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The Environmental Economy of the South East

A report submitted to SEEDA

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EXECUTIVE SUMMARY

This report presents a 'top-down' analysis of the contribution the Environmental Economy makes to employment and output in the South East. It updates the analysis undertaken in 2001/2 reported in The Environmental Economy of the South East[1] and is the first phase of work that will develop a Progress Report on the development of the Environmental Economy.

The key points arising are:

- The Environmental Economy employs around 236,000 people, some 5½% of all employment in the region, and generates around 6% of the region's output.
- Most of the employment occurs within 'activities dependent on the environment'. Of the 155,000 people in this group of activities 65,000 are employed within the agriculture sector and 55,000 within activities that 'capitalise on a high-quality environment'.
- 'Activities contributing to a high quality environment' employ over 90,000 people, most of which are providing 'economic advice', either in the public or private sector. This definition of the Environmental Economy has the highest level of productivity.
- The prospects are for the Environmental Economy to support an increasing number of jobs. Employment is projected to rise to over 246,000 by 2010 and possibly to 253,000 by 2015. Prospects are most favourable among 'activities contributing to a high quality environment', while employment in many of the primary economic sectors, such as mining and energy, is expected to fall.
- The prospects for employment are more optimistic than were identified in the previous study. Employment in agriculture in the region is now not expected to fall over 20005-10 as was previously thought, while the prospects for employment in hotels & catering (a driver for the grouping 'capitalising on a high quality environment') and professional business services (within which are activities 'providing environmental' advice) are also more favourable than previously forecast.

1 The Environmental Economy of the South East: Final Report, August 2002. Prepared by Land Use Consultants, SQW Ltd and Cambridge Econometrics.

1 PURPOSE AND SCOPE

In 2002 SEEDA published a report examining the current state of the Environmental economy in the region and assessing its future prospects[1]. SEEDA and its partners wish to commission a Progress Report on the development of the environmental economy to inform and influence the development of major policies and strategies for the South East of England including the Regional Economic Strategy and the South East Plan.

The Progress Report has been commissioned in two separate phases. This study represents the first phase of the update and concerns the analysis of employment and value-added contributed to the regional economy by different environmental activities. It is important that this updated analysis be comparable with the earlier study and we have therefore replicated the original 'top-down' data-based methodology taking account of the additional data that have become available since 2002. The method, which is described in detail in Chapter 2, centres on an analysis of the estimates of employment at a detailed industry level from the Annual Business Inquiry (ABI). The quantitative estimates have not been amended in the light of information from a more 'bottom-up' analysis of specific activities.

1 The Environmental Economy of the South East: Final Report, August 2002. Prepared by Land Use Consultants, SQW Ltd and Cambridge Econometrics.

2 THE APPROACH ADOPTED

This study replicates the 'top-down' approach developed for the previous study. This ensures consistency between the two sets of results so that meaningful comparisons can be made and conclusions drawn.

2.1 Defining the Environmental Economy

Defining the Environmental Economy sector is inherently problematical, as it is not recognised in mainstream economic thinking as a discrete industry. Nonetheless, it is possible to identify the Environmental Economy by the various groups of activities with similar characteristics, that have strong links to the environment in some form or other.

The links between an economic activity and the environment can be varied and complex and can result in both favourable or adverse impacts on the environment. In the original study it was felt important to identify the different relationships that can exist between economic activity and the environment. It therefore provided three alternative definitions of the Environmental Economy (EE):

- Activities directly dependent upon the environment.
- Activities dependent upon a high quality environment.
- Activities contributing to a high quality environment.

The first group includes activities linked to the land and environment, and includes activities which are considered both sustainable and those which are not (eg both intensive and 'sustainable' agriculture). The second group is a sub-set of the first group, but highlights those activities, such as tourism, which require a well-maintained and managed environment. The third group partially overlaps with the other two groups and aims to capture those (sustainable) activities whose main purpose is to conserve and improve the environment. In addition, this group also includes activities such as environmental technologies, which are not included in the first two definitions.

2.2 Quantifying the Environmental Economy

The activities that comprise each of the groupings are identified using detailed (4-digit) Standard Industrial Classifications (SIC) coding. However, there is an element of subjectivity in determining which components of the Environmental Economy fall into which of the three definitions. The numbers generated from this analysis are therefore open to challenge but their primary purpose remains, as it was in the original study, to provide a start to the debate on the various components of the Environmental Economy, and how it can be taken forward in line with the principles of sustainable development.

The previous study adopted a two-pronged approach:

- 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 (eg questionnaire survey of all local authorities in the region) to test and provide further clarification of the extent and depth of the Environmental Economy.

In this study we update to top-down analysis only.

The analysis involves the following steps:

(1) Identify those activities listed under SIC codes which share similar characteristics in their link with the environment (these groupings were 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).

(2) Determine weights to represent the strength of each activity's relationship to each of the three definitions. These vary depending on the economic activity concerned (for example we can identify the number of people engaged in management consultancy activities in the region, but clearly only a proportion of those will be engaged in providing environmental advice - detail that is not available in the data).

(3) Estimate the number of people engaged in the various activities in the region as a whole and counties by applying the weights from (2) to the data from the ABI (scaled so as it is in line with the more recent estimates of employment in the region).

(4) Project employment in the component activities of the environmental economy in the region and the (former) counties assuming that it grows at the same rate as is projected for the broader industrial classification that it is within (ie employment in restaurants in Berkshire is assumed to grow at the same rate as employment in Hotels & Catering in Berkshire, as projected by Cambridge Econometrics).

