East Midlands Development Agency
and Regional Partners

The Environmental Economy
of the East Midlands
June 2002

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EXECUTIVE SUMMARY

The Region’s Vision: “The East Midlands will be the most progressive region in Europe, recognised for its high quality of life, vibrant economy, rich cultural and environmental diversity and sustainable communities”.

Regional Economic Priorities [include]: “Improving the quality of the Region’s natural and built environment and encouraging the growth of the environmental economy”

“To integrate considerations of the environment in all decision making as part of the move towards a sustainable Region”.


This report provides the findings of a study commissioned by regional partners, which for the first time has quantified the contribution of the environment to the East Midlands’ economy. It also identifies opportunities for increasing this economic contribution and recommends actions for regional partners to accelerate this growth.

The analysis of the environmental economy, therefore sits firmly with the work of regional partners in making progress towards the objectives of the Integrated Regional Strategy and to accelerating the shift towards sustainable development in the East Midlands.

The environmental economy encompasses a wide range of growing activities, including:

- 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.

1. CURRENT SIZE OF THE ENVIRONMENTAL ECONOMY

The environmental economy of the East Midlands is a vibrant and growing part of the region’s economy, which generates approximately 71,000 jobs (see Table 1). These jobs represent 3.5% of total employment in the East
Midlands and 3% of regional GDP. In terms of employment, the environmental economy is comparable in size to other important sectors such as construction and food and drink (see Figure 1).
Table 1  
Current Employment and GDP in the Environmental Economy of the East Midlands

<table>
<thead>
<tr>
<th>The Environmental Industry:</th>
<th>Employment (FTE)</th>
<th>Estimated Regional GDP (£ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Businesses supplying environmental goods &amp; services</td>
<td>20,100</td>
<td></td>
</tr>
<tr>
<td>Environmental Management jobs in Industry</td>
<td>808</td>
<td></td>
</tr>
<tr>
<td>Public sector environmental posts</td>
<td>4,015</td>
<td></td>
</tr>
<tr>
<td>Environmental jobs in academic institutions</td>
<td>585</td>
<td></td>
</tr>
<tr>
<td>Environmental jobs in the Voluntary Sector</td>
<td>495</td>
<td></td>
</tr>
<tr>
<td><strong>Total: The Environmental Industry</strong></td>
<td><strong>26,003</strong></td>
<td><strong>£600</strong></td>
</tr>
</tbody>
</table>

| Environmentally Beneficial Activities in Land Based Industries: | | |
| Environmentally beneficial farming | 1,271 | |
| Environmentally beneficial forestry | 70 | |
| Organic farming | 310 | |
| Regional Produce | 2,600 | |
| **Environmentally Beneficial Activities in Land Based Industries: Total** | **4,251** | **£64** |

| Capitalising on a High Quality Environment: | | |
| Tourism employment based on the quality of the environment | 40,300 | |
| **Total Environmental Economy** | **70,554** | **£1,185** |

FTE = Full Time Equivalent jobs.

Figure 1  
Environmental Economy Employment Compared with Other Sectors in the East Midlands

Source: EMDA sector employment data, 2001
The East Midlands compares reasonably favourably with other UK regions in terms of the size and strength of its environmental economy. As shown in Figure 2, the East Midlands sits mid-way amongst four other selected regions (where comparable data exist) in terms of employment in the environmental economy. Within this overall picture, the East Midlands has a large environmental industry compared to other regions, a comparable number of jobs relating to environmental activities in the land based sectors, but comparatively fewer jobs relating to tourism activities based on the environment.

![Figure 2: Comparison of Environmental Economies in UK Regions](image)

**2. THE GROWTH POTENTIAL**

Strong market drivers provide significant opportunities for developing the range of activities that comprise the environmental economy of the East Midlands. This will generate new jobs, help to diversify the region’s industrial base, invigorate rural economies and accelerate progress towards sustainable development in the East Midlands. Expansion of the environmental economy exists through:

- growth of businesses supplying environmental goods and services;
- increasing the uptake of cost-effective environmental management in industry;
- expansion of environmental regeneration and enhancement activities in the East Midlands;
• expansion of environmental improvement activities in land based sectors such as agriculture and forestry;
• development of organic and regional produce; and
• increasing the contribution of the region’s environment to economic activities such as tourism and inward investment.

2. RECOMMENDED ACTIONS TO CAPITALISE ON GROWTH POTENTIAL

Through consultation with stakeholders in the region, the study has recommended the following actions to capitalise on future growth potential in the environmental economy of the East Midlands.

3.1 Supporting Growth in the Environmental Industry

Supporting Growth of Environmental Suppliers: In order to capitalise on significant growth potential in the environmental industry, it is recommended that regional partners should establish a co-ordinated regional Strategy and Action Plan for developing the environmental industry. Potential actions within this Strategy and Action Plan include:

1. General business support.
2. Export support.
3. Innovation support.
4. Skills development.
5. Support for start-ups and spin-offs.
7. Strategic inward investment.
9. Business clustering and networking events.
10. Strengthening regional supply chains for environmental goods and services, in emerging areas such as ‘end-of–life–vehicles’.
11. Actions to stimulate regional ‘demand’ for environmental goods and services, including: public sector procurement policies and regional action plans to achieve UK renewable energy and waste recycling targets.

Key players in delivering future support include: EMDA, the Small Business Service, Business Links, Trade Partners UK, Sub-Regional Strategic
Partnerships, the East Midlands EIF, EMRETT, the Environment Agency, the Government Office, the Regional Assembly and the RTAB\(^{(1)}\).

Support actions could be delivered under a number of programmes in the East Midlands, including the Regional Economic Strategy (RES) Delivery Plan, Sub-Regional Strategic Partnership (SSP) action plans; cluster development programmes; the regional skills action plan; and innovation programmes.

\(^{(1)}\) Regional Technical and Advisory Body - responsible for developing the Regional Waste Management Strategy.
Actions to Increase the Take-Up of Cost Effective Environmental Improvements in Industry, include:

• The revised Regional Economic Strategy and all SSP action plans should incorporate objectives to enhance resource productivity in the region’s industry and economy.

• Regional and sub-regional partners should develop a clear regional Strategy and Action Plan for helping industry to achieve cost effective environmental improvements and for enhancing resource productivity. Potential actions include:
  - establishing ‘Envirowise’ networks for companies throughout the region to promote cost-effective environmental best practice in industry; and
  - developing high profile industrial estate based environmental management projects in the East Midlands (along the lines of the Premier Business Park model in Wallsall).

• Regional partners should support the development of supply chain projects to help companies address emerging regulatory issues such as the EU End-of-Life Vehicles Directive or the WEEE Directive(1).

Key regional players in delivering these actions include EMDA, the Small Business Service, Business Links, the East Midlands Business Forum, trade associations in the region, the East Midlands Advisory Group for the Environment (EMAGE), East Midlands Environment Link (EMEL), the Government Office for the East Midlands, the Environment Agency, the Regional Assembly, Groundwork and Sub-Regional Strategic Partnerships.

Regenerating and Enhancing the Environment: Environmental protection and enhancement projects can bring significant economic, social, as well as environmental benefits to the East Midlands – either as ‘discrete’ environmental projects, or as parts of larger physical regeneration projects. Recommended actions for developing these activities include:

• Major flagship environmental improvement projects such as improvements to the Lincolnshire coast, which will help to attract visitors and tourist income to the area and projects such as On-Trent and ‘Wet Fens for the Future’.

• Continuation of environmental improvements in the Coalfields in order to help attract investment and create employment opportunities.

• Encourage project partnerships to make environmental improvement / conservation a major part of regeneration projects such as the

Nottingham riverside, Derbyshire canals and Fenland waterways projects.

- Expansion of community led environmental improvement projects in the East Midlands to bring economic, social and environmental benefits.

- Region-wide application of sustainable construction practices as demonstrated in projects such as the Sherwood ‘Energy Village’ and the ‘Leicester Ecohouse’ and Hockerton Housing project.

- The revised RES and sub-regional partnership strategies and action plans should seek to support the development of regional conservation activities which generate clear economic and social benefits.

Key organisations to be involved in these actions include: the Sub-Regional Strategic Partnerships (SSPs) and Local Authorities, EMDA, English Nature, NGOs (such as the RSPB, the Wildlife Trusts, the National Trust, the BTCV, Groundwork etc), the Environment Agency, the Countryside Agency, the Government Office and key businesses such as Severn Trent.

### 3.2 Regenerating Land Based Industries

As recognised in the Rural White Paper and the Rural Action Plan for the East Midlands, the rural economy, in common with other regions, faces significant changes and challenges relating to declining farm incomes, the possible expansion of the European Union and changes in the financial support for agriculture.

