on back of economy.</p> <p>Amongst SSSIs, the main causes of unfavourable condition include: overgrazing, inappropriate burning, lack of scrub control, inappropriate forestry and woodland management, lack of appropriate ditch management and coastal squeeze</p>

³⁹ Department for Environment, Food and Rural Affairs, Royal Society for the Protection of Birds, British Trust for Ornithology <http://www.defra.gov.uk/environment/statistics/wildlife/kf/wdkf03.htm> / Regional Sustainable Development Indicators 2005

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
C5	Regional heritage assets are protected and enhanced	<p>The region has approximately 93,000 designated historic buildings, sites and areas</p> <p>1/3 of the region is designated as AONB (637,000ha in 2004) – nearly 1/3 of the total in England; well above national average of 16%</p> <p>Land use changes⁴⁰: Urban and suburban: 179,100 (1981) to 205,100 (2001)</p>	<p>Environmental economy sectors which contribute to the delivery of high quality urban design (e.g. environmental advice) and sustainable living (e.g. sustainable transport; small scale renewables) can help make cities more appealing places to live, reducing the pressure to develop in small historic towns or on greenfield sites, with the attendant risk to heritage assets.</p>	<p>Historic cities and towns tend to be attractive to business, depending upon their location, and could also help in heritage-led regeneration. Listed buildings and conservation areas already receive a degree of protection, but some ‘hidden’ archaeological interest could be lost, including outside urban areas, for example from agricultural practices. Also, concerns have been raised by English Heritage and others that rapid and large scale development of smaller historic towns can place a strain on historic centres, and also on character.</p>

⁴⁰ Forestry Commission (woodland), ODPM (urban and suburban land), Defra (other categories) / Regional Sustainable Development Indicators 2005

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
C6	Activities directly dependent upon the environment but not positively contributing to its quality become more sustainable	To be completed using data from Rural Development Programme for England, South East England and London: Draft Proposals for a Regional Implementation Plan 2007-2013 ⁴¹	e.g. Intensive agriculture is replaced, where appropriate, by stewardship of the landscape	CAP reform likely to play a key role in achievement of this measure of success, although tougher criteria for environmental stewardship schemes, due to funding restrictions, could lead to less agricultural land under such schemes. Minerals schemes, in general, tend to have much tighter planning conditions and controls and now often lead to environmentally beneficial restoration in the longer term.
C7	Pollution from economic activity including transport (e.g. impacts on air, water, soil, dark skies, tranquillity) is reducing	Local environmental quality is falling: LEQ rating as 'Good or Satisfactory' across the region fell from 54% (2003-4) to 45% (2004-5) ⁴² . This fall by 9% was the second highest nationally, behind the East of England (14% decline). The region as a whole fell from 2 nd place in 2003-4	Construction is a net negative contributor – e.g. worsening 'dark skies' indicator. Mining traditionally impacts negatively on a variety of environmental	Currently a mixed picture, with loss of tranquillity and dark skies tending to be linked to higher population, urbanisation and increased traffic, although technology is helping to reduce impacts on a like-for-like basis. Environmental standards for water continuing to increase, and will be given a further boost by water framework directive. Contaminated soils now require clean-

⁴¹ http://www.seeda.co.uk/Work_in_the_Region/Rural_Issues/Rural_Development_Programme_for_England/docs/RDPE-RIP-151206.doc

⁴² Defra/ENCAMS Assessment / Regional Sustainable Development Indicators 2005

⁴³ Environment Agency / Regional Sustainable Development Indicators 2005

⁴⁴ Defra, netcen / Regional Sustainable Development Indicators 2005

⁴⁵ Defra / Regional Sustainable Development Indicators 2005. NB: Emissions are attributed to source region rather than 'end-user' region (e.g. electricity generation emissions go where the power station is)

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
		<p>to joint 4th (with East of England) in 2004-5.</p> <p>Biological river quality has increased from 67% of all rivers classified as 'good' in 1990 to 78% in 2004; now the third best performing region. Chemical river quality has increased from 40% of all rivers classified as 'good' in 1990 to 55% in 2004; now the sixth best performing region⁴³.</p> <p>Number of days of moderate or higher air pollution across four urban areas (Southampton Centre, Portsmouth, Reading, Reading New Town) – fell from 42 (Southampton only) in 1994 to 30.33 (average across Southampton, Portsmouth, Reading New Town) in 2004⁴⁴.</p> <p>Regional emissions of particular air pollutants⁴⁵ (1999): NO_x – 199,582 tonnes (2nd biggest polluting region); PM10 – 18,433 tonnes (2nd biggest</p>	<p>pollution issues, although new guidelines supporting improvement.</p> <p>Shift to renewable energy should improve pollution outputs from energy sector</p> <p>Environmental Technologies have key role to play across the sectors.</p>	<p>up before development – agricultural soils will continue to be split between those that are under stewardship and/or organic schemes, and intensive production.</p>

	Measure of success	What is the baseline metric / where are we now?	How might different Environmental Economy sectors contribute to achievement of this outcome?	What other (economic) processes and drivers are linked strongly to achievement of this outcome²⁴?
		<p>polluting region); SO₂ – 87,701 tonnes (4th biggest polluting region)</p> <p>The South East is the region with the smallest proportion of land in ‘Truly dark’ category, and highest average amount of light pollution. Pixel median of 91, compared to 68 England-wide (12% increase 1993-2000, compared to a 24% increase nationally)</p>		

APPENDIX 4

Recommended activities from the Environmental Economy study for inclusion in RES Implementation Plan

Review of RES Actions and potential inputs from the Environmental Economy / Environmental Economy Study