(5) Calculate output (value-added) in each detailed industry using historical and forecast levels of productivity from the broader industrial classification of which it is part.

(6) Calculate output and employment in each of the 14 groups within each definition of the Environmental Economy according to the weights calculated in (2) above.

To ensure consistency with the previous analysis the component activities identified within the Environmental Economy and the weightings used are the same as those used in the 2002 study. In this respect we continue to exclude from the definition of the Environmental Economy those sectors of the economy where primary inputs form a substantial input into the production process (eg cement manufacture). These activities were considered to be 'one-step' removed from the main purpose of the study.

Data used

The data that have been used in this study are

- Annual Business Inquiry (and previous Annual Employment Survey), 1995-2003.
- Data and forecasts for employment and output in the South East and former counties, published by Cambridge Econometrics in Regional Economic Prospects, July 2004.

The analysis undertaken fro the 2001/2 study based on AES data up to 1999 and CE data and forecasts published in Regional Economic Prospects, July 2001.

In addition to now having data for the period 2000-2003, the underlying data for previous years has been reviewed and may in cases have been revised.

TABLE 2.1: WEIGHTINGS OF ECONOMIC ACTIVITIES WITHIN THE ENVIRONMENTAL ECONOMY (%)

Activity	Defn 1 Activities directly dependent upon the environment	Defn 2 Activities dependent upon a high quality environment	Defn 3 Activities contributing to a high quality environment
Agriculture			
MAFF/DAFF	100	0	5
Growing Cereals	100	0	5
Growing vegetables	100	0	10
Growing fruit/nuts/beverages	100	0	10
Farming of cattle/dairy	100	0	10
Farming of sheep/goats/horses/asses	100	0	0
Farming of swine	50	0	0
Farming of poultry	50	0	0
Other farming of animals	100	0	10
Growing of crops and farming of animals	100	0	10
Agric service activities	90	0	0
Animal husbandry	95	5	0
Hunting			
Hunting/trapping	100	50	50
Forestry			
Forestry and logging	100	0	50
Forestry and logging related activities	100	0	50
Fishing	0	0	0
Fishing	100	20	20
Operation of fish hatcheries	90	0	0
Mining of Fuels			
Mining/agglomeration of hard coal	100	0	0
Mining/agglomeration of lignite	100	0	0
Extraction/agglomeration of peat	100	0	0
Extraction: crude petroleum/natural gas	100	0	0
Service activities: oil and gas extraction	100	0	0
Mining uranium and thorium ores	100	0	0
Mining of Metals			
Mining iron ores	100	0	0
Mining non-ferrous metals	100	0	0
Quarrying			
Quarrying of stone for construction	100	0	0
Quarrying of limestone	100	0	10
Quarrying of slate	100	0	10
Operation of gravel/sand pits	100	0	20
Mining of clays and kaolin	100	0	10
Other Mining and Quarrying			
Mining of chem. and fertilizer minerals	100	0	0
Other mining/quarrying	100	0	3

TABLE 2.1: WEIGHTINGS OF ECONOMIC ACTIVITIES WITHIN THE ENVIRONMENTAL ECONOMY (%) (CONTINUED)

Activity	Defn 1 Activities directly dependent upon the environment	Defn 2 Activities dependent upon a high quality environment	Defn 3 Activities contributing to a high quality environment
Manufacturing of Environmental Technologies			
Manf of engines/turbines	0	0	3
Manf of pumps and compressors	0	0	3
Manf of taps and valves	0	0	3
Manf of ventilation equip	0	0	3
Manf elec motors/generators	0	0	3
Manf accumulators	0	0	3
Manf elec equip for engines	0	0	3
Manf elec equip	0	0	3
Manf elec valves	0	0	3
Manf measuring instruments	0	0	10
Manf industrial process control equipment	0	0	10
Manf optical instruments	0	0	3
Manf of parts for motor vehicles	0	0	3
Waste Processing			
Recycling of metal waste and scrap	0	0	90
Recycling of non-metal waste and scrap	0	0	90
Collection/purification of water	100	0	30
Sewage and refuse disposal	100	0	30
Energy			
Production/distribution of electricity	95	0	5
Manf/distribution of gas	95	0	5
Steam and hot water supply	80	0	0
Capitalising on a High Quality Environment			
Hotels and motels with restaurant	50	50	0
Hotels and motels without restaurant	50	50	0
Youth hostels and mountain refuge	80	80	0
Camping sites incl. caravan sites	70	70	0
Other provision of lodgings	40	40	0
Restaurants	10	10	0
Bars	10	10	0
Taxi operation	10	10	0
Other passenger land transport	0	0	10
Fair and amusement park activities	5	5	0
Museum activities	20	20	0
Botanical/zoological gardens	40	40	20
Other sporting activities	10	10	0
Other recreational activities	30	30	15
Physical well-being activities	30	30	15

TABLE 2.1: WEIGHTINGS OF ECONOMIC ACTIVITIES WITHIN THE ENVIRONMENTAL ECONOMY (%) (CONTINUED)

Activity	Defn 1 Activities directly dependent upon the environment	Defn 2 Activities dependent upon a high quality environment	Defn 3 Activities contributing to a high quality environment
Sustainable Transport			
Transport via railways	0	0	60
Other scheduled passenger land transport	0	0	30
Inland water transport	0	0	50
Other supporting land transport activities	0	0	10
Building and repair of ships	0	0	10
Building/repairing of pleasure boats	0	0	10
Manf railway/tramway vehicles	0	0	10
Transport via pipelines	0	0	10
Sea and coastal water transport	0	0	10
Environmental Advice			
Research: natural sciences/engineering	0	0	20
Business/management consultancy	0	0	10
Architectural/engineering activities	0	0	30
Technical testing and analysis	0	0	10
General public service activities	0	0	20
Regulation: more efficient business	0	0	20
Technical/vocational secondary education	0	0	5
Higher education	0	0	10
Adult and other education	0	0	5
Other membership orgs	0	0	30

3 ANALYSIS OF RESULTS

3.1 The Total Environmental Economy

Table 3.1 shows the estimates of employment in the environmental economy for the South East as a whole, together with projections to 2015 based on the method set out in Chapter 2. Data are also shown for the three different components of the environmental sector.