It is important that businesses in the land based sector are encouraged and supported to diversify into a broader range of activities which benefit the environment as well as bringing economic and social benefits. There is every indication that this is already beginning to happen, but there is scope for accelerating and deepening this process.

In the light of consultations with key organisations in the East Midlands, the following actions are recommended.

A very clear lead is required to take these actions forward. Organisations potentially to be involved include: the Countryside Agency, EMDA, SSPs, the Heart of England Tourist Board (HETB), the East Midlands Biodiversity Forum, Farming and Wildlife Advisory Group (FWAG), the East Midlands Rural Action Group, the East Midlands Sustainable Development Round Table and the East Midlands Rural Consultation Group.
Actions to Promote Environmentally Beneficial Farming, in line with the Rural Development Programme (RDP), include:

- Increase awareness amongst the region’s farmers of the benefits of agri-environmental schemes and support / opportunities available under the RDP. Specific actions should include development and show-casing of successful agri-environment projects in the region.
- Provide farmers with clear contacts points and ‘sign-posting’ for accessing information and support on agri-environment schemes – including the provision of advice through the Farm Business Advisory Service (FBAS).
- Streamline and simplify the co-ordination and administration of existing agri-environment schemes at the next national review in 2002/2003.
- Build on the achievements of FWAG in working with farmers on environmental training linked to agri-environment schemes.
- Explore the potential for and, if appropriate develop farm based composting of organic waste within the region. Also examine the case for expanding rural biomass or biofuel projects across the region.

Actions to Support the Development of Regional and Organic Produce:
Demand in the East Midlands and throughout the UK is growing for locally grown and regional produce, as well as organic produce (though at present a large proportion of this produce is imported). Recommended actions to help realise the growth potential in regional / organic produce in the East Midlands include:

- Support for the development of links / clusters between farms, local food processing businesses and retailers in the East Midlands in order to develop regional produce and increase the value added of farm products in the region.
- Incorporate more actions to support regional and organic produce into SSP action plans and the revised RES – in line with regional food and drink strategies.
- Actions to strengthen the links between tourist destinations and local food and drink in the East Midlands – including the work of SSPs and the HETB.
- Examine the scope for a regional brand or ‘logo’ which links regional produce to tourism in the region (this is currently on trial in the region, before national roll-out).
- Support producers develop new, high value regional, based on the quality of the local environment – e.g. regional shellfish products.
Key partners in delivering these actions include EMDA, the food and drinks industry, trade associations such as the Shell Fisheries Association, the Countryside Agency, DEFRA, the HETB, local authorities and the SSPs.

**Actions to Promote Environmentally Beneficial Forestry:** Much has already been achieved in the East Midlands in generating economic and social benefits from environmentally beneficial forestry activities. The following actions are recommended in order to help build on these achievements:

- Examine, and if appropriate, support the development of regional biomass projects which make use of wood waste and capitalise on opportunities for potential for bio-crops. Initiatives need to build on existing work in the region by organisations such as the Forestry Commission, EMRETT and Nottinghamshire County Council.
- Build on the successes of flagship projects such as the Leicester Ecohouse project which demonstrated the economic and environmental benefits of sustainable construction using woodland materials.
- Public and private sector site developers should be encouraged to incorporate sustainable woodland design into business site developments and infrastructure development in the region.
- Regional partners should examine the scope for increasing the use of woodlands in the regeneration of selected derelict / brownfield sites.

### 3.3 Capitalising on a High Quality Environment

**Actions to Develop Tourism Based on a High Quality Environment:** The East Midlands’ natural and historic built environment provides significant assets for tourism activities. Scope exists for increasing the contribution of these activities to the region’s economy. However, activities need to be carefully managed in order to avoid damaging the very environment on which this tourism is based. As a general principle, new tourism projects should only be developed where there is clear market demand and strong prospects of long-term financial viability – echoing national and regional tourism strategies. Recommended actions include:

- The HETB and regional partners should implement proposals for developing environment-related tourism in the region as contained in ‘Visitor Focus: Growing Prosperity in the Heart of England through Tourism, 1999-2003’.
- Implement English Heritage’s recommendations to repair neglected buildings in the region and put conservation at the heart of renewal and regeneration projects.
• Undertake specific projects such as supporting the revitalisation of Lincoln as a heritage and tourism location and investment in environmental and tourism infrastructure along Lincolnshire’s Coastline.

• Support the implementation of the HETB Action Plan ‘Food and Drink in Tourism’ to strengthen the Region’s distinctiveness as a tourist destination.

• Implement proposals in the Regional Economic Strategy to promote tourism and sports-tourism based on the environment.

• Provide support for stronger marketing of the region based on the quality of the region’s natural and historic built environment.

• Promote environmental good practice (e.g. Green Globe) in the region’s tourist industry.

Activities should be developed in line with the English Tourism Council’s framework for the sustainable tourism and the East Midlands Rural Action Plan. Key partners in delivering these actions include the East Midlands include tourism businesses, the Heart of England Tourist Board (HETB), Sub-Regional Strategic Partnerships and Local Authorities, EMDA, English Heritage, English Nature, British Waterways, the Regional Assembly, the National Trust and the Countryside Agency.

Enhancing the Contribution of the Region’s High Quality Environment to Inward Investment and Quality of Life: Recommended actions include:

• Regional and sub-regional partners to allocate resources to build on major regeneration projects such as the regeneration of the former Shirebrook colliery - generating significant economic, social and environmental benefits.

• Regional and sub-regional economic development partners should recognise the role of the environment in attracting inward investment and retaining/attracting a skilled workforce and tailor regional marketing plans accordingly.

• Support community-led regeneration activities to improve the Region’s physical environment, as well as helping to attract investment, strengthening communities, improving skills and increasing quality of life – e.g. Groundwork ‘Bright Site’ projects. Promote the development of greenspace for community use in order to contributing to people’s quality of life.

• Implementation of English Heritage’s recommended actions for putting conservation at the heart of renewal and regeneration.
• Incorporate environmental improvement into major regeneration projects in the East Midlands, such as the Strategic River Corridors project.

3.4 Actions for Developing the Environmental Economy as a Whole

As well as the recommended actions for specific parts of the environmental economy of the East Midlands, it is also recommended that:

• EMDA and regional partners should incorporate actions to support the growth of the environmental economy into the revised Regional Economic Strategy and future revisions of the Regional Delivery Plan.

• Sub-Regional Strategic Partnerships should incorporate actions to promote the environmental economy in their sub-regional development strategies and action plans.

• Local Strategic Partnerships and Local Authorities in the region should recognise the importance of the environmental economy in their local development plans. This needs to be reflected in local authority activities such as regeneration, planning processes, enforcement of environmental regulations and delivery of support and grants to businesses.

• New projects should be developed using the East Midlands Regional Sustainability checklist, available on the Regional Assembly website: www.eastmidlandsassembly.org.uk

• The Regional Assembly and the commissioning partners of this study should examine how they can monitor future development and expansion of the region’s environmental economy, in order to accelerate progress towards sustainable development in the East Midlands and achievement of the regional Vision contained in the Integrated Regional Strategy.
1. INTRODUCTION

This study has been commissioned by the East Midlands Development Agency (EMDA), the Environment Agency, Countryside Agency and English Nature and has involved close working with regional partners such as the Countryside Agency, the Government Office for the East Midlands, the Regional Assembly, the Heart of England Tourist Board, the CBI, the Environmental Industries Pathfinder Group, the RSPB, the NFU, Wildlife Trusts, Groundwork, the East Midlands Advisory Group for the Environment (EMAGE), East Midlands Renewable Energy Technology Transfer (EMRETT) and East Midlands Environment Link (EMEL).

1.1 STUDY AIMS

The Integrated Regional Strategy for the East Midlands (IRS) and Regional Economic Strategy (RES) have highlighted the importance of the environment in contributing to the region’s economic development and progress towards sustainable development.

However, this contribution has not previously been quantified or examined in order to identify its potential for growth or specific actions for accelerating this growth.

The study therefore aims to identify the contribution of the environment to region’s economy and development - in terms of jobs, contribution to GDP and other important but less quantifiable measures such as quality of life. The study examines:

1. The Current Situation - The current contribution of the environment to the regional economy of the East Midlands.

2. Growth Potential - The future potential for increasing the contribution of the environment to the regional economy and quality of life in the East Midlands.

3. Recommendations for Capitalising on Growth Potential - Practical recommendations for capitalising on the future growth potential of the environmental economy, including priority actions for regional organisations.

The audience for this report includes those in private, public and voluntary sectors whose decisions guide and direct investment affecting the region’s environmental, economic and social well-being. The study is intended to
inform the development of regional and sub-regional strategies and action plans, and equally seeks to inform and encourage businesses to take advantage of the growth opportunities associated with the environmental economy.