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
<p>Target 1 – Global Business and Foreign Direct Investment Increase the percentage of businesses located in the South East operating internationally from an estimated 8% in 2003 to 12% by 2016, maximising the South East's share of global Foreign Direct Investment</p>	
<p>Action 1.1 – Fully exploit the opportunities presented by the creation of a single regional team encompassing trade and investment, underpinned by a joint trade and investment regional strategy.</p>	<ul style="list-style-type: none"> • Target businesses operating in the 'low carbon' economy, and in particular those who can assist the South East on to a 'low carbon' economic development trajectory. • Incorporate 'global footprint' criteria in the evaluation of trade and investment opportunities
<p>Action 1.2 – Strengthen the international network of global partners from similar regions overseas.</p>	<ul style="list-style-type: none"> • Pursue in particular links with global partners exploiting opportunities in low carbon and resource efficient technologies/practices
<p>Action 1.3 – Further develop a programme of aftercare support for investors as part of a broader Investor Development Programme.</p>	<ul style="list-style-type: none"> • Include a corporate environmental and social responsibility aftercare component
<p>Action 1.4 – Develop and utilise the offer of the Greater South East's collective strengths by working with regional partners in London and the East of England.</p>	<ul style="list-style-type: none"> • Take further steps to demonstrate the contribution of the South East environment to locational choices, and in attracting and retaining a skilled workforce, and use this in marketing activity
<p>Target 2 – Knowledge Transfer and Business Expenditure on Research and Development Increase the proportion of businesses in the South East reporting R&D links with universities from 11% in 2005 to 15% by 2016, and increase business expenditure on research and development in the South East from 3.2% of Gross Value Added in 2003 to 4% by 2016</p>	
<p>Action 2.1 – Respond, with advice of SESETAC, to the Government's 10-Year Investment Framework on Science and Innovation, through developing and delivering SEEDA Innovation Action Plan</p>	<ul style="list-style-type: none"> • Include low carbon and resource efficiency as core component of Innovation Action Plan
<p>Action – 2.2 (New Action). Promote the strengths of the South East's knowledge base, including Higher Education institutions and public sector research establishments, to regional, national and international</p>	<ul style="list-style-type: none"> • Investigate further the assets of the region's HEIs and wider research base in relation to the development and adoption of clean technologies and

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
businesses. Assist foreign companies to access the innovative capabilities of the region’s knowledge base and businesses.	in the economic opportunities linked to Stern
Action 2.3 – Ensure a skills perspective to the 10-year framework for science and innovation, ensuring that innovation and creativity are underpinned by excellent skills.	<ul style="list-style-type: none"> • Support the establishment of training and skills development in corporate environmental and social responsibility, and in particular to establish and strengthen the links with business market profile and profitability. • Provide support for, and encourage establishment elsewhere in the region, initiatives the ‘Kent Sustainable Future Industries’ (enabling key physical centres and virtual brokerages for knowledge, skills enterprise, investment and market development
Target 3 – Innovation and Creativity Increase the percentage of total South East business turnover attributable to new products from 12% in 2004 to 20% by 2016, and the percentage attributable to significantly improved products from 18% in 2004 to 25% by 2016.	
Action 3.1 – Support further development of the following key sector consortia: South East Media Network (digital content); Marine South East (marine technologies); South East Health Technologies Alliance (health technologies); Envirobusiness South East (environmental technologies and services); South East Centre for the Built Environment (built environment); Farnborough Aerospace Consortium (aerospace and defence)	<ul style="list-style-type: none"> • Support the further development of Envirobusiness South East, and establish stronger links with all economic sectors in the region as a mainstream rather than niche interest and activity
Action 3.2 – (New Action). Promote the importance of design and creativity across all sectors, to realise the true market value of the South East’s rich technology and creative resources, and maximize the contribution of the creative industries to the south East economy.	<ul style="list-style-type: none"> • Promote the achievement of sustainable development objectives as a core competency in design and creativity. • Include creativity and innovation in the planning, design and management of the natural environment
Action 3.3 – Continue to develop a programme to support high expectation enterprise, which will be key drivers of the economy in 10 years’ time.	<ul style="list-style-type: none"> • Incorporate low carbon economic activity as integral component of ‘high expectations’ so that South East economy is firmly on ‘low carbon’ trajectory in 10 years’ time.

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
Action 3.4 – Develop, support and consolidate the Regional Enterprise Hub Network	<ul style="list-style-type: none"> • Continue to support Enterprise Hubs with a focus on environmental technologies (e.g. Reading)
Action 3.5 – (New Action). Create an integrated South East early stage business fund by merging existing funding programmes.	
Action 3.6 – Develop the Manufacturing Advisory Service (MAS) to improve its effectiveness and impact and make it into a fully sustainable service.	<ul style="list-style-type: none"> • Ensure that MAS advisers are fully briefed on the opportunities for resource use efficiency and the implications of business productivity
Action 3.7 – Develop the Innovation Advisory Service, providing intensive support to those businesses with the most capacity for sustained innovation and the potential to influence others through their supply chains.	<ul style="list-style-type: none"> • Take steps to ensure a particular focus on innovation which can deliver environmental improvements in business performance, either directly or by application
Action 3.8 – Encourage pan-regional collaboration and good practice on innovation, to maximize the economic value released through innovation both regionally and nationally.	<ul style="list-style-type: none"> • Incorporate low carbon and resource efficiency as core theme of collaboration
Action 3.9 – (New Action). Develop support mechanisms that ensure entrepreneurs can access leadership and management skills they need to innovate and thus grow successful businesses	<ul style="list-style-type: none"> • Ensure support mechanisms address knowledge in low carbon and resource efficiency as key skills and motivators in leadership and management
Target 4 – Infrastructure Secure investment in infrastructure priorities to maintain international economic competitiveness.	
Action 4.1 – Secure funding for the delivery of Airtrack into Heathrow Terminal 5 by 2009- 2010.	<ul style="list-style-type: none"> • Investigate the opportunities for designers, manufacturers and operators in sustainable transport systems in the South East to deliver Airtrack
Action 4.2 – Support the sustainable growth of the port of Southampton and secure gauge upgrading on the South Hampshire – Midlands National Rail Freight Corridor by 2009.	<ul style="list-style-type: none"> • Engage with experts in the field of environmental and ecological design to minimise environmental impacts and deliver net environmental gains as part of overall growth package (e.g. ecological enhancements linked to climate change adaptation)
Action 4.3 – Develop a comprehensive access management package for the port of Dover.	