Current estimates

It is estimated that currently[1]

- 153,000 people are employed in activities that are dependent on the environment (Definition 1). This represents about 3½% of all employment in the region
- 54,000 people are employed in activities dependent on a high-quality environment (Definition 2)
- over 90,000 people are employed in activities that contribute to a high quality environment (Definition 3)

There is considerable overlap between the three definitions of the Environmental Economy, especially between definitions 1 and 2. Allowing for this, it is estimated that

TABLE 3.1: EMPLOYMENT IN THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

Definition	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Defn 1 - Activities directly dependent upon the environment	159.8	161.2	153.0	155.4	158.5	159.1
Defn 2 - Activities dependent upon a high quality environment	46.8	49.4	53.9	55.3	58.8	60.5
Defn 3 - Activities contributing to a high quality environment	90.5	87.0	90.7	91.9	96.0	100.9
Total Environmental Economy[1]	242.2	239.8	236.1	239.6	246.6	252.3
Total South East Economy	3732.9	4154.2	4306.1	4384.2	4563.2	4771.7
Total Environmental Economy as a % of Total South East Economy	6.5	5.8	5.5	5.5	5.4	5.3

Note(s) : 1 The total employment in the Environmental Economy is less than the sum of the individual totals given for each definition. This is because there are overlaps between the three definitions - the overall total for the Environmental Economy has been calculated to remove any double-counting.

1 In this chapter reference to current estimates relates to data for 2003, the most recent year for which we have detailed data.

TABLE 3.2: GVA IN THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

Definition	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						£2000m
Defn 1 - Activities directly dependent upon the environment	4578	4567	4669	4803	5078	5393
Defn 2 - Activities dependent upon a high quality environment	760	823	893	945	1055	1171
Defn 3 - Activities contributing to a high quality environment	2736	3221	3457	3641	4036	4474
Total Environmental Economy[1]	7101	7569	7903	8213	8869	9609
Total South East Economy	94340	121281	130214	139770	161287	187785
Total Environmental Economy as a % of Total South East Economy	7.5	6.2	6.0	5.9	5.5	5.1

Note(s) : 1 The total GVA in the Environmental Economy is less than the sum of the individual totals given for each definition. This is because there are overlaps between the three definitions - the overall total for the Environmental Economy has been calculated to remove any double-counting.

in 2003 over 236,000 people (5½% of the region's employment) were employed in the Environmental Economy in the region as a whole.

The relative contributions of the different definitions of the Environmental Economy are in line with their relative employment levels. Overall, the Environmental Economy contributes around 6% of the region's economic output - a slightly larger contribution than it makes to employment.

Future prospects

It is projected that employment in the Environmental Economy has increased since 2003 and that it will continue to do so over the forecast period, reaching over 246,000 in 2010 and perhaps 252,000 by 2015. Employment growth is expected in all three definitions but particularly so among definition 3, activities contributing to a high quality environment. Employment is expected to decline in the long term in many of the primary economic activities, including agriculture, mining and energy sectors. Prospects are also for employment in waste processing and manufacturing of environmental technology to fall further[2]. Activities identified as having prospects for employment growth include the 'capitalising on a high-quality environment' and 'environmental advice' groupings.

The importance of the Environmental Economy as a source of jobs in the region is expected to fall slightly as overall employment growth exceeds that of the Environmental Economy. However, the relative performance of the Environmental Economy is expected to improve. Since 1995 its share of total employment has fallen from 7½% to 6%. By 2010 the share is projected to only fall to 5½%.

2 This results from the approach adopted, being driven by the expectation of manufacturing employment to fall in most sectors. It could be that within any one manufacturing industry there are clusters of growth centred on environmental technologies.

TABLE 3.3: EMPLOYMENT IN DEFINITION 1 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Berkshire	15.0	15.6	15.7	15.8	15.8	15.9
Buckinghamshire	9.6	8.1	8.8	8.9	9.0	9.1
East Sussex	15.5	12.2	11.3	11.4	11.3	11.1
Hampshire	24.7	32.8	28.6	29.0	30.1	30.6
Isle of Wight	3.1	5.1	6.2	6.4	6.7	6.8
Kent	33.6	32.1	33.0	33.9	34.9	35
Oxfordshire	12.7	15.9	14.3	14.5	15.0	15.2
Surrey	23.6	21.1	18.7	19.0	19.5	19.6
West Sussex	21.8	18.3	16.2	16.3	16.2	15.8
South East	159.8	161.2	153.0	155.4	158.5	159.1

Comparison with previous report

The current estimates indicate a higher level of employment than was projected previously. This is particularly so in activities dependent on a high quality environment (definition 2) and activities contributing to a high-quality environment (definition 3). Current estimates for the number of people that were employed in the Environmental Economy in previous years have also been revised.