The study findings link to existing frameworks and strategies for developing the East Midlands, including: the Integrated Regional Strategy, the Economic Development Strategy for the East Midlands, Regional Planning Guidance, the Regional Environment Strategy, the Rural Action Plan, the Rural Development Programme, the Urban Action Plan, the Objective 2 Programme, Regional Biodiversity Action Plans, the East Midlands Food and Drink Strategy and the Heart of England Tourism Strategy.

1.2 COMPONENTS OF THE ENVIRONMENTAL ECONOMY

The study does not aim to provide an exhaustive coverage of every link between environment and economy. Instead it focuses on key areas in which the quality of the environment and activities to protect or enhance it can bring economic benefits - particularly via business activity and employment creation. Social aspects of regional development are also included, for example, regeneration of communities, skills development and enhancements to quality of life.

In analysing the environmental economy in the East Midlands, the following criteria have been used to identify activities included in the scope:

1. activities which aim to protect or improve the environment;
2. activities which generate income through environmental good practice; and
3. activities which are dependent on a high quality environment.

Activities meeting these criteria have been grouped under the three headings shown in Box 1.2. The study scope is consistent with that used in similar studies in other regions such as the South West, the North West, the East of England, the West Midlands, the North East, Yorkshire & Humberside and Wales – and thereby allows regional comparison.
Box 1.2  

Summary of Study Scope

1. The Environmental Industry:
   - Environmental businesses supplying environmental goods and services.
   - Academic based environmental R&D.
   - Environmental management in industry - activities to improve environmental performance and competitiveness of businesses.
   - Public sector environmental protection or improvement activities - by organisations such as the Environment Agency, Local Authorities, the Countryside Agency and English Heritage.
   - Not for Profit organisations involved in environmental protection / enhancement activities - such as the RSPB, the National Trust, Wildlife Trusts and Groundwork.

2. Land Based Industries:
   - Agriculture - agricultural practices which explicitly seek to bring environmental improvement, such as agri-environment schemes and organic farming.
   - Regional Produce – produce where value added and branding is based on environmental quality.
   - Environmentally beneficial forestry – Forestry practices which explicitly seek to bring environmental improvement, such as sustainable woodland management schemes.
   - Fishing – where it is dependent on a high quality environment, such as coarse fishing.

3. Capitalising on a High Quality Environment:
   - Tourism, recreation & leisure activities which are dependent on a high quality environment.
   - Inward investment, skills retention and attraction influenced by the quality of the region’s environment.
   - Quality of life benefits for derived from the quality of the environment and environmental protection/improvement activities.

1.2.1 The Environmental Industry

The environmental industry (covered in Section 3) is defined using DTI (1) and OECD (2) as goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This diverse range of activities is outlined in Box 1.3.

(1) The DTI/DEFRA Joint Environmental Markets Unit (JEMU).
Box 1.3: Examples of Environmental Goods and Services

- **Air pollution control** – The supply of air pollution control technologies and services, including gas scrubbers, dust collectors, incinerators; and installation and servicing of this equipment.

- **Water & Wastewater treatment** – The supply of technologies and services for water and wastewater treatment, including aeration systems, separation technologies, chemical treatments, construction and operation of water & wastewater treatment systems; and the provision of drinking water and wastewater treatment services for industrial and domestic customers.

- **Solid waste management** – Supply of waste management technologies and services, including waste collection, treatment, disposal, recycling & minimisation. Technologies covered include bins, waste management vehicles, waste minimisation, regulatory advice, recycling (metals, plastics, compostables, glass, demolition & construction wastes etc).

- **Contaminated land remediation and physical regeneration** – The supply of technologies and services for remediating contaminated land and groundwater; and bringing derelict land back into use.

- **Environmental monitoring and instrumentation** – Supply of technologies and services for measuring environmental quality and monitoring polluting emissions. Includes technologies such as pollution monitoring equipment and services such as emission monitoring and laboratory analysis.

- **Energy Management** - Energy management and efficiency products and services such as energy audits, insulation in buildings, combined heat and power plants.

- **Renewable Energy** – Technologies and services for the generation of renewable energy – including wind, biomass, photovoltaics and solar energy sources.

- **Noise and vibration control** – Technologies and services for monitoring and reducing noise and vibration. Technologies include mufflers and silencers and services such as noise monitoring.

- **Cleaner technologies and processes** – Supply of technologies and services to improve the environmental performance of manufacturing processes and minimise waste at source rather than adopting ‘end-of-pipe’ pollution control techniques.

- **Environmental consulting services** – Provision of a wide range of consultancy services including environmental management systems advice, life cycle assessment, environmental impact assessment, advice on environmental regulations and sustainability appraisals.

- **Conservation and preservation of the natural & built environment** – Services to promote nature conservation and biodiversity – includes ecological impact studies, habitat improvement schemes.

- **Marine pollution control** – Supply of technologies & services for controlling and minimising marine pollution – products such as oil absorbents and booms; and marine pollution prevention, monitoring and clean-up services.

- **Sustainable construction** – design and construction of domestic and commercial buildings with low environmental impacts, incorporating features such as energy efficiency, water efficiency, use of renewable energy and ‘environmentally-friendly’ construction materials.
1.2.2 Land Based Industries

The recent Foot and Mouth epidemic has highlighted the importance of jobs in the environmental economy as a way of sustaining rural employment and communities.

This part of the study (covered in Section 4) focuses on activities in the land based sectors of agriculture, forestry and fisheries which aim explicitly to improve the environment or are dependent on a high quality environment. Many of these activities can also promote the diversification of rural economies. The following activities are covered:

- **Agri-Environment** – Agricultural activities which receive financial grants or subsidies in return for undertaking environmental protection or enhancement work, for example:
  - *Environmentally Sensitive Areas (ESAs)*: Incentives are offered to farmers within these areas to adopt agricultural practices which will safeguard and enhance the rural environment and create improvements in public access.
  - *Countryside Stewardship Scheme* targets the conservation and enhancement of some key English landscapes, features and habitats, and where appropriate, improvements in public access.
  - *CSS Arable Stewardship Scheme*: Relates to wildlife enhancement in arable areas.
  - *Moorland Scheme*: The Moorland Scheme, now closed to new applicants, provides money to upland farmers outside ESAs to reduce stocking densities and manage land to improve the condition of moorland.
  - *Habitat Scheme*: The Habitat Scheme gives annual payments per hectare for management or set-aside of waterside land. This scheme is also now closed, although a number of agreements are still in operation.

- **Organic Farming** – This is included in the study because organic farming tends to involve production techniques which reduce environmental impacts, through, for example, reduced use of pesticides.

- **Regional Produce** - Whilst regional produce does not inherently involve environmental improvement or protection, much regional produce is branded on the quality of the environment. Local or regional produce also often involves shorter journeys to market – thereby reducing the environmental impacts of transporting the produce.
• **Environmentally Beneficial Forestry** - As with agriculture, the study focuses on forestry activities which aim to bring environmental improvement. All woodland creation and management activities are covered in the study because these are required by the UK Forestry Standard \(^1\) to be carried out in a way which promotes environmental improvement and sustainable development. The study does not include timber processing (e.g. sawmilling) and marketing of forestry products because the links between these activities and environmental improvement are less explicit.

• **Fishing** – Commercial and recreational fishing activities are to a large extent based on the quality of the environment and these activities can help support income and employment in rural areas.

1.2.3 **Capitalising on a High Quality Environment**

A high quality environment is increasingly recognised as contributing to economic activities such as tourism and inward investment, as well as overall quality of life, making a region a more attractive place in which to live and work. Under this category (see Section 5), the study covers:

• **Tourism** activities which are dependent on a high quality natural or historic built environment.

• **Physical regeneration activities** which aim to improve the quality of the physical environment in order to drive economic development and enhance quality of life – e.g. remediation and redevelopment of brownfield sites in urban and rural areas.

• **Inward Investment** - Locational decisions of businesses are influenced by a range of factors such as proximity to markets, availability of skilled workforce, cost base, availability of grant incentives, quality of transport links and the quality of the local/regional environment. Although difficult to quantify, the study examines the significance of the environment to inward investment decisions in the East Midlands.

• **Quality of Life** – A high quality environment can promote quality of life, which in turn helps to retain and attract skilled personnel and investment to a region and to rural areas (potentially important role in sustaining and developing rural economies). This effect is difficult to quantify in terms of job numbers or contribution to regional GDP - the study therefore uses qualitative analysis to illustrate the relationship.

1.3 **REPORT STRUCTURE**

The report is structured into the following sections:

**Section 2 - Regional Context.** Provides an overview of the economic setting and environment of the East Midlands, as well as regional development priorities.

**Section 3 - The Environment Industry.** Presents the current size and nature of the environmental industry in the East Midlands.

**Section 4 - Land Based Industries.** Describes activities in land based industries in the East Midlands designed to bring environmental improvements, as well as benefits such as diversification of rural economies.