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
Action 4.4 – Ensure Brighton Mainline provides appropriate facilities for Gatwick Airport users to access London and the South Coast.	
Target 5 – Enterprise Increase the business stock by 35% from 35 businesses per 1,000 inhabitants in 2005 to 44 per 1,000 inhabitants by 2016, including 10,000 new businesses run by women by 2010	
Action 5.1 – Implement an integrated approach to business support.	<ul style="list-style-type: none"> • Ensure that awareness of the benefits of corporate environmental and social responsibility is core component of the integrated package of business support
Action 5.2 – Implement improved and better targeted support for women’s enterprise.	
Action 5.3 – Support new and growing businesses in the creative, cultural, leisure, sporting and visitor economy sectors.	<ul style="list-style-type: none"> • Establish sustainable development criteria in order to focus support on the most sustainable creative, cultural, leisure, sporting and visitor economy operators and activities as part of the environmental economy
Action 5.4 - Stimulate rural enterprise and nurture new and existing businesses based on good market intelligence, making use of networks, collaborations and co-operatives and centres of excellence.	<ul style="list-style-type: none"> • Ensure agricultural businesses have the knowledge and skills to address new market opportunities, especially for high quality value-added foods where local distinctiveness is the main marketing USP. • Provide support for delivery agencies such as Taste of the South East; Hampshire Fayre; Produced in Kent
Action 5.5 (New Action). Support the development of home-based businesses, particularly targeting rural and women owned businesses. Recognise the importance of micro businesses and home-based businesses, the major contribution made from the voluntary sector and the potential for social enterprise.	<ul style="list-style-type: none"> • Recognise the contribution of businesses of this nature to the environmental economy and the objectives relating to sustainable prosperity
Action 5.6 Expand the Enterprise Gateway Network from nine to 20 Gateways by 2007.	
Action 5.7 (New Action). Build sustainability and corporate social	<ul style="list-style-type: none"> • Make available, in innovative forms, more

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
responsibility into everyday business practice.	information and more persuasive information relating to the likely carbon footprint of businesses and the key variables underpinning this
Action 5.8 Enhance the teaching of, and support for enterprise in schools, colleges and Higher Education.	
Action 5.9 (New Action). Stimulate increased levels of enterprise among under-represented groups.	
Target 6 – Skills Maximise the number of people ready for employment at all skill levels, and ensure they are continually equipped to progress in the labour market	
Action 6.1 – Ensure education and training providers deliver skills provision and services to meet business requirements and stimulate the demand for higher level skills, including the use of Sector Skills Agreements.	
Action 6.2 – (New Action). Clarify and simplify the skills offer to businesses across the region and address skills deficits, particularly those at intermediate level.	
Action 6.3 – (New Action). Increase the percentage of the working age population with qualifications at Level 2 or higher from 66% in 2003 to at least 80% by 2016, and the percentage with qualifications at Level 4 or higher from 28% in 2003 to at least 40% by 2016.	
Action 6.4 – (New Action). Ensure that all young people and adults of all ages in the region have access to relevant diplomas, vocational and work-based learning opportunities, including the number, range and quality of apprenticeships and other vocational opportunities including foundation degrees – in skills centres and elsewhere.	
Action 6.5 – (New Action). Develop an action for communities model with providers and other partners.	
Target 7 – Competition and Business Regulation Increase the level of participation of South East businesses (especially small businesses and social enterprises) in tendering for public	

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
sector contracts	
Action 7.1 – Improve business support available to help small and medium enterprises and social enterprises tender for contracts.	
Action 7.2 – (New Action). Identify areas of the public sector where there is potential for more procurement from local SMEs, and encourage alliances and collaboration to increase local procurement by improving client-side capacity.	<ul style="list-style-type: none"> • Investigate the nature and scope of tendering opportunities from the environmental sector within the public sector and utilities– e.g. Environment Agency, water companies, etc.
Action 7.3 – Develop the region’s capability to influence legislation and regulations affecting the region’s economy, including rural businesses.	<ul style="list-style-type: none"> • Seek to gain support for agricultural businesses to ‘manage retreat’ from commercial farming in the light of CAP reform in order to maintain agricultural production but also deliver environment benefits (e.g. Natural England’s Countdown 2010 programme aimed at ensuring favourable condition of SSSIs)
Action 7.4 – Develop a proactive approach to improving planning performance and speed.	<ul style="list-style-type: none"> • Provide and disseminate information and advice (e.g. SEEDA’s sustainable development checklist) to ensure that planning applications coming forward meet sustainability criteria, thereby improving quality of applications and hence speed of granting consent
Target 8 – Transport Reduce road congestion and pollution levels by improving travel choice, promoting public transport, managing demand and facilitating modal shifts.	
Action 8.1 – Invest in transport to support strategic economic corridors.	
Action 8.2 – Invest in integrated, intermodal transport hubs of national and international economic significance.	
Action 8.3 – Develop deliverable and sustainable solutions for regional road, rail and light rail schemes of national and regional significance.	<ul style="list-style-type: none"> • Investigate the opportunities for designers, manufacturers and operators in sustainable transport systems in the South East to contribute to achievement of action

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
<p>Target 9 – Physical Development Ensure sufficient and affordable housing and employment space of the right quality, type and size to meet the needs of the region and support its competitiveness, and create the climate for long term investment through the efficient use of land resources, including mixed use developments</p>	
<p>Action 9.1 – (New Action). Encourage close collaboration between local authorities to develop local and sub regional housing market assessments.</p>	
<p>Action 9.2 – Encourage innovative approaches and address the barriers to delivering quality and sustainable housing across all sectors.</p>	<ul style="list-style-type: none"> • Further promote and disseminate SEEDA’s sustainable development checklist. • Consider establishment of ‘Centre of Excellence’ in promoting and applying sustainable development. • Utilise expertise of organisations in the South East to develop innovative approaches (e.g. Building Research Establishment; Oxford Brookes School of Planning)
<p>Action 9.3 – Develop and implement a private sector housing renewal strategy for the region.</p>	<ul style="list-style-type: none"> • Prioritise energy conservation in renewal strategies, also as offsetting measure for carbon emissions from new development
<p>Action 9.4 – Ensure that physical development supports sustainable prosperity by investing in success and releasing untapped potential.</p>	
<p>Action 9.5 – Ensure the best use of public agency land assets surplus to requirements.</p>	<ul style="list-style-type: none"> • Promote the use of sustainability appraisal and SEEDA’s sustainable development checklist to ensure that most sustainable solutions are delivered
<p>Action 9.6 – Build the capacity of local authorities to deliver brownfield development.</p>	
<p>Action 9.7 – (New Action). Ensure that development is supported by the delivery of adequate and timely environmental infrastructure.</p>	<ul style="list-style-type: none"> • Develop toolkits and templates, as appropriate, to equip local authorities and others to plan for environmental infrastructures as part of LDF and other processes.