That the forecast level of employment in the Environmental Economy is now expected to be higher than was previously the case is due in part to the revised level but also to an upgrading in the prospects for growth. The underlying rate of growth in employment in the Environmental Economy over 2005-10 is ½% pa, which compares with an earlier projection of employment remaining flat. The future prospects for employment are generally more optimistic than at the time of the previous study. In particular employment in activities that are dependent on the environment (Definition 1) is now seen as having the prospects for growth. The regional outlook for agriculture employment in the period to 2010 is now more favourable than it was (although employment is expected to decline after 2010) as it is for hotels & catering (part of which is in the 'capitalising on a high-quality environment' grouping) and business services (parts of which are in the 'environmental advice' grouping).

3.2 Definition 1: Activities Directly Dependent on the Environment

This grouping of activities includes the majority of primary economic activities including agriculture, forestry and fishing, mining & quarrying and utility services, together with elements of hotels & catering, transport and other leisure and recreational activities (linked to tourism).

Current estimates

It is estimated that 153,000 people are employed within this group of activities, around 3½% of all employment in the region. Of this around 65,000 people are engaged in

TABLE 3.4: EMPLOYMENT IN DEFINITION 1 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected	
	1995	2000	2003	2005	2010	2015
					(%) of Total Employment	
Berkshire	3.5	3.1	3.0	3.0	2.8	2.7
Buckinghamshire	2.8	2.1	2.2	2.2	2.1	2.0
East Sussex	5.4	3.8	3.4	3.4	3.3	3.1
Hampshire	3.4	3.8	3.3	3.3	3.3	3.2
Isle of Wight	6.6	9.5	10.1	10.2	10.4	10.2
Kent	5.0	4.9	4.4	4.4	4.4	4.3
Oxfordshire	3.9	4.4	4.1	4.1	4.0	3.9
Surrey	4.6	3.3	3.1	3.1	3.0	2.9
West Sussex	5.9	4.8	3.8	3.8	3.6	3.4
South East	4.3	3.9	3.6	3.5	3.5	3.3

TABLE 3.5: GVA IN DEFINITION 1 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected	
	1995	2000	2003	2005	2010	2015
					£2000m	
Berkshire	604	705	665	679	684	708
Buckinghamshire	275	196	230	239	256	274
East Sussex	412	360	360	369	384	406
Hampshire	747	922	859	880	945	1018
Isle of Wight	57	79	100	105	116	127
Kent	869	913	1099	1139	1218	1292
Oxfordshire	306	382	368	377	409	440
Surrey	785	627	551	568	601	636
West Sussex	523	380	433	441	462	488
South East	4578	4567	4669	4803	5078	5393

TABLE 3.6: GVA IN DEFINITION 1 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST IN 2003

	Berkshire	Bucking-hamshire	East Sussex	Hamp-shire	Isle of Wight	Kent	Oxford-shire	Surrey	West Sussex	South East
										(%) of Total Definition 1
Agriculture	6.1	13.8	12.0	16.8	27.2	19.5	28.6	20.9	29.1	18.2
Forestry	0.8	0.1	0.3	0.8	0.0	0.1	0.6	0.5	0.2	0.4
Fishing	0.0	0.0	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.1
Mining of Fuels	16.1	0.2	0.2	0.9	0.0	0.8	0.0	3.8	0.0	3.1
Mining of metals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Quarrying	1.4	5.5	0.8	3.0	2.5	5.9	6.4	4.1	2.9	3.8
Other mining & Quarrying	0.0	0.9	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.1
Manu of env. tech.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Waste processing	25.7	46.7	19.0	21.0	3.3	18.0	13.7	27.0	18.6	21.6
Energy	35.2	0.5	40.4	36.9	3.5	41.5	31.8	26.2	33.1	33.5
Capitalising on a High-quality Environment	14.7	32.2	27.1	20.2	63.0	14.2	18.7	17.3	15.4	19.1
Total	100	100	100	100	100	100	100	100	100	100

agriculture. The other main activities in this category include those 'capitalising on a high quality environment' (55,000), waste processing (15,000) and energy (13,300).

The number of people employed within the group has fallen back from a peak of over 161,000 in 2001. This reflects a loss of around 16,000 jobs in agriculture since then. In contrast, those employed in activities 'capitalising on a high quality environment' have continued to rise over recent years.

Table 3.4 shows the level of employment in this category for the former county areas. The largest number of jobs are in Hampshire and Kent, which together account for 40% of the regional total. In these counties the sector accounts for 3½ and 4½% of total employment respectively. Oxfordshire also has a greater reliance of these activities than does the region as a whole, though the Isle of Wight is most dependent on these activities for employment; they account for over 10% of all employment. This is due to the dependence of the island on tourism-related activities.

The level of GVA associated with this group of industries is shown in Table 3.5. The ranking of the former counties on this measure generally follows that for employment, with the largest activity being in Kent and Hampshire.

Table 3.6 illustrates the relative importance of the different components within this definition of the environmental economy to the region and counties. For example, while for the South East as a whole agriculture accounts for 45% of all employment in this definition, it accounts for 60% of this employment in Kent and West Sussex but only 25% or so in Berkshire. In Berkshire the energy and waste processing sectors are comparatively more important sources of employment (and in absolute terms).

Future prospects

Employment prospects within these activities are fairly weak. For the South East as a whole employment is projected to rise to 158,500 by 2010 and to 159,100 by 2015. In the period to 2010 most of the increase in employment is expected in activities capitalising on a high-quality environment, though employment in agriculture is also

projected to rise over this period before falling back. Employment in most of the other areas within this definition are projected to decline throughout the forecast period.