**Section 5 - Capitalising on a High Quality Environment.** Examines the contribution of the environment to economic activities in the East Midlands such as tourism and inward investment.

**Section 6 - Growth Potential.** Examines the potential for developing the environmental economy in the future, and for enhancing its contribution to the region’s economy.

**Section 7 - Moving Forward** - Recommends actions for increasing the contribution of the environment to the region’s economy.
2. REGIONAL CONTEXT

This section provides an overview of the region’s environment, its economy and the region’s development priorities. This study highlights how the environmental economy can make an important contribution to these regional development priorities.

2.1 OVERVIEW

The East Midlands covers 12% of England’s total land area and includes the Counties and Unitary Authorities of Derbyshire, Leicestershire, Lincolnshire, Northamptonshire, Nottinghamshire and Rutland.

It has a population of approximately 4.2 million (2001) representing 7% of the UK total (59.9 m) (1). Between 1981 and 2000 the region’s population increased from 3.8 million to 4,207,900, a rise of over 9% (2). The East Midlands has a number of densely populated urban areas, but overall is not a very urbanized region and has large, relatively sparsely populated rural areas. Approximately 80% of the East Midlands is classed as rural and rural areas contains 37% of the region's population, compared with only 20% nationally (3).

2.2 THE REGIONAL ECONOMY

As highlighted in strategic documents such as the Integrated Regional Strategy, the Regional Economic Strategy and Regional Planning Guidance, the economy of the East Midlands is characterised by wide intra-regional variation in terms of economic performance, economic structure, unemployment and rates of business formation. Features of the region’s economy include the following:

- The economy has been growing more quickly than the UK average for nearly 20 years.
- The East Midlands has consistently lower unemployment than the national average (3.2% versus 3.4% for the UK) – although unemployment ranges from 0.7% in Rutland UA area, to 6.4% in Bolsover.

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• The region has a long tradition in manufacturing and a larger manufacturing sector than the national average. Manufacturing accounts for 28.8% of regional GDP (UK 21.3%) and 23.3% of all jobs in the region (England 15.7%).
• The economy has a large and diverse small firms base, benefits from a central location in the UK and scores consistently highly on measures of quality of life.

Despite these strengths, weaknesses in the regional economy include:

• Gross Domestic Product (GDP) per head which is below the UK average (£12,146 in 1999 compared to the UK average of £12,972).
• Decline in traditional sectors such as textiles, coal mining, manufacturing and engineering and relatively slow expansion in growth sectors such as telecommunications and business services.
• Economic change has had a significant impact within the East Midlands resulting in a marked decline in employment opportunities in many of our traditional industries including agriculture, coal mining, textiles and clothing. Such economic change has destabilised communities and changed the incidence of social exclusion across the region.
• Areas facing major regeneration challenges include some urban areas, the coalfields and rural communities. Many of the problems in these areas stem from a legacy of industrial decline.
• East Midlands “has not performed particularly well in terms of attracting inward investment”\(^{(1)}\).
• Decline in the numbers employed in agriculture and the related problems facing the rural economy.

“A critical conclusion is that the Region has continued to do well despite its economic structure, not because of it. Our current industrial base will not deliver the future to which we aspire. We need a step change, modernising our industrial base and in the process providing quality employment for our people” \(^{(2)}\).

In the face of this economic setting, regional partners have identified strategic priorities for the East Midlands, including those identified in Box 2.1. This report demonstrates how the environmental economy can contribute to these priorities, and indeed, to the region’s Vision and objectives for shifting towards sustainable development as presented in the Integrated Regional Strategy – see Box 2.2.

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\(^{(1)}\) Regional Planning Guidance for the East Midlands, 2002.
Box 2.1  **Regional Economic Priorities identified in the Integrated Regional Strategy**

- Promoting the benefits of learning…and making learning more accessible
- Increasing the number of businesses that innovate and encouraging technology transfer.
- Increasing the volume of international trade by East Midlands businesses.
- Stimulating the competitiveness of the Region’s priority sectors, e.g. through cluster development and an East Midlands Manufacturing Excellence Network.
- Encouraging business start-up and growth, by creating a high quality business support infrastructure – including better access to finance, e.g. through new venture capital funds.
- Improving access to services and business opportunities.
- Promoting the East Midlands within the Region, in the UK and overseas, as part of an ongoing regional marketing campaign.
- Securing existing, new and follow-on foreign direct investment in the Region.
- Improving the quality of the Region’s tourism product.
- Improving the quality of the Region’s natural and built environment and encouraging the growth of the environmental economy.
- Tackling social exclusion through economic inclusion, e.g. by promoting social enterprises and innovative social and community finance measures.
- Revitalising the former coalfields communities through an economic regeneration strategy.
- Promoting an urban renaissance through an Urban Action Plan.
- Promoting economic regeneration in the Region’s rural areas, through a Rural Action Plan, including measures focusing on the needs of market towns.


Box 2.2  **The Integrated Regional Strategy for the East Midlands**

*Our Vision:* The East Midlands will be the most progressive region in Europe, recognised for its high quality of life achieved through a vibrant economy, rich cultural and environmental diversity and sustainable communities.

We will make progress through:

- **Enterprising and innovative businesses** that can compete in the global market place, driven by and rewarding the knowledge and talents of their people.
- **Communities that empower people**, are safe and healthy combat discrimination and disadvantage and provide hope and opportunities for all.
- **Conserving and enhancing** the diverse and attractive **natural and built environment** and cultural heritage of the Region and ensuring prudent management of resources now and for future generations.
- **Sustainable patterns of development** which enable social, environmental and economic progress.
2.3 THE REGION’S ENVIRONMENT

The East Midlands is an extremely diverse region with a large range of high quality environmental assets. The landscape is made up largely of lowlands, which contrast with the fenlands of south Lincolnshire, the rugged uplands of the Peak District in northern Derbyshire and the Lincolnshire Wolds.

As noted in Regional Planning Guidance, “The region’s environment contributes much to its identity, and to the quality of life of its inhabitants. A high proportion of the region’s land area is rural and provides tranquillity, leisure and recreation opportunities for urban inhabitants as well as for those who live in the countryside”.

Prominent environmental assets include:

- The Peak District National Park.
- The Lincolnshire Wolds Area of Outstanding Natural Beauty.
- The Derwent Valley World Heritage site.
- Forests and woodlands such as the National Forest, Greenwood and Sherwood Forests.
- The Lincolnshire coast.
- Gibraltar Point and The Wash.
- Rutland Water.
- Waterways, canals and rivers such as the Neane and Trent.
Figure 2.1 The East Midlands Environment
The region has three Ramsar\(^{(1)}\) sites, at Gibraltar Point, The Wash and Rutland Water. All of these are associated with Special Protection Areas (SPA) for birds. In addition, the Pennine Moors of the Peak District have been designated as SPA’s. The region also contains seven National Nature Reserves and over 330 Sites of Special Scientific Interest (SSSI’s), several of which are also sites designated as being of international importance.

The region’s historic built environment, in urban and rural areas, “makes an important contribution to the region’s character, is vital to the quality of life, attracts tourists from outside the region and from overseas, and contributes very significantly to the regional economy”\(^{(2)}\). These assets include:

- many notable historic buildings such as Lincoln Cathedral, Nottingham Castle, Peveril Castle, Kirby Hall, Gainsborough Old Hall, Bolsover Castle, Ashby de la Zouch Castle, Belvoir and Chatsworth;
- historic battlefields, such as Bosworth and Naseby;
- towns and cities of historic and architectural importance, such as Lincoln, Stamford, Buxton, Boston and Chesterfield.

Despite the considerable environmental assets in the East Midlands, the region’s environment faces a range of pressures or threats. For example, Regional Planning Guidance states that: “Over the last century the East Midlands suffered perhaps the worst decline in biodiversity of any English region...This has been exacerbated by widespread loss of features such as woodlands, hedges, heathlands, wetlands and species-rich grasslands, which have severely damaged the ecological ‘health’ of the region”\(^{(2)}\).

The Integrated Regional Strategy and documents such as “Viewpoints on the East Midlands Environment” (1999) and the Regional Assembly’s draft “Environment Strategy” (2002) have identified key environmental challenges and issues for the East Midlands – see Box 2.3. Again, the activities within the environmental economy can make a significant contribution to addressing these priorities.

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\(^{(1)}\) Ramsar sites are wetland conservation sites, named after the city of Ramsar, Iran which hosted the 1971 Convention on Wetlands.