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
	<ul style="list-style-type: none"> • Ensure that ‘green infrastructure’ (e.g. open space, habitat creation, etc.) are given sufficient prioritisation and funding as part of development and regeneration
<p>Action 9.8 – Ensure a wider understanding and adoption of quality standards and best practice in construction and encourage developers from both the public and private sector to raise their design aspirations.</p>	<ul style="list-style-type: none"> • Identify good practice in construction with regard to resource use, and make case studies, etc. available. • Utilise expertise of organisations in the South East to develop innovative approaches (e.g. Building Research Establishment; Oxford Brookes School of Planning)
<p>Action 9.9 – (New Action). Increase the number of organisations and people with the skills, knowledge and behaviour to confidently and competently take forward significant regeneration and development projects.</p>	<ul style="list-style-type: none"> • Utilise expertise of organisations in the South East to develop innovative approaches (e.g. Building Research Establishment; Oxford Brookes School of Planning)
<p>Target 10 – Employment Improve the productivity of the workforce and increase economic activity from 82% to 85% by bringing 110,000 net additional South East residents of working age into the labour market by 2016 (as a step towards bringing up to 250,000 residents into the labour market by 2026)</p>	
<p>Action 10.1 – (New Action). Work with employers to support in-work training schemes; provide vocational training and support in a range of learning styles; and target the support of FE and HE courses in industrial sectors that have significant skills gaps.</p>	
<p>Action 10.2 – Encourage a culture of learning throughout business and community life.</p>	
<p>Action 10.3 – (New Action). Enable coverage and access to ICT support throughout the region, and promote the development of flexible working in quality jobs, including in rural areas.</p>	
<p>Action 10.4 – (New Action). Enable all employers to develop and implement flexible working policies and ensure that regional planning policy supports flexible working.</p>	

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
Action 10.5 – Increase awareness among employers with regard to equalities and disability legislation and its implications for all aspects of business operations. Promote the benefits of a diverse workforce to employers.	
Action 10.6 – (New Action). Support businesses and organisations to develop strategies which place physical and mental well-being at the heart of their drive to increase productivity.	<ul style="list-style-type: none"> • Introduce measures of success that fully capture all aspects of job satisfaction. • Evaluate the wider benefits that jobs in the environmental economy sector (e.g. land management; nature conservation, etc.), bring to the region’s quality of life
<p>Target 11 – Climate Change and Energy Reduce CO2 emissions attributable to the South East by 20% from the 2003 baseline by 2016 as a step towards the national target of achieving a 60% reduction on 1990 levels by 2050, and increase the contribution of renewable energy to at least 10% of energy supply in the South East by 2010 as a step towards achieving 20% by 2020</p>	
Action 11.1 – Promote the inclusion of climate risks and costs into public policy and business decision making, and plan for adaptation to the impacts of ‘legacy’ climate change.	<ul style="list-style-type: none"> • Develop appropriate guidance and briefing notes with regard to the impact and implications of climate change in the South East (e.g. South East Climate Change Partnership ‘Adapting to climate change’ checklist). • Utilise expertise in the South East such as the Environmental Change Institute at the Oxford University Institute for the Environment; UKCIP; BRE; etc.
Action 11.2 – (New Action). Promote and contribute to the delivery of local, regional and national infrastructure that is resilient to climate change.	<ul style="list-style-type: none"> • Identify organisations in the environmental economy sector (e.g. water utilities; public transport providers; Environment Agency; etc.) to contribute to a coordinated strategy. • Ensure that ‘green infrastructure’ is included within ‘infrastructure’ to ensure that drainage, open space, habitats, etc. are also resilient to, or able to adapt to climate change

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
Action 11.3 – Promote and support innovation for new markets, products and services that support adaptation to climate change.	<ul style="list-style-type: none"> • Yes – and use the IAS and MAS to help drive this forward
Action 11.4 – (New Action). Maximise opportunities for South East businesses arising from energy policy.	<ul style="list-style-type: none"> • Identify relevant opportunities and ensure that IAS/MAS and other business support advisers are aware of them in their discussions with businesses • Use the findings of the Stern Report to present a compelling business and economic case to provide support and funding to move on to a low carbon economy trajectory
Action 11.5 – (New Action). Support initiatives that integrate local demand and supply of energy, with energy efficiency, building on exemplar projects in the region.	<ul style="list-style-type: none"> • Identify exemplar projects and explore the relationship between energy conservation and renewable energy planning and LDF processes, including innovative approaches to low traffic generating developments • Identify opportunities in the region to combine reduced reliance on fossil fuels with other benefits (e.g. habitat enhancement and increased recreation in the production of biofuels in land management and in woodland management that are capable of supplying alternative fuel sources)
Target 12 – Sustainable Consumption and Production Reduce per capita water consumption in the South East by 20% from 169 litres per day in 2003/04 to 135 litres per day by 2016, and achieve a 30% increase over the 2003 baseline in GVA generated per tonne of materials entering the waste stream by 2016	
Action 12.1 – (New Action). Raise awareness of the need and opportunities for behaviour change amongst consumers.	<ul style="list-style-type: none"> • Ensure that SEEDA and other regional partners establish a policy of ‘leading by example’ for example, in reducing waste, energy use, car use, etc., and publish targets and performance reports to measure progress
Action 12.2 – (New Action). SEEDA will ensure that its own direct developments and those with which it is associated will incorporate	<ul style="list-style-type: none"> • Identify ‘exemplar’ projects that aim to achieve ‘water neutrality’.