Comparison with earlier estimates

The current estimate for employment is higher than projected in 2002, in part because of revisions to the historical employment estimates. For example, at the time the 2002 study was being conducted employment in agriculture in the South East in 2000 was estimated to be around 78,000. The current estimate for that year is 83,000[3]. In addition, the prospects for employment growth in several of the key economic sectors, agriculture, hotels & catering and professional services, are viewed to be more favourable than was previously the case.

3.3 Definition 2: Activities Dependent on a High-Quality Environment

This grouping of activities is nested within those of Definition 1 and includes those mainly tourist activities that capitalise on a high-quality environment within hotels & catering, transport and other leisure and recreational activities together with limited elements of the agriculture and fishing industry.

Current estimates

It is estimated that around 54,000 people are employed in this group of activities, almost of all of which are in activities 'capitalising on a high quality environment'. Overall 1½% of all employment in hotels & catering is categorised within this grouping.

Within the region the largest number of jobs are in Hampshire and Kent. This generally reflects the size of the two county economies (as employment in the grouping accounts for 1.2-1.3% of all employment in the county, a similar scale to that for the South East as a whole) though both counties do have well-developed tourism sectors. The identified

TABLE 3.7: EMPLOYMENT IN DEFINITION 2 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Berkshire	5.1	5.3	6.0	6.2	6.6	6.9
Buckinghamshire	3.2	4.1	4.3	4.4	4.7	4.9
East Sussex	5.7	5.9	6.1	6.1	6.4	6.5
Hampshire	8.4	10.3	10.4	10.7	11.4	11.8
Isle of Wight	2.3	2.2	4.0	4.1	4.4	4.5
Kent	7.5	6.9	9.6	9.8	10.5	10.8
Oxfordshire	3.6	4.2	4.1	4.1	4.4	4.5
Surrey	5.3	5.9	5.5	5.6	6.0	6.2
West Sussex	5.7	4.6	4.1	4.1	4.3	4.4
South East	46.8	49.4	53.9	55.3	58.8	60.5

3 Cambridge Econometrics Regional Economic Prospects, July 2004.

TABLE 3.8: EMPLOYMENT IN DEFINITION 2 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected	
	1995	2000	2003	2005	2010	2015
					(%) of Total Employment	
Berkshire	1.2	1.1	1.1	1.2	1.2	1.2
Buckinghamshire	0.9	1.1	1.1	1.1	1.1	1.1
East Sussex	2.0	1.8	1.8	1.8	1.8	1.8
Hampshire	1.1	1.2	1.2	1.2	1.2	1.2
Isle of Wight	4.9	4.1	6.6	6.6	6.8	6.7
Kent	1.1	1.0	1.3	1.3	1.3	1.3
Oxfordshire	1.1	1.2	1.2	1.2	1.2	1.1
Surrey	1.0	0.9	0.9	0.9	0.9	0.9
West Sussex	1.5	1.2	1.0	1.0	1.0	0.9
South East	1.3	1.2	1.3	1.3	1.3	1.3

activities are most important as a source of overall employment to the Isle of Wight, again reflecting the limited scale of the economy outside tourism and local services.

This definition of the environmental economy has considerable overlap with Definition 1 (Activities Directly Dependent on the Environment) and so the importance of the group in terms of its share of the region's output is again lower than its importance as a source of jobs, reflecting the relatively low levels of value-added per worker in much of hotels & catering and other leisure services. While the activities account for 1.3% of all employment they generate just over ½% of all output. There is not much variation across the county (with the exception of the Isle of Wight where it accounts for 3½-4% of output - still below its share of employment), with the relative importance of the group slightly higher in East Sussex and slightly lower in Berkshire, Surrey and West Sussex.

Recent trends

The number of people employed in this group has risen steadily, increasing by over 7,000 since 1995. Most of the increase has occurred in Kent, Hampshire and the Isle of

TABLE 3.9: GVA IN DEFINITION 2 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected	
	1995	2000	2003	2005	2010	2015
					£2000m	
Berkshire	85	88	98	104	118	131
Buckinghamshire	53	71	74	78	88	98
East Sussex	89	95	98	102	112	123
Hampshire	135	171	173	184	206	229
Isle of Wight	37	36	63	67	75	84
Kent	122	116	156	165	186	207
Oxfordshire	59	71	69	73	81	89
Surrey	90	102	96	101	113	126
West Sussex	90	75	67	70	77	85
South East	760	823	893	945	1055	1171

Wight, though the sector has seen strong growth over this period in Buckinghamshire. The data indicate that there has been a loss of employment in this grouping in West Sussex, and that some of the employment gains made at the start of the period in Surrey have been lost.

Future prospects

The composition of this definition of the Environmental Economy means that its prospects for employment are dominated by the underlying growth prospects for hotels & catering and other leisure services. Overall employment in this definition is projected to rise by 3,500 (6%) in the period 2005-10 and by a further 1,700 by 2015. Growth is expected to be stronger in those activities related to the hospitality industry than those that are elsewhere in the leisure industry.

The prospects are that all the former counties will experience strong employment growth, with the strongest growth projected for Oxfordshire, Isle of Wight, Kent and Surrey.

Comparison with earlier estimates

The current estimates for employment are higher than projected in 2002 and the prospects for future growth are also more favourable than previously for the reasons outlined in Section 3.2 above. At the level of the former county current employment is actually lower than previously forecast in West Sussex, Surrey and Buckinghamshire and higher in Hampshire, Isle of Wight, Kent and East Sussex. The employment prospects for each of the former counties have been revised up.