Box 2.3  

**Environmental Challenges for the East Midlands – contained in the Integrated Regional Strategy**

- To bring our lifestyle in balance with our shared environment.
- To achieve wise use of land and maximise environmental benefits from development.
- To create a high quality built environment for all.
- To continue improvements in the quality of the Region’s water resources and to bring its consumption into balance with its natural supply.
- To manage the Region’s coastline and floodplains in ways which maintain and enhance their environmental assets.
- To minimise greenhouse gas emissions and protect the environment when adapting to the challenges and opportunities presented by climate change.
- To achieve a competitive and sustainable agricultural industry which protects and enhances the environment.
- To minimise the harm transport causes to the environment.
- To halt and reverse the decline in the Region’s characteristic biodiversity.
- To safeguard and promote all environmental characteristics that contribute to local distinctiveness.
- To minimise and make full use of any waste produced by enhancing the environment.
This section examines the economic significance of the ‘environmental industry’ in the East Midlands. The private, public and voluntary sector organisations that make up the ‘environment industry’ in the East Midlands employ approximately 26,000 people. This is clearly a sizeable sector in the East Midlands’ economy – and is comparable in size to sectors such as manufacture of electrical and optical equipment (28,600 employees) and agriculture, forestry and fishing (24,000 employees).

Table 3.1 Summary of Employment in the East Midlands’ Environmental Industry

<table>
<thead>
<tr>
<th>Number of employees</th>
<th>Output (GDP) £ million1</th>
<th>Section Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Businesses Supplying Environmental Goods and Services</td>
<td>20,100</td>
<td>£502</td>
</tr>
<tr>
<td>Academic institutions</td>
<td>585</td>
<td>£7.3</td>
</tr>
<tr>
<td>Environmental management in industry</td>
<td>808</td>
<td>£14.1</td>
</tr>
<tr>
<td>Public Sector environmental posts</td>
<td>4,015</td>
<td>£70.3</td>
</tr>
<tr>
<td>Voluntary sector organisations</td>
<td>495</td>
<td>£6.2</td>
</tr>
<tr>
<td>Total</td>
<td>26,003</td>
<td>£600.4</td>
</tr>
</tbody>
</table>

Note 1: Based on GDP per head figures ranging between £12,500 - £25,000 per head.

The size of the environmental industry compares favourably with other UK regions – as illustrated in Table 3.2 which shows employment in businesses supplying environmental goods and services. The East Midlands’ sector is large both in absolute terms, and also as a percentage of total regional employment (right hand column) – which indicates the relative importance of the sector to the regional economy.

Table 3.2 Regional Environmental Goods and Service Sectors

<table>
<thead>
<tr>
<th>No. of environmental suppliers</th>
<th>Estimated ‘Regional’ Employment</th>
<th>EGS employment as a % of regional employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East (NE)</td>
<td>750</td>
<td>14,000</td>
</tr>
<tr>
<td>West Midlands (WM)</td>
<td>1,600</td>
<td>24,000</td>
</tr>
<tr>
<td>East Midlands (EM)</td>
<td>1,200</td>
<td>20,000</td>
</tr>
<tr>
<td>Wales</td>
<td>660</td>
<td>12,000</td>
</tr>
<tr>
<td>Yorkshire &amp; Humber (YH)</td>
<td>1,000</td>
<td>20,000</td>
</tr>
<tr>
<td>North West (NW)</td>
<td>1,400</td>
<td>24,000</td>
</tr>
<tr>
<td>East of England (EE)</td>
<td>n/a</td>
<td>16,000 *</td>
</tr>
<tr>
<td>South East (SE)</td>
<td>n/a</td>
<td>24,000 *</td>
</tr>
<tr>
<td>Northern Ireland (NI)</td>
<td>200</td>
<td>4,000 *</td>
</tr>
</tbody>
</table>
The environmental industry is a diverse and dynamic sector which has seen high rates of growth in the last twenty years throughout OECD countries. As illustrated in Figure 3.1, the world market for environmental goods and services was estimated at approximately US$515 billion in 2000 and is forecast to grow to US$688 billion by 2010 (1) – this puts it on a par globally with sectors such as pharmaceuticals and aerospace.

Figure 3.1  Global Environmental Markets - Forecast to 2010

The UK market is estimated to be worth approximately £15 billion and the sector currently employs approximately 170,000 people in the UK.

The sector has its roots in long established activities such as wastewater treatment, air pollution control and solid waste management. ‘Newer’ and fast growing parts of the sector include renewable energy and ‘cleaner’ technologies.

3.1.1 Environmental Businesses in the East Midlands

The following analysis of the environmental industry in the East Midlands is based on range of data sources, including a postal survey sent to

(1) ERM for JEMU "Global Environmental Markets and the UK Environmental Industry – Opportunities to 2010", 2002
environmental businesses in the region during the course of this study and sector analysis previously undertaken by the *Environmental Industries Pathfinder Group*.

Analysis has identified over 900 suppliers of environmental goods and services in the East Midlands, employing approximately 20,100 people. *Table 3.3* shows how the environmental industry is broken down by sub-sector and *Table 3.4* shows its distribution across the East Midlands.

### Table 3.3  Summary of Environmental Businesses in the East Midlands

<table>
<thead>
<tr>
<th>Sub-Sector</th>
<th>Number of companies:</th>
<th>Estimated employment:</th>
<th>Percentage of Total Employment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste management</td>
<td>418</td>
<td>7695</td>
<td>38%</td>
</tr>
<tr>
<td>Water &amp; wastewater treatment&lt;sup&gt;1&lt;/sup&gt;</td>
<td>52</td>
<td>1820</td>
<td>9%</td>
</tr>
<tr>
<td>Energy management</td>
<td>3</td>
<td>2500</td>
<td>12%</td>
</tr>
<tr>
<td>Air pollution control</td>
<td>56</td>
<td>2075</td>
<td>10%</td>
</tr>
<tr>
<td>Environmental monitoring &amp; instrumentations</td>
<td>54</td>
<td>1775</td>
<td>9%</td>
</tr>
<tr>
<td>Environmental consultancy services</td>
<td>49</td>
<td>1204</td>
<td>6%</td>
</tr>
<tr>
<td>Contaminated land remediation</td>
<td>94</td>
<td>911</td>
<td>5%</td>
</tr>
<tr>
<td>Landscape industries</td>
<td>46</td>
<td>804</td>
<td>4%</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>70</td>
<td>560</td>
<td>3%</td>
</tr>
<tr>
<td>Noise &amp; vibration control</td>
<td>27</td>
<td>444</td>
<td>2%</td>
</tr>
<tr>
<td>Environmental law</td>
<td>37</td>
<td>284</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>28</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>911</strong></td>
<td><strong>20,100</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Sources include: Pathfinder database, JEMU database and study business survey.

Note 1: WWT includes water utility companies.

### Table 3.4  Environmental Industry Employment by County

<table>
<thead>
<tr>
<th>County</th>
<th>Number of companies:</th>
<th>Employment:</th>
<th>% of employment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derbyshire</td>
<td>197</td>
<td>4,762</td>
<td>24%</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>248</td>
<td>5,158</td>
<td>26%</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>135</td>
<td>3,968</td>
<td>20%</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>127</td>
<td>2,090</td>
<td>10%</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>204</td>
<td>4,123</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>911</strong></td>
<td><strong>20,100</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### 3.1.2  Summary of Sector Analysis

Analysis has highlighted that the environmental goods and services sector in the East Midlands is a large and growing sector, which:
• is sizeable and strong compared to other UK regions;
• has particular strengths in sub-sectors such as land remediation, air pollution control, waste management, water treatment technologies, energy management, renewable energy and sustainable construction;
• contains well-established, leading international businesses – including large companies and smaller niche specialists;
• contains many ‘new’ and growing companies – including businesses which have recently diversified towards growing environmental markets from sectors such as engineering and metal fabrication;
• has a strong manufacturing base, linked to other manufacturing industries in the region – including an extensive network of component suppliers to manufacturers of environmental technologies;
• generates significant amounts of revenue from outside the region – elsewhere in the UK and overseas;
• has significant potential for future growth if businesses can capitalise on future market opportunities in the UK and overseas.

Particular sub-sector strengths in the region are summarised in Box 3.1.