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
water-saving and water-efficient technology, including trials of new technologies.	
Action 12.3 – Promote opportunities for businesses in the environmental technology sector, through the design and manufacture of water-efficient components, water treatment and recycling systems.	<ul style="list-style-type: none"> • Link into MAS and IAS. Provide relevant early stage finance to promote the growth of relevant early stage businesses • Use the findings of the Stern Report to present a compelling business and economic case to encourage environmental technologies that will help adaptation to climate change
Action 12.4 – (New Action). Promote sustainable consumption and production among South East businesses, and improve support to businesses on resource efficiency.	<ul style="list-style-type: none"> • Link into MAS and IAS
Action 12.5 – (New Action). Produce a South East Plan for Sustainable Public Procurement by July 2007.	<ul style="list-style-type: none"> • Ensure that SEEDA and other regional partners establish a policy of ‘leading by example’ for example, in reducing waste, energy use, car use, etc., and publish targets and performance reports to measure progress
Action 12.6 – (New Action). Support and facilitate the creation of demonstrator Resource Recovery Parks, housing clusters of businesses which extract maximum value from waste	<ul style="list-style-type: none"> • Identify private sector developers, and large scale developments in the region, that offer opportunities to incorporate Resource Recovery Parks
Action 12.7 – Further develop and promote SEEDA’s Sustainability Checklist as a regional sustainability tool for delivering mixed-use sustainable developments	<ul style="list-style-type: none"> • Further promote to SEERA and local planning authorities to encourage consistent use across the region and a level playing field
Action 12.8 – Ensure that all SEEDA funded developments achieve Ecohomes/ BREEAM ‘excellent’ standard as a minimum, aspiring to higher standards of sustainability, including zero carbon development, where possible.	<ul style="list-style-type: none"> • Yes!
<p>Target 13 – Natural Resources and the Environment Achieve measurable improvements in the quality, bio-diversity and accessibility of green and open space.</p>	
Action 13.1 – (New Action). To achieve measurable improvements in the quality, bio-diversity and accessibility of public space (including	<ul style="list-style-type: none"> • Link into green infrastructure action. • Promote the business, economic and quality of life

Target / Actions	Activities – what are we going to do? (Bold = highest priority)
green space, open space and the green infrastructure) in and around towns and cities	case for investment in ‘green infrastructure’
Target 14 – Sustainable communities Enable more people to benefit from sustainable prosperity across the region and reduce polarisation between communities.	
Action 14.1 – Support communities to participate in and shape urban renaissance.	<ul style="list-style-type: none"> • Provide training and support for planning, design and management teams in community consultation and engagement
Action 14.2 – Work with public sector procurers to provide a level playing field for the Third Sector to be able to compete effectively for public sector contracts.	

APPENDIX 5

Good practice case studies

RESOURCE EFFICIENCY

B&W LOUDSPEAKERS – WASTE & MATERIALS

Brighton

Description: B&W Loudspeakers are a manufacturer of hi-fi products based in Brighton. Uncertain as to how the Waste and Electrical and Electronic Equipment (WEEE) and Restriction of Use of Certain Hazardous Substances (RoHS) Directives would affect them, they enlisted the help of DesignTrack, a free and confidential service from EnviroWise that focuses on reducing the environmental impact of a product over its entire lifecycle. Looking at first on the life cycle of just one of their loudspeaker products, the review led them to replace disposable packaging with returnable packaging crates for movements of components from their suppliers. B&W also redesigned the cartonboard box in which their loudspeakers are supplied to retailers so that it offers greater protection and reduces the need for polystyrene packaging inside the box. The hazardous substances regulations led them to consider alternatives to the toxic metals contained in some of their products and to work with their suppliers to replace them with alternatives.

Outputs: The switch to reusable packing crates resulted in a reduction in waste disposal and a fall in the rate of component rejects from 13% to 2%. Redesign of the cartonboard box has allowed the volume of expanded polystyrene used to be reduced by 50%, achieving a 30% cost reduction. This principle, aggregated across the whole B&W product range, achieved total cost savings of more than £150,000/year. The lead previously used in their printed circuit boards has now been replaced by a less hazardous alloy and the cadmium in a component of the speaker driver replaced by copper without functional loss, reducing the environmental impact when the products are disposed of.

Demonstration of good practice: By working closely with its suppliers and seeking expert environmental advice this manufacturer has ensured the regulatory compliance of its products and reduced their impacts on the environment. The changes made were not restricted to the design of existing products but also led to a new guidance for its product designers so that in future, environmental compliance will be ensured from the outset. Tackling sources of packaging waste and hazardous waste at the design stage exemplifies a far more efficient approach to waste management than attempting to clean up the effects of poorly designed processes and products.

Sources: Sustainable Development Commission website

MARLEY ROOFING – MATERIALS AND WASTE

Beenham, nr. Reading

Description: In the mid 1990's Marley Roofing set itself a challenge to become the environmental leader in the building materials sector. This is being realised through numerous environmental improvements at all sites and through working with the Building Research Establishment (BRE) to develop life cycle assessment data for all its products. One initiative has involved crushing concrete waste at its Beenham site and its use as a partial substitute for aggregates in its roof tile production.

Outputs: Savings of 15,000 tonnes of aggregate per year, avoiding associated environmental impacts of extraction. Waste handling costs reduced by 50%, saving £25,000 per annum and diverting 288 tonnes of hazardous waste from landfill.

Demonstration of good practice: The volume of waste generated by the UK is large and growing and the majority of this comes from industry, construction, demolition and agriculture. Source reduction, i.e. reducing the generation of waste at its source, is the most effective way of managing waste. This producer has shown that by carrying out Life Cycle Assessment of its products and then targeting changes in its operations where the greatest results can be achieved, the environmental impact of its products can be significantly reduced.