3.4 Definition 3: Activities Contributing to a High-Quality Environment

This definition of the environmental economy comprises a more varied range of activities than have either of the other groups discussed above. It includes elements of the primary sectors, such as sustainable agriculture, together with manufacturers of environmental technologies and activities providing environmental advice.

TABLE 3.10: EMPLOYMENT IN DEFINITION 3 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Berkshire	12.8	10.2	10.7	10.8	11.2	11.6
Buckinghamshire	7.2	7.7	8.4	8.5	9.1	9.8
East Sussex	7.7	6.4	6.5	6.6	6.6	6.8
Hampshire	17.3	17.0	17.7	17.8	18.6	19.5
Isle of Wight	0.9	1.1	1.1	1.2	1.2	1.2
Kent	16.1	14.3	15.3	15.5	15.7	16
Oxfordshire	8.2	9.4	9.8	10.0	11.0	12
Surrey	12.8	13.4	12.4	12.6	13.5	14.3
West Sussex	7.5	7.5	8.8	8.8	9.2	9.7
South East	90.5	87.0	90.7	91.9	96.0	100.9

TABLE 3.11: EMPLOYMENT IN DEFINITION 3 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual				Projected	
	1995	2000	2003	2005	2010	2015
					(%) of Total Employment	
Berkshire	2.9	2.0	2.1	2.0	2.0	2.0
Buckinghamshire	2.1	2.0	2.1	2.1	2.1	2.2
East Sussex	2.7	2.0	2.0	2.0	1.9	1.9
Hampshire	2.4	2.0	2.0	2.0	2.0	2.1
Isle of Wight	2.0	2.0	1.9	1.8	1.8	1.8
Kent	2.4	2.2	2.0	2.0	2.0	2.0
Oxfordshire	2.5	2.6	2.8	2.8	2.9	3.1
Surrey	2.5	2.1	2.1	2.1	2.1	2.1
West Sussex	2.0	2.0	2.1	2.0	2.1	2.1
South East	2.4	2.1	2.1	2.1	2.1	2.1

Current estimates

It is estimated that this group of activities directly supports around 90,000 jobs, just over 2% of all employment in the South East. Most of the jobs are identified within the category 'providers of environmental advice and related activities' (64,000). A further 10,000 people are engaged in the transport-related activities included, while 3,500 are employed in environment-related manufacturing, 5,500 in waste processing and 3,300 in more sustainable forms of agriculture (5% of all agriculture employment).

Within the South East the largest number of jobs within this grouping are in Hampshire (17,700) and Kent (15,300), where it makes up 2% in employment. Although Oxfordshire is estimated to have less than 10,000 jobs within this group these account for just under 3% of all employment. The pattern of employment within the overall group shows a certain degree of variation across the region. In Surrey, Oxfordshire and Berkshire a much greater proportion of employment is within 'providers of environmental advice and related activities' than is the case for the South East as a whole, while this is the case for agriculture in the Isle of Wight and Kent. The Isle of Wight is similarly positioned regarding waste processing, as is Buckinghamshire and East Sussex, while East Sussex, Isle of Wight and Kent have a greater share of employment in transport-related sectors. The employment structure of these activities in Hampshire is perhaps most like that of the South East, although relevant manufacturing employment accounts for a higher share of this environmental grouping than it does in the region. This is also the case in West Sussex.

Table 3.12 shows the contribution the group of activities identified makes to output (value-added) in the South East. The size of the sector in terms of employment is a good guide to the relative size in terms of output, with Kent and Hampshire contributing the greatest output. Overall the sector contributes 2½% in output to the South East economy, while this ranges from 2¼% in Hampshire to over 3% in Oxfordshire.

For the South East as a whole the value-added per worker is £38,000 (2000 prices). This is 25% higher than that of Definition 1 and more than double that of Definition 2 of the Environmental Economy.

TABLE 3.12: GVA IN DEFINITION 3 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						£2000m
Berkshire	407	390	418	439	479	523
Buckinghamshire	213	285	328	348	394	448
East Sussex	216	240	244	255	275	299
Hampshire	524	599	633	663	730	805
Isle of Wight	29	34	38	39	42	46
Kent	505	582	633	662	715	774
Oxfordshire	229	331	355	380	442	509
Surrey	378	495	471	500	565	632
West Sussex	236	267	337	354	393	436
South East	2736	3221	3457	3641	4036	4474

Recent trends

In the South East as a whole the level of employment currently is similar to that in 1995. However, this masks a fluctuating trend and different trends within particular activities. Employment fell between 1995-2000 since when it has recovered. This fall was almost entirely within the transport sector, while the numbers employed as 'providers of environmental advice and related activities' remained little-changed. Since 2000 it is the growth of this latter activity that is responsible for the overall rise in employment in this group. It is estimated that employment in 'manufacturing of environmental technologies' in the region did rise over 1995-2000 but has since fallen back.

The trend in overall employment seen in the South East is generally reflected within the counties, although Hampshire and Oxfordshire and Surrey show slight differences. Employment in Oxfordshire has risen steadily since 1995 while in Surrey employment initial rose in the period to 2000 and has since fallen back, mainly in agriculture and 'manufacturing of environmental technologies'. The grouping in Oxfordshire is dominated by providers of environmental advice, and there has been a steady rise in the county reflecting the sustained growth in professional services and related services in the county.