**Box 3.1 Sub-Sector Strengths in the East Midlands’ Environmental Sector**

- **Waste management and recycling** – Including many waste management and recycling suppliers and some well-established technology manufacturers such as J. MacIntyre Machinery Ltd in Nottingham which manufactures metal recycling equipment.
- **Air pollution control** – Including leading international suppliers such as Torit DCE Ltd in Thurcaston, Codel International Ltd in Bakewell and Eminox Ltd in Gainsborough. These companies are active throughout the UK and overseas – Torit DCE, for example, generates approximately 70% of its revenue from overseas markets.
- **Water and wastewater treatment** – Including leading international suppliers of water treatment technologies such as Memcor Ltd in Matlock and Wirksworth, ITT Flytt in Nottingham, as well as consultancies involved in the design and servicing of water treatment facilities for the water industry and other sectors.
- **Energy management** – Including very large companies such as Alstom Power, CPL Industries in Chesterfield (which amongst other supplies landfill gas systems); and many smaller energy management consultants and technology producers such as Alkane Energy UK Ltd in Edwinstowe, Nottinghamshire.
- **Renewable energy** – Including well established manufacturers of renewable energy technologies such as Jenkins Newell Dunford Ltd in Retford, Nottinghamshire which manufactures a range of products including waste to energy plant; and Marlec Engineering Co Ltd in Corby which manufactures wind turbines and generators.
- **Contaminated land remediation** – Including leading land remediation specialists and technology suppliers such as International Mining Consultants Ltd in Sutton-in-Ashfield, Detech Environmental Ltd in Chesterfield and Telluric Ltd in Ilkeston. Innovative remediation techniques are also being developed in the region, including flagship reclamation projects such as the Avenue Coking Works at Wingerworth near
• **Noise and vibration control** – Including many suppliers of NVC services and manufacturers of noise control systems such as Isolated Systems Ltd in Heanor, Derbyshire and Industrial & Marine Silencers Ltd in Shepshed, Leicestershire.

• **Environmental consultancies** - Includes a number of well established environmental consultancies which are active in the UK and overseas, e.g. the IMC Group Consulting Ltd based in Sutton-in-Ashfield and Scientifics Ltd in Derby.

• **Sustainable Construction** – As well as strengths in areas such as energy management, the region has some strong experience in sustainable construction – examples include the Sherwood Energy Village.

The region’s strengths in the environmental industry have stemmed from a range of factors, including:

• The East Midlands’ long track record in engineering and manufacturing – providing skills which are now very relevant to the manufacture of environmental technologies.

• Extensive geo-technical skills developed in the mining industry which lend themselves well to fields such as land remediation.

• Well established energy and power generation sectors which fit well with fields such as energy management, air pollution control and renewable energy.

• The region’s strong industrial tradition which has led to the development of many environmental suppliers in the region in areas such as air pollution control, noise and vibration control and effluent treatment.

• Some strong environmental technology R&D capabilities amongst the region’s universities – some of which work closely with environmental suppliers in the region.

3.1.3 **Business Survey Findings**

Other characteristics of the environmental industry in the East Midlands, as revealed in the 130 responses to the survey of environmental suppliers undertaken during the study, are summarised below.

**Range of Activities – ‘strength in manufacturing’**: The sector contains a very strong manufacturing component (e.g. manufacturers of air pollution control, waste recycling and renewable energy technologies). 38% of surveyed companies reported that they were involved in manufacturing – this is high compared to other UK regions where environmental industries are often more dominated by providers of services and consultancy.
**Company Size:** The environmental sector in the East Midlands consists mainly of small and medium sized companies (see Figure 3.2). 87% of surveyed companies employ fewer than 50 people, and over 50% of firms generate less than £1 million in turnover (see Figure 3.3). This pattern is typical of the sector throughout the UK and Europe.

There are, however, a good number of larger players in the region, including the water companies Anglian Water Group and Severn Trent; and large waste management operators such as Shanks Waste, UK Waste, Biffa and regional players such as Lincswaste Ltd; and consultancies such as the IMC Group. However, many of the larger companies present in the region have head offices outside the East Midlands (e.g. Severn Trent and Shanks).

*Figure 3.2  Company Employment (% of surveyed companies)*

*Figure 3.3  Company Turnover amongst surveyed companies*
Company Ownership: The majority of surveyed companies (83%) are independently owned. The remaining 17% of firms are subsidiaries of larger UK or overseas companies. The sector includes the subsidiaries of leading international environmental suppliers, which supply to UK markets as well as exporting throughout the world – examples, include the German waste bin manufacturer Otto UK Ltd in Swadlincote; and Memcor in Wirksworth which manufactures membrane technologies for water treatment and is part of the large French owned Vivendi Environment Group.

Year Established: As shown in Figure 3.4, the environmental industry in the East Midlands contains many recently established companies - approximately 45% of surveyed firms have been established since 1991. This indicates the high rates of sector growth.

Recent Growth: The environmental industry is a sector with good prospects for future growth. Almost 80% of surveyed companies reported growth or high growth (> 20% per year) in turnover in the last 3 years (see Figure 3.5). Over 50% of surveyed companies also reported growth or high growth in profit margins. Fewer than 11% of surveyed companies reported declines in turnover, profit margins or employment in the last three years.

Importantly, growth has been achieved throughout the industry - across different sub-sectors and in manufacturing as well as supply of environmental services – see Figure 3.6.
Diversification: The sector includes ‘pure’ environmental suppliers which generate 100% of their turnover from environmental markets, and firms which also operate in other sectors - for example, Alstom Power which is a leading supplier of power generation equipment, as well as supplying energy management expertise and renewable energy technologies. The industry also contains many companies which have diversified into the environmental from other sectors such as metal fabrication and engineering in the face of declining traditional markets in industries such as coal mining and textiles. Accessing environmental markets has helped to sustain and diversify these companies and the region’s long-established engineering sector.
**Increasing Export Activity:** 49% of surveyed companies reported that they are active in overseas markets. Of these exporters, 47% reported that exporting activity has increased in the last 3 years. In addition, 84% of the surveyed companies reported that they were active elsewhere in the UK outside the East Midlands. This indicates that environmental businesses in the East Midlands are strongly competitive in national and international markets and generate valuable export revenues for the region’s economy.

The majority of surveyed companies reported that they had experienced growth in revenues from markets in the East Midlands, the rest of the UK and overseas (see *Figure 3.7*).

*Figure 3.7*  **Recent Growth in Revenue – by Geographic Market in last 3 years**

*Figure 3.8* shows the international markets in which East Midlands environmental businesses are active – including Western Europe, the US, South East Asia, China, Africa and the Middle East. This indicates that many East Midlands suppliers have strong exporting capabilities and are capable of capitalising on opportunities in fast growing overseas markets (see *Section 6*).
Forecast Future Performance: Surveyed companies are very positive about future prospects for growth. Approximately 80% of companies forecast growth in turnover and profit margins over the next three years (see Figure 3.9). Of these, 23% predict high growth in turnover (of over 20% per annum). Only 1.4% and 4% of companies predicted a fall in turnover and profitability respectively over the next three years.

Business Drivers: Companies report that their businesses are being driven by a range of market drivers. Notably environmental regulations, and growth in demand for renewable energy, waste recycling, the implementation of environmental management systems in industry and growing environmental awareness amongst consumers.
Research and Development Activities: One third of surveyed companies reported that they had links with academic and/or commercial research and development organisations to assist with service and technology innovation. R&D organisations mentioned include those in Box 3.2. This reflects the importance attached by many companies to innovation in order to capitalise on environmental market opportunities.

Box 3.2  
**R & D Organisations Working with Environmental Suppliers in the East Midlands**

<table>
<thead>
<tr>
<th>University of Luton</th>
<th>Nottingham Trent University</th>
<th>Loughborough University</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Nottingham</td>
<td>Stephenson College, Coalville</td>
<td>University of Greenwich</td>
</tr>
<tr>
<td>University of Sheffield</td>
<td>University of Dundee</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>University of Derby</td>
<td>Northampton University</td>
<td>Leicester University</td>
</tr>
<tr>
<td>University of Lincoln</td>
<td>British Biogem</td>
<td>Rutherford Laboratories</td>
</tr>
</tbody>
</table>

Trade Associations: 66% of companies are members of business or trade associations.

Support needs identified by environmental businesses and future growth potential are examined in Sections 6 and 7.

3.2  
**ACADEMIC INSTITUTIONS**

The research, consultancy and business support activities of East Midlands Higher Education and Government Research Institutions cover all aspects of the environmental economy. An estimated 585 people are employed in environmental posts in academic institutions, including those identified in Box 3.3.

Box 3.3  
**Academic Institutions involved in the Environmental Economy in the East Midlands**

- **The British Geological Survey**, which has its headquarters in Keyworth, Nottingham and which undertakes a wide range of environmental activities including pollution control and waste management in the extractive industries, geo-technical and groundwater quality studies.
- **De Montfort University**, including the Institute of Energy and Sustainable Development which encompasses a number of research fields, including energy saving building materials, use of renewable energy sources and the incorporation of sustainable technologies and practices into the architecture and building design.
- **University of Derby**, including the Centre for Environmental & Applied Science
Research.

- **Loughborough University**, including the Water, Engineering and Development Centre (WEDC) and research groups such as the Separation Processes group, the Power and Renewable Energy group and the Sustainable Process Development group.

- **Nottingham Trent University**, including the Applied Energy and Environmental Engineering Group, the Dept of Life Sciences, the Dept of Land Based Studies and activities relating to the region’s environmental industry undertaken in the Business School.