Sources: Sustainable Development Commission website

GKN AEROSPACE LTD**Isle of Wight**

Description: This East Cowes aerospace business responded to a global slump in demand for aircraft by re-inventing itself to become a world leader in composite materials for airframes. Its innovative products such as the first carbon fibre wing spar for a civil airliner make aircraft lighter by replacing traditional metal parts and hence reduce fuel consumption as well as demand for mined metals. The company's internal operations have also been configured with minimising their environmental impact in mind, for instance by installing systems to capture and re-use waste water and heat in painting and heating processes and the use of returnable, re-usable packing with all major suppliers. Regarding transport, steps have been taken to reduce the number of staff car journeys as well as freight journeys from suppliers and to customers. GKN Aerospace's achievements also extend to the social and economic dimensions of sustainability, aiming to recruit locally where possible and investing in specialist training, an apprenticeship scheme and work placements and bursaries for students and the socially, physically or mentally challenged. Services and materials are also sourced locally, if possible.

Outputs: Reduction in environmental impacts of product manufacture and transport - less waste composite materials; water usage reduced by 65%; office energy for heating and cooling reduced by 25%; 10% reduction in packaging waste; 237 tonnes per annum of total waste recycled. Wider environmental benefits in the form of reduced fuel consumption by aircraft and lower demand for metals and the associated environmental impacts of mining. Provision of 800 jobs in socially-deprived East Cowes and wider economic benefits to local businesses supplying GKN with goods or services.

Demonstration of good practice: Although part of the aerospace industry, this business has delivered wider environmental sustainability benefits by developing new technologies which reduce the weight and fuel consumption of aircraft. It has also looked at its internal operations to reduce the environmental impacts of its manufacturing, transport and administrative processes. At the same time it has contributed to the regeneration of a deprived community, not just by the employment its economic success has delivered but by adopting policies that provide jobs and training opportunities to those who would often be excluded and by employing and buying locally whenever possible.

Sources: Hampshire and Isle of Wight Sustainable Business Partnership website

LOW CARBON ENERGY

CARBON8 SYSTEMS LTD

Medway, Kent

Description: This start-up company won the title of Kent Environment Business of the Year 2006 for its development of a breakthrough environmental process. Its Accelerated Carbon Technology process takes a large amount of CO₂ and combines it with industrial waste such as incinerator ash to produce a material which can be used in place of aggregate as a construction material. If insufficient demand exists for the end material, it is still less hazardous than the untreated waste and can be disposed of at lower cost and with less danger to the environment.

Outputs: This new process has the potential not only help to combat climate change by using atmospheric CO₂ as an input but will also help to meet landfill waste reduction targets and avoid the need for aggregate mining and its environmental impacts.

Demonstration of good practice: As a spin-out from the University of Greenwich, Medway, this business demonstrates that fostering centres of excellence for teaching and research into environmental technologies not only trains a new generation of graduates in the skills for this expanding sector but can incubate new businesses which will provide employment and develop products and services that contribute to environmental sustainability.

Sources: Kent Sustainable Business Partnership website

CERES POWER**Crawley, West Sussex**

Description: Ceres Power, whose core technology was developed and incubated within Imperial College London, has progressed to become a world leading developer and supplier of fuel cells, based in Crawley. Fuel cells produce heat and electricity in a highly efficient way using hydrogen or readily available hydrocarbon fuels, while eliminating the particulate emissions usually associated with combustion of hydrocarbons. Vehicles using fuel cells are very quiet and can make use of the existing infrastructure of petrol stations. They therefore represent an ideal transition technology on the route to truly green energy. Internally, the company has adopted a variety of environmentally friendly practices, including recycling in almost all material streams; energy efficiency measures in both office (e.g. movement sensors on lights) and manufacturing processes (e.g. timers on kilns); policies to encourage cycling and public transport use by staff. Sustainable practices also extend to electricity monitoring at employees' homes to encourage energy saving; investments in a safe, pleasant and motivating work environment and local procurement of goods and services. The company takes a leadership role by sharing good sustainability practice (e.g. encouraging other firms on its business park to join a group recycling scheme, sponsoring a school education programme on the benefits of renewable energy, and as an adviser to government on energy policy).

Outputs: Provision to the market of low pollution technology for use in transport and wider energy applications. An estimated £7.5 million spent within the local economy between 2002 and 2006. Recirculation of cooling water the furnaces saves approximately 43m³ of water per day, equating to £18,000 of cost savings annually. Reduced waste sent to landfill by 50%.

Demonstration of good practice: The business has won awards not just for its product innovation but for its holistic approach to sustainability. While its fuel cells promise to provide more efficient, less polluting energy the company's internal operations are also an exemplar of sustainable business. The internal sustainability policies are all the more impressive, given that they were implemented as a voluntary project by enthusiastic employees during the start-up period when investor pressure to deliver the product to the marketplace was very strong.

Sources: SEEDA - Sustainable Business Awards for the South East 2006; Ceres Power website

WOKING BOROUGH COUNCIL – SUSTAINABLE ENERGY SCHEME

Woking

Examining and seeking to minimise energy usage is an important element of seeking to reduce the environmental impact of businesses and individuals, and a key way to reduce ecological footprint. However, the importance of the actual source of energy that is used is increasingly recognised. Wasted energy from power stations (such as through heat loss in power generation) and the national grid (through transmission and distribution losses) in the UK is approximately double the energy consumed by transport.

Description: Combined Heat and power (CHP) systems recover the heat produced as a by-product of electricity generation and distributes it for space heating. The energy generated is up to 90% efficient (compared with as little as 22% efficiency for national grid). It provides resilience to supply disruption and greater fuel security (CHP plants can be adaptable to different fuels, including non-renewable fuels).

Woking Borough Council, through its funded partner Thameswey Ltd (an Energy Service Company, or ESCO, which has more ready access to private finance than the Council), enters into public/private joint ventures to deliver green energy and transport projects. Thameswey Ltd. implemented the UK's first small-scale CHP/heat fired absorption chiller system in 1994. Thameswey owns and operates a number of community energy systems on private wire (the UK's first private wire residential CHP systems) or distributed energy networks in Woking, selling heat and green electricity to local customers at a lower price than grid energy. The CHP system in Woking Town Centre is larger than conventional CHP, through its combination of technologies connected to the sustainable community energy system (with reverse winter/summer thermal profiles).