Future prospects

It is in this definition of the Environmental Economy where most of the future jobs are expected to be generated. Employment is projected to increase from just under 91,000 in 2003 to almost 92,000 in 2005, 96,000 in 2010 and over 100,000 by 2015. The additional employment is projected to come almost entirely from the activities providing 'environmental advice', and particularly those from the private sector. This is a result of the strong growth projected for business service employment in the region. Other groupings within this definition expected to see increases in employment to 2010 include agriculture and those capitalising on a high-quality environment (as discussed above), although the absolute size of the increases are small.

The strongest prospects for employment growth are in Oxfordshire, Surrey and Buckinghamshire both because of the relative importance of the environmental advice group within the definition and because the prospects for growth of this group of activities is also comparatively strong.

Comparison with earlier estimates

Some of the estimates for the number of people previously employed in these activities have been revised up since the earlier study although the earlier estimate for the number employed in 2000 is very close to that calculated using the current data (there is some variation at the level of the individual groupings). The employment prospects are now more optimistic than was previously the case, as with the other definitions of the Environmental Economy. This is particularly the case for the environmental advice and waste processing groupings. The upward revision in employment prospects is seen for each of the former counties.

3.5 Comparison with Other Industries

Table 3.13 and 3.14 compare the size of the Environmental Economy, in terms of employment and value-added, with a number of other industries in the South East. In viewing the comparisons it should be remembered that the various definitions of the Environmental Economy comprise some or all of a number of individual industries. Nevertheless, the comparison is informative.

As a whole, the Environmental Economy currently employs just over 236,000 people. This is 100,000 more people than are employed in either financial services or public administration in the region, and of the same broad order of magnitude as those employed in hotels & catering or construction. However, the prospects for employment

TABLE 3.13: COMPARISON OF EMPLOYMENT IN THE ENVIRONMENTAL ECONOMY WITH OTHER INDUSTRIAL SECTORS IN THE SOUTH EAST

	Employment ('000)			Growth (% pa)	
	1995	2000	2003	2003-10	2010-15
EE Definition 1	159.8	161.2	153.0	0.4	0
EE Definition 2	46.8	49.4	53.9	1.1	0.4
EE Definition 3	90.5	87.0	90.7	0.7	0.6
Total Environmental Economy[1]	242.2	239.8	236.1	0.6	0.3
Agriculture	73.0	83.4	66.2	0.6	-0.1
Food, drink & tobacco	29.1	34.6	30.8	-1.5	-0.5
Chemicals & man-made fibres	64.4	68.4	67.5	-0.2	-0.2
Mechanical engineering	49.1	51.1	43.3	-1.2	-1.1
Electronics, electrical and instrument engineering	91.4	98.5	83.7	-1.0	-0.3
Construction	244.0	265.2	286.9	0.1	0.5
Retailing	374.7	408.0	437.4	1.2	0.6
Hotels & catering	212.3	249.3	274.9	1.2	0.4
Financial services	122.3	133.5	132.9	0.0	-0.2
Public administration & defence	169.7	160.6	173.2	-0.3	-0.1
Education & health	684.1	694.6	731.8	1.1	0.6
Total Employment	3733.1	4154.4	4306.2	0.7	0.6

Note(s) : 1 The total employment in the Environmental Economy is less than the sum of the individual totals given for each definition. This is because there are overlaps between the three definitions - the overall total for the Environmental Economy has been calculated to remove any double-counting.

TABLE 3.14: COMPARISON OF GVA IN THE ENVIRONMENTAL ECONOMY WITH OTHER INDUSTRIAL SECTORS IN THE SOUTH EAST

	GVA (£2000m)			Growth (% pa)	
	1995	2000	2003	2003-10	2010-15
EE Definition 1	4578	4567	4669	1.1	0.8
EE Definition 2	760	823	893	2.3	1.4
EE Definition 3	2736	3221	3457	2.1	1.4
Total Environmental Economy[1]	7101	7569	7903	1.5	1
Agriculture	894	940	926	1.1	0.4
Food, drink & tobacco	1775	1762	1696	0.8	0.4
Chemicals & man-made fibres	3147	3913	4307	3.7	1.8
Mechanical engineering	1662	1849	1790	1.7	0.7
Electronics, electrical and instrument engineering	2743	4097	3525	3.3	2.5
Construction	6140	7158	8019	2.2	1.4
Retailing	5634	7840	8883	2.5	1.8
Hotels & catering	3259	3884	4324	2.5	1.4
Financial services	5137	6903	7380	2.1	1.1
Public administration & defence	7041	7388	7724	1.3	1.1
Education & health	12074	13176	14175	3	1.9
Total GVA	94340	121281	130214	3	2.1

Note(s) : 1 The total GVA in the Environmental Economy is less than the sum of the individual totals given for each definition. This is because there are overlaps between the three definitions - the overall total for the Environmental Economy has been calculated to remove any double-counting.

growth are better than they are for the region as a whole, and for the any of the sectors mentioned, with the exception of hotels & catering.

The comparison in terms of value-added is similar, although the level of output is much greater than that of hotels & catering, reflecting the low level of productivity in this industry. The relative growth prospects are less favourable for output than for employment, with the growth in output from the Environmental Economy expected to be slower than that for the South East economy as a whole.