- **University of Nottingham**, including the School of Chemical, Environmental and Mining Engineering, the Institute of Environmental Sciences and School of Biosciences.

- **University College Northampton**, including the School of Environmental Science, the British School of Leather Technology, the School of Technology and Design and the Moulton School of Land and the Environment.

A survey of environmental expertise in academic institutions in the East Midlands undertaken by Nottingham Trent University as part of this study identified:

- a total of 142 research and expertise groups based in the East Midlands, employing approximately 350-380 people. They are broken down by environmental sector in Table 3.5; and

- 30 environmental centres or institutes in the region with considerable research expertise and self funding – there are an estimated 220 environmental posts in these bodies (including researchers, technical experts and administrative staff).

### Table 3.5 Environmental Research and Expert Groups in the East Midlands

<table>
<thead>
<tr>
<th>Environmental sub-sector</th>
<th>Number of Research and Expert Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy and energy management</td>
<td>23</td>
</tr>
<tr>
<td>Environmental management and services</td>
<td>14</td>
</tr>
<tr>
<td>Environmental ecology</td>
<td>13</td>
</tr>
<tr>
<td>Sustainable process and technology</td>
<td>11</td>
</tr>
<tr>
<td>Waste management and recycling</td>
<td>10</td>
</tr>
<tr>
<td>Contaminated land reclamation</td>
<td>10</td>
</tr>
<tr>
<td>Water and waste water</td>
<td>10</td>
</tr>
<tr>
<td>Built environment</td>
<td>9</td>
</tr>
<tr>
<td>Air Pollution</td>
<td>8</td>
</tr>
<tr>
<td>Environmental monitoring and instrumentation</td>
<td>5</td>
</tr>
<tr>
<td>Environmental technical consultancy</td>
<td>4</td>
</tr>
<tr>
<td>Marine pollution control</td>
<td>2</td>
</tr>
<tr>
<td>Noise and vibration</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>142</strong></td>
</tr>
</tbody>
</table>
Particularly active areas of environmental research in the East Midlands include:

- **Energy and energy management**, including energy efficiency technologies and renewables – involving many collaborative projects with the energy sector in the region.
- **Contaminated land remediation** and reclamtion – including the development of remediation techniques and site investigation activities.
- **Pollution control** including air pollution control research in areas such as monitoring, modelling and abatement technologies; and water and wastewater treatment, including engineering of wastewater treatment facilities and development of effluent treatment technologies such as microfiltration and other separation techniques.
- **Sustainable processes and technologies** – including development of ‘cleaner’ manufacturing processes and products.
- **Waste management and recycling** – including research into the development of recycling techniques.
- **Environmental management and services** – including environmental management in industry and ecological impact studies.

Many of the academic institutions already work closely with businesses in the environmental industry. Strengthening these links further in the future will be an important part of developing the region’s environmental industry. Actions to help strengthen these links are included in Section 7.

### 3.3 Cost Effective Environmental Management in Industry

Environmental management in industry help companies to meet environmental regulations and reduce costs - thereby enhancing industrial competitiveness.

**It is estimated that there are 808 environmental management posts in industry in the East Midlands** (1).

Experience clearly demonstrates that companies can make significant cost savings by adopting environmental good practice. Activities such as waste minimisation, environmental management systems, control of air emissions

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(1) This estimate is based on data from the Institute of Environmental Management and Assessment (IEMA) which estimates that there are between 7,000 and 10,000 environmental management posts in UK industry. Extrapolating on the basis of regional value added by the manufacturing sector (East Midlands represents 9.5% of UK manufacturing value added), this gives 665 to 950 (mid-point 808).
and solvent use, effluent management, recycling and effective use of packaging have led to significant financial benefits for companies.

The Government’s Envirowise programme has demonstrated that waste can cost an average manufacturing company 4% of its turnover per year (1) and that environmental best practice can reduce these costs by as much 50%. With total turnover of manufacturing industry in the East Midlands being £36.9 billion, this indicates that industry could, in theory, reduce costs by £700 million through the adoption of environmental best practice – thereby enhancing industrial competitiveness.

A number of firms in the East Midlands have demonstrated cost savings through improved environmental performance (see Box 3.4). However, take up of environmental best practice amongst manufacturing industry in the East Midlands is still relatively low. For example, of the 78 EMAS registered (the European Union’s environmental management standard for businesses) companies in the UK, only 5 are based in the East Midlands region (2). A total of only 157 companies in the region are registered to the environmental management systems standard ISO 14001, out of a total of 2,251 in the UK.

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(1) Envirowise publication ‘Have you accounted for waste?’ Envirowise Publication Ref ET033
(2) Data from EMAS Helpdesk web-site (2001).
Box 3.4  
Cost Effective Environmental Improvements by Industry in the East Midlands

Welbeck Fabric Dyes employs 170 people at its Derbyshire factory and produces 350,000 metres of fabric per week. Like other dye-houses, considerable amounts of water are needed in the dyeing and fabric finishing processes. Faced with rising costs for water supply and effluent disposal, the company improved process control to reduce water consumption and achieved:

- cost savings of over £32,000 in the first year
- reduction in water consumption of over 37,000 m³ per annum

Water meters were installed throughout the factory to identify areas where savings could be made. In the preparation area, valve settings were optimised to minimise water use without compromising product quality and water recycling was introduced. Other low cost measures in the dyeing area, such as always turning off hoses rather than leaving them running, also lead to savings.

Source: [www.envirowise.gov.uk](http://www.envirowise.gov.uk)

Pentos Office Furniture plc employs 400 people in Ripley, Derbyshire, in the design and manufacture of office furniture. Following a review of packaging processes which aimed to increase efficiency, improve production protection and improve environmental performance, the company installed an automated spiral wrap system for flat-pack furniture. Benefits of the new system included:

- cost savings of over £258,000 per annum in packaging and £338,000 per annum from the reduction in damaged goods;
- overall payback time was six weeks; and
- reduction of 62 tonnes per annum in waste going to landfill, resulting in further cost savings and environmental benefits.

Source: [www.envirowise.gov.uk](http://www.envirowise.gov.uk)

A number of projects and organisations in the region provide industry with support to improve environmental performance, including advice on compliance with environmental regulations, information on available grants and financial support and assistance with waste minimisation and environmental management systems. Examples of these initiatives include:

- Government backed waste minimisation clubs – see Box 3.5, 3.6 and 3.7;
- East Midlands Advisory Group on the Environment (EMAGE);
- CBI East Midlands Environment Committee;
- Midlands Renewable Energy Technology Transfer;
- Business Environment Association (national organisation that evolved from Business Environment Association East Midlands);
• The work of the Institute for Sustainable Development in Business (see Box 3.8); and

• Projects with a waste minimisation aspect, such as the Cosmetics Project, Northamptonshire Business Awards, Northamptonshire Domestic Waste Minimisation and Interreg 2c.
**Box 3.5 Leicestershire Waste Minimisation Association (LWMA)**

Leicestershire Waste Minimisation Association (LWMA) won the Best Waste Minimisation Project of the Year at the National Recycling Awards in 2001 for its work reducing the costs of waste to business. Services include waste reviews and reports, on-site support, training, networking meetings and telephone advice. The use of ‘waste facilitators’ who work with member companies for one day a week over a period of one year to research and implement waste minimisation projects has been particularly successful. Since 1998, LWMA has achieved the following financial and environmental benefits for the 30 company members:

- £0.25 million has already been saved by 12 Project Members;
- potential savings of £0.5 million have been identified for 14 Project Members;
- over 400 waste minimisation opportunities have been identified;
- reduction in waste to landfill of nearly 4,000 tonnes p.a.;
- reduction in energy use of more than 8 million KWh p.a.; and
- further reductions in liquid effluent, emission to air, water use, special waste to landfill and recycled waste

Companies involved in LWMA include: **Tungstone Batteries Ltd**, in Market Harborough, has saved £57,000 to date through better management of lead sludge during plate manufacture, acid disposal and formation baskets used in manufacturing processes; and **Cooper Bussmann**, in Loughborough, an electronics company, which has saved £90,000 to date through the use of energy efficient lighting and modifications to manufacturing processes such as installing soldering covers.


**Box 3.6 Waste Minimisation Clubs in Northamptonshire**

There are seven waste minimisation clubs in Northamptonshire, with the common aim to save money and help the environment through reducing the amount of commercial waste produced by small and medium enterprises. These include:

- **Northamptonshire Resource Efficiency Project (NREP):** A facilitated ‘Self Help’ club which ran for 2 years. The club was aimed at SME’s and worked with 22 companies achieving direct savings of £1.89 million. Club investment was £135,000.

- **Wellingborough Resource Efficiency Project (WREP):** A resource efficiency project focused on SME’s in the Borough of Wellingborough. The project had 17 members and achieved savings of £153,000 over a 1 year period. Total investment was £13,000.