Outputs: Woking Borough Council has reduced its own energy consumption by 51% and its CO₂ emissions by 79% (1990-2006); The energy efficiency of the Council's housing stock improved by 19% between 1996 and 2001, and achieved 31% by 2006; £5.4m saved in municipal energy and water bills since 1990; Lower energy prices for local people leads to reduced fuel poverty; Woking's Pool in the Park has the UK's first fuel-cell CHP system; Climate Neutral Development Good Practice Guide produced in 2004.

Demonstration of good practice: Woking and Thameswey Ltd are widely quoted as good practice in energy efficiency projects. Woking is a Beacon Council for Sustainable Energy. The Council has adopted a 20% renewables target for purchasing Council's electrical energy. The Borough also promotes good practice in designing climate change resilience measures into new developments, such as lower dependency on energy from the national grid and fossil fuels. Woking's LDF contains a policy that development will be refused unless it achieves a 40% reduction in CO₂ emissions against current Building Regulations, and unless it is carbon neutral (for Greenfield sites).

Sources: Climate Neutral Development: A good practice guide (Woking Borough Council)

Renewable Energy Policy in Woking and the South East (a presentation by Ray Morgan, Chief Executive Woking Borough Council to Sponge, 2006)

BIOENERGY TECHNOLOGY LTD**Wealden District**

Description: Bioenergy Technology Ltd specialises in developing technology and opportunities for supplying wood fuel biomass boilers and installations. It is now one of the major consultants in this field of renewable energy. It has been responsible for a number of large projects throughout the UK including Betteshanger Colliery, the National Botanic Garden in Wales, the Conkers Discovery Centre in The National Forest, and the East Sussex County Council Woodland Centre at Flimwell.

Outputs: The company sells a range of wood fired boilers and room heaters, ranging in size from domestic applications to large Combined Heat and Power (CHP) plants. Smaller systems up to 60kW are supplied to the end user for installation by their chosen engineers but larger plants are installed by the company's own staff.

Demonstration of good practice: The company is located in a part of the South East with high woodland cover where much of the woodland is currently unmanaged. Heat and power generation from biomass (including timber and forestry arisings, short rotation coppice and energy crops such as miscanthus) is one of the most promising renewable energy sectors. Since being established in 2001, the business has become a market leader in the supply and maintenance of biomass boilers.

Source: www.bioenergy.org and SEERA (2003). Planning for sustainable rural economic development

SUSTAINABLE TRANSPORT

EASIT - SUSTAINABLE TRANSPORT INITIATIVE

East Surrey

Description: Starting life as an initiative to reduce local traffic congestion, the Dorking Decongestion Forum joined forces with Reigate and Banstead Decongestion Forum in June 2006 to form the East Area of Surrey Initiative for Transport (EASIT). EASIT now acts as a link between major employers in East Surrey with the shared goal of achieving reductions in congestion and pollution by offering transport alternatives to the single occupancy car.

Outputs: EASIT's has successfully implemented or is planning a variety of sustainable transport initiatives, including:

Creation of the largest private car-sharing scheme in the UK;

Organising shuttle buses to transport employees from their home neighbourhood to their workplace in the morning and evening and from work to local shops and services at lunchtime;

Negotiating group discounts for member's employees on existing public transport services;

Agreeing a 10 minute grace period with employers for their employees who walk their children to school rather than taking them by car;

Organising 'walking bus' schemes for the school run;

Building bike sheds for local schools;

Purchasing bikes for a Netherlands-style cycle sharing scheme.

Demonstration of good practice: This initiative demonstrates that delivery of more sustainable transport can be achieved without an ongoing budget of public money. By pooling the financial resources of like-minded employers, EASIT has successfully made the transition from its public funding roots to being entirely funded by its members, which between them employ 45,000 people. Its success lies in its role as an initiator and facilitator of projects; it works by designing innovative sustainable transport schemes and helping its member organisations to promote and implement them, finally stepping back once they become established.

Source: Mel Mehmet, EASIT

PARTNERSHIP WORKING

KENT SUSTAINABLE FUTURE INDUSTRIES (SFI) PROGRAMME

What are SFIs? Sustainable Future Industries are the sections of the knowledge economy which are pursuing new solutions to emerging environmental, economic and social challenges such as climate change and energy security.

What is Kent's economic vision? Kent Foresight have identified a strategy focused on development of SFIs through the transformation of existing sectors as the key to sustainable economic growth for the county and more widely. The global markets for these industries are huge and their products and services can help to uncouple economic growth from environmental damage, for example by the development of low impact product designs and productions processes.

The strategy: Kent wishes to take a lead on this transformation of industry to a sustainable, knowledge-based footing by creating a new dynamic structure for driving SFIs and market development. The support structure to drive this will have both physical and virtual components. Physically, existing centres of excellence (e.g. Centre for 21st Century Land Management at Hadlow College) will need to be further developed and other sites allocated for inward investment. The virtual enablers will be organisations delivering technical advice, skills, innovation and R&D to the knowledge based businesses, such as the Centre for Sustainable Business Development led by Business Link Kent.

Outcomes The key players will be brought together by Kent Foresight to overcome or avoid fragmentation and duplication and lead on development of Sustainable Future Industries. The resulting consortium will provide a platform for public-private sector investment, inward investment and external funding opportunities.

Source: Kent Foresight presentation 'Securing commitment and support for a Kent Sustainable Future Industries Strategy & Sector Programme'

SUSTAINABLE BUILDING DESIGN

ROLLS-ROYCE

West Sussex

Description: In 2003, Rolls-Royce relocated its UK Head Office and manufacturing facility to Goodwood in West Sussex, providing approximately 400 jobs, mostly for existing local inhabitants. The rolling countryside surrounding this greenfield site located close to the Sussex Downs AONB meant that an innovative building design was required which would allow the factory to blend into the local landscape. The design solution positions the factory floor below ground level and includes a 30,000 m² green roof. The roof is planted with stonecrop or sedum plants, curves down to merge with the surrounding ground surface and represents the largest single span green roof in Europe and. In addition, 400,000 trees and shrubs were planted in the area surrounding the factory buildings. Environmental sustainability has also been designed into the operational processes and material flows.