APPENDIX A: DETAILED RESULTS

TABLE A1.1: EMPLOYMENT IN DEFINITION 1 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Agriculture	69.5	79.7	63.3	65.2	66.4	65.6
Forestry	1.9	1.9	1.5	1.6	1.6	1.6
Fishing	0.7	0.6	0.5	0.5	0.5	0.5
Mining of Fuels	2.8	1.4	1.9	1.8	1.3	1.2
Mining of metals	0.0	0.0	0.0	0.0	0.0	0.0
Quarrying	2.6	2.8	3.1	3.1	2.9	2.7
Other mining & Quarrying	0.0	0.1	0.1	0.1	0.1	0.1
Manu of env. tech.	0.0	0.0	0.0	0.0	0.0	0.0
Waste processing	16.1	13.5	15.5	14.7	14.6	14.9
Energy	19.4	12.0	13.2	13.3	12.6	12.2
Capitalising on a High-quality Environment	46.7	49.3	53.8	55.2	58.7	60.4
Transport	0.0	0.0	0.0	0.0	0.0	0.0
Environmental advice	0.0	0.0	0.0	0.0	0.0	0.0
Total	159.8	161.2	153.0	155.4	158.5	159.1

TABLE A1.2: EMPLOYMENT IN DEFINITION 2 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Agriculture	0.0	0.1	0.0	0.0	0.0	0.0
Forestry	0.0	0.0	0.0	0.0	0.0	0.0
Fishing	0.1	0.1	0.1	0.1	0.1	0.1
Mining of Fuels	0.0	0.0	0.0	0.0	0.0	0.0
Mining of metals	0.0	0.0	0.0	0.0	0.0	0.0
Quarrying	0.0	0.0	0.0	0.0	0.0	0.0
Other mining & Quarrying	0.0	0.0	0.0	0.0	0.0	0.0
Manu of env. tech.	0.0	0.0	0.0	0.0	0.0	0.0
Waste processing	0.0	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Capitalising on a High-quality Environment	46.7	49.3	53.8	55.2	58.7	60.4
Transport	0.0	0.0	0.0	0.0	0.0	0.0
Environmental advice	0.0	0.0	0.0	0.0	0.0	0.0
Total	46.8	49.4	53.9	55.3	58.8	60.5

TABLE A1.3: EMPLOYMENT IN DEFINITION 3 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						Thousands
Agriculture	3.4	4.2	3.3	3.4	3.5	3.5
Forestry	1.0	1.0	0.8	0.8	0.8	0.8
Fishing	0.1	0.1	0.1	0.1	0.1	0.1
Mining of Fuels	0.0	0.0	0.0	0.0	0.0	0.0
Mining of metals	0.0	0.0	0.0	0.0	0.0	0.0
Quarrying	0.5	0.5	0.5	0.5	0.5	0.4
Other mining & Quarrying	0.0	0.0	0.0	0.0	0.0	0.0
Manu of env. tech.	3.1	3.6	3.2	3.1	2.9	2.9
Waste processing	5.5	5.0	5.4	5.2	5.2	5.4
Energy	1.0	0.6	0.7	0.7	0.7	0.6
Capitalising on a High-quality Environment	2.1	2.1	2.2	2.2	2.3	2.4
Transport	14.5	10.3	10.6	10.8	10.6	10.9
Environmental advice	59.3	59.7	63.9	65.1	69.4	74.0
Total	90.5	87.0	90.7	91.9	96.0	100.9

TABLE A1.4: GVA IN DEFINTION 1 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						£2000m
Agriculture	824	867	848	872	921	954
Forestry	23	21	21	21	22	23
Fishing	9	6	6	6	7	7
Mining of Fuels	334	153	146	143	105	83
Mining of metals	0	0	0	0	0	1
Quarrying	173	155	177	182	188	194
Other mining & Quarrying	3	5	6	6	6	6
Manu of env. tech.	0	0	0	0	0	0
Waste processing	1004	998	1009	1016	1063	1137
Energy	1451	1540	1566	1614	1713	1820
Capitalising on a High-quality Environment	758	822	892	943	1054	1169
Transport	0	0	0	0	0	0
Environmental advice	0	0	0	0	0	0
Total	4578	4567	4669	4803	5078	5393

TABLE A1.5: GVA IN DEFINTION 2 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						£2000m
Agriculture	1	1	1	1	1	1
Forestry	0	0	0	0	0	0
Fishing	1	1	1	1	1	1
Mining of Fuels	0	0	0	0	0	0
Mining of metals	0	0	0	0	0	0
Quarrying	0	0	0	0	0	0
Other mining & Quarrying	0	0	0	0	0	0
Manu of env. tech.	0	0	0	0	0	0
Waste processing	0	0	0	0	0	0
Energy	0	0	0	0	0	0
Capitalising on a High-quality Environment	758	822	892	943	1054	1169
Transport	0	0	0	0	0	0
Environmental advice	0	0	0	0	0	0
Total	760	823	893	945	1055	1171

TABLE A1.6: GVA IN DEFINTION 3 OF THE ENVIRONMENTAL ECONOMY IN THE SOUTH EAST

	Actual			Projected		
	1995	2000	2003	2005	2010	2015
						£2000m
Agriculture	40	46	45	46	48	50
Forestry	11	11	10	11	11	12
Fishing	1	1	1	1	1	1
Mining of Fuels	0	0	0	0	0	0
Mining of metals	0	0	0	0	0	0
Quarrying	32	26	30	31	32	33
Other mining & Quarrying	0	0	0	0	0	0
Manu of env. tech.	98	109	114	121	121	126
Waste processing	308	316	319	322	337	362
Energy	76	81	83	85	90	96
Capitalising on a High-quality Environment	52	54	56	58	62	67
Transport	423	479	513	533	559	600
Environmental advice	1694	2099	2288	2435	2774	3129
Total	2736	3221	3457	3641	4036	4474