Outputs: The green roof's sedum plants change colour through the seasons, helping it to blend in with its surroundings and the extensive planting screens the entire facility from the wider landscape. Natural habitats have been created by the green roof and the new trees and shrubs, the roof providing habitat for lichens, mosses and invertebrates and a home to 6 species of ground-nesting birds. Additional environmental benefits of the green roof include thermal insulation which cuts the building's energy consumption, a benefit enhanced by the extensive use of glass walls to maximize natural light in working areas. The green roof also intercepts rainfall, reducing total and peak volumes of storm-water runoff. The rainwater which does run off the roof is stored in a lake which is landscaped for visual and wildlife amenity and also helps to cool the heat exchangers of the building's air conditioning system. The factory recycles 60% of its waste and is working to increase the proportion to 75% and much of the water used in the building is also recycled. A dedicated waste management centre is present on-site, recycling materials such as office waste and food packaging while biodegradable waste is composted on a local organic farm and wood and leather scraps from the manufacturing process are sold for use by other manufacturers.

Demonstration of good practice: This facility shows that industrial development is possible, even in locations with tight environmental constraints when good sustainable design principles are followed from the outset. Many of the sustainable design features deliver multiple environmental and economic benefits, for instance the green roofs has a positive landscape, water management and biodiversity impact while cutting fuel bills for the factory premises.

Sources: Peter Wain, SEEDA Building for Nature project; Rolls-Royce website; AutoBlogGreen website

AGRICULTURE

GRAIN HARVESTERS LTD

East Kent

Description: Grain Harvesters has developed over the last 50 years from a small co-operative grain drying facility for local farmers into a major arable crop storage facility and animal feed producer. The Company has one of the most advanced grain stores in Southern England with a capacity of over 40,000 tonnes and, with over 60 employees is a significant part of the East Kent rural community. Now a limited company, most of the shareholders are local farmers.

Outputs: The company's core business is the storage and trading of grain grown on the high quality agricultural land in north and east Kent. Grain is processed into animal feed for sale back farmers. As a result of long term declines in cattle farming (particularly dairy) in Kent, the company has diversified into the pet food business with a manufacturing plant on its own site. The company is actively involved in trading on the global grain futures market.

Demonstration of good practice: Grain Harvesters has diversified away from its traditional activity of selling grain on a highly competitive wholesale market by adding value, through processing, for the expanding pet food market. It continues to serve its original function of grain marketing but with strength in diversity.

Source: www.grainharvesters.co.uk

SHEEPDROVE FARM

West Berkshire

Description: Sheepdrove Farm is a 950 hectare livestock and arable farm on the Berkshire Downs close to Wantage. The farm is managed organically, with a strong ethic of environmental and social sustainability and public education running through all its activities. The farm aims to provide a national lead in the development of organic agriculture and sustainable food production and distribution.

Outputs: The business combines a productive organic farm, which processes and sells much of what it produces direct to the public, with a centre of national excellence in sustainable living and environmental management.

The farm rears, processes and retails organic poultry, beef, lamb and pork. Sales are made over the internet and telephone from the farm, delivered direct to consumers and through the business' own butchers shops in London and Bristol. The poultry processing unit on the farm is used to contract process organic chickens for other producers. Over half of the farm (506 hectares) is managed as chalk grassland or is under other forms of conservation management such as woodland.

A conference centre (the Kindersley Centre) was opened in September 2003 providing an exemplar of environmental building design. The farm composts green waste on contract to the Local Authority and is actively pursuing sources of renewable energy in consultation with local people. The farm hosts the Headquarters of the Barn Owl Conservation Network. The Forum for the Future has based a member of staff on the farm, researching the development of sustainable agricultural systems.

Demonstration of good practice: The Kindersley family run the business with a strong ethic of involvement in the local economy and community. Where possible, staff are recruited locally and inputs to the business are sourced locally, though the environmental credentials of suppliers are another important criteria dictating sourcing policy (with the organic standards laying down strict rules on production and processing inputs).

The organic certification, on-farm meat processing and direct sales to the public maximise the value of farm products, with profits reinvested in the business' development.

The links between the products that are sold at Sheepdrove and the way the animals are reared, land is managed and the people involved in this activity are strongly promoted by the business. A website (www.sheepdrove.com) is used to promote, and provide details of, the activities of the business to customers and the general public.

Source: SEERA (2003). Planning for sustainable rural economic development and www.sheepdrove.com

INTEGRATING SOCIAL, ENVIRONMENTAL AND ECONOMIC CONCERNS

VESTAS BLADES – RESOURCE EFFICIENCY ETHICAL SOURCING; LEADERSHIP

Isle of Wight

Description: Vestas Blades designs and manufactures large wind turbine blades and has grown from a small business to one employing nearly 600 people, mostly on the Isle of Wight. The company's sustainability achievements extend far beyond its position as a supplier to the renewable energy industry to cover environmental good practice, social concern, economic success and a leadership and education role in sustainability issues. Environmental initiatives include product designs that incorporate lower impact materials (e.g. use of sustainably sourced woods instead of synthetic materials for blade cores); landfill waste reduction (e.g. supply of waste for use as a fuel by a local cement factory); carbon emission reduction both onsite (e.g. heat exchangers to recover heat from hot air expelled in production) and along the supply chain (e.g. ensuring materials are cut to size before delivery to reduce transport weight) and carbon offsetting of residual energy use. Social responsibility extends beyond protection, support and development of its own workforce to strict ethical policies in respect of the Ecuadorian communities from which it sources balsa wood for the turbine blades. The company also holds regular open days and provides educational materials to schools to promote the benefits of renewable energy.

Outputs: Reduced the amount of waste sent to landfill from blade manufacturing by 65%. Achieved carbon neutrality (partly through offsetting). A sustainable and ethical supply chain. Leadership through educating the public and schoolchildren in the benefits of renewable energy.

Demonstration of good practice: This business shows what can be achieved when a holistic approach to sustainability is taken, demonstrating not only a responsible attitude towards the impacts its operations have on the environment but also towards the communities in which it operates.

Source: Hampshire and Isle of Wight Sustainable Business Partnership website