- **Kettering Action on Resource Action (KARE):** A resource efficiency project which focused on SME’s in the Borough of Kettering, Northamptonshire. The project has 14 members and achieved savings of £96,000 over a 1 year period. Total investment was £13,000.

- **Cut Waste – Improve Competitiveness:** This project will join together WREP and KARE (above) and build on their success to develop a network of businesses to exchange information on the reduction of waste. The project aims to target a minimum of 25 companies and reduce waste arisings in line with the Government’s ‘Waste Strategy 2000’ – i.e. reduce waste going to landfill from industry to 85% of 1998 levels by 2005.

- **Corby Waste Not:** A two year waste minimisation project (to be completed in 2002) focusing on businesses, schools and domestic waste reduction issues. Total investment was £66,000 and savings to date total just over £200,000.
Box 3.7  
**The East Midlands Clothing and Textiles Association (EMTEX)**

The East Midlands Clothing and Textiles Association (EMTEX) has over 800 corporate members and is the largest trade body for the clothing and textiles industry in the UK. EMTEX is working in partnership with The Energy Advisors, a Derbyshire based company which offers specialist energy management advice at over 5,000 sites across the UK. Together, they are helping companies reduce greenhouse gas emissions and save money through energy efficiency measures.

EMTEX’s publicity initiatives have raised awareness of the issues throughout the region. Over 20 interested companies have been put in touch with The Energy Advisors who carry out a full energy audit, helping them negotiate with power generators and demonstrating where companies can make energy savings in every day operations.


Box 3.8  
**The Institute for Sustainable Development in Business**

The Institute for Sustainable Development in Business (ISDB) brings together expertise from across Nottingham Trent University to provide sustainable development solutions to business problems. The growth of the organisation has been rapid. Employment has increased from one person part time (0.2 FTE) in 1998 to the current 10, and a further five posts are expected to be created before July.

Through the Centre for Integrated Environmental Management and the Sustainable Business Network the ISDB has assisted over 200 companies. Key activities have included:

- establishing five waste minimisation clubs in partnership with five local authorities;
- helping almost 30 companies draft environmental policies;
- working with 20 companies to carry out waste minimisation projects;
- running seminars attended by over 100 SMEs;
- supply-chain environmental projects;
- helping a large national company implement EMS and reduce packaging waste through the Teaching Company Scheme;
- conducting almost 40 environmental evaluations; and
- providing EMS support for 10 companies, including 4 who intend to be certified.

ISDB are working in partnership with BTCV to run a Millennium Volunteers project (£290,000 over three years), helping young people aged 16 – 24 become involved in voluntary work. To date, 157 volunteers have participated, with 33 completing 100 hours and 24 completing 200 hours. Projects have included practical conservation work, Volunteer Officers for BTCV, teaching children with learning difficulties and helping improve literacy skills in young children.
3.4  

**ENVIRONMENTAL POSTS IN THE PUBLIC SECTOR**

There are approximately 4,015 people employed in environmental posts within public sector organisations in the East Midlands.

**Local Authorities:** Data provided by 8 local authorities was extrapolated to cover the whole of the region on the basis of the population in the local authority area.

This data indicated that there are approximately 3,400 environmental posts in local authorities in the region. *Table 3.6* below shows the activities covered by these local authority posts.

**Other Public Sector Organisations:** A survey of other public sector organisations in the East Midlands identified a further 628 employees in environmental posts (see *Table 3.7*).

Future growth in public sector environmental posts will depend on public sector resource and financing issues and is unlikely to be a significant growth area in the foreseeable future.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No. posts (full time equivalent)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste management activities</td>
<td>1,415</td>
<td>42</td>
</tr>
<tr>
<td>Air pollution control / inspection</td>
<td>88</td>
<td>3</td>
</tr>
<tr>
<td>Wastewater management</td>
<td>117</td>
<td>3</td>
</tr>
<tr>
<td>Protection and management of bathing waters</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Noise and odour nuisance</td>
<td>130</td>
<td>4</td>
</tr>
<tr>
<td>Local Agenda 21, EMAS</td>
<td>68</td>
<td>2</td>
</tr>
<tr>
<td>Wildlife and nature conservation activities</td>
<td>116</td>
<td>3</td>
</tr>
<tr>
<td>Landscape management and landscaping</td>
<td>394</td>
<td>12</td>
</tr>
<tr>
<td>Parks and Gardens</td>
<td>658</td>
<td>19</td>
</tr>
<tr>
<td>Energy efficiency and conservation</td>
<td>108</td>
<td>3</td>
</tr>
<tr>
<td>Derelict and contaminated land</td>
<td>52</td>
<td>2</td>
</tr>
<tr>
<td>Environmental regeneration / improvement schemes</td>
<td>149</td>
<td>4</td>
</tr>
<tr>
<td>Others</td>
<td>71</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,387</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Survey of local authorities undertaken during this study. (1) (2)

(1) Based on assumption of population of East Midlands of 4,191,200 (www.statistics.gov.uk)
(2) Planning activities are not included because environmental protection is not the sole purpose of the planning process and it was not possible to separate out the environmental component of the planning activities.
Table 3.7  Environmental Posts in Other Public Sector Organisations

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Posts</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Countryside Agency</td>
<td>35</td>
</tr>
<tr>
<td>The Environment Agency</td>
<td>500</td>
</tr>
<tr>
<td>English Nature</td>
<td>41</td>
</tr>
<tr>
<td>Government Office East Midlands</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>628</strong></td>
</tr>
</tbody>
</table>

Source: Survey of organisations undertaken during this study.
3.5 **NON-PROFIT MAKING ENVIRONMENTAL ORGANISATIONS**

The environment related activities of non-profit making or voluntary sector organisations represent an important part of the region’s environmental economy. A survey of these organisations identified a total of **495 full time equivalent posts relating to environmental activities in the East Midlands** (see Table 3.8).

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Employment (FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildlife Trusts ¹</td>
<td>108</td>
</tr>
<tr>
<td>Groundwork</td>
<td>105</td>
</tr>
<tr>
<td>The National Trust</td>
<td>195</td>
</tr>
<tr>
<td>RSPB ²</td>
<td>26</td>
</tr>
<tr>
<td>Friends of the Earth – East Midlands</td>
<td>1</td>
</tr>
<tr>
<td>British Trust for Conservation Volunteers (BTCV)</td>
<td>48</td>
</tr>
<tr>
<td>Farming &amp; Wildlife Advisory Group (FWAG)</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>495</strong></td>
</tr>
</tbody>
</table>


Note 2: RSPB offices in Central England, North West and East Anglia cover the East Midlands.

These organisations leverage significant amounts of funding into the region and are directly involved in delivering environmental improvement and protection projects funded through programmes such as:

- The Single Regeneration Budget (SRB);
- European Structural Fund Programmes (e.g. Objective 2) and the European Social Fund (ESF);
- The Government’s New Deal programme including Environmental Task Force projects;
- The Community Investment Fund (CIF); and
- The Landfill Tax Credits Scheme.

The activities of non-profit making environmental organisations generate clear environmental, economic and social benefits:

- environmental benefits include the conservation and enhancement of the natural environment in rural and urban areas and environmental education;
- social benefits include helping excluded groups acquire skills, training and employment and enhanced quality of life to both the volunteers and the communities in which they work; and
• economic advantages by attracting people and investment to the region because of a more attractive environment and increasing the skills and qualifications of the workforce.
Box 3.9  Examples of Voluntary Sector Environmental Projects in the East Midlands
Groundwork works to combine economic and social regeneration with improvements in the physical environment through partnerships with local people, local authorities and businesses. With its network of five local trusts in the East Midlands (Lincolnshire, Greater Nottingham, Ashfield and Mansfield, Creswell and Erewash Valley), Groundwork employs 105 people in the East Midlands, and has a turnover of £10m.

Groundwork is involved in a wide range of projects in the East Midlands. For example, the Erewash Valley Sustainable Enterprise project was set up to help disadvantaged communities which had been hit by decline in coal and textile industry employment. The project aims to help set up environment related community businesses which use local labour to meet local needs for goods and services. Potential community businesses include:

- SCRAP which recycles waste from large retailers, such as IKEA, schools and supermarkets;
- waste exchanges and developing a database of materials for recycling;
- a mobile village shop to replace ‘lost’ local shops and Post Offices closing in rural areas;
- growing organic vegetables on unused allotments; and
- running an LPG bus service to take people from rural areas to work in the towns.

Intermediate labour market projects of this type help the long-term unemployed to develop new skills (e.g. computing) and access mainstream job opportunities; as well helping to establish successful community businesses.


The EcoHouse is a showcase for best practice in sustainable living in domestic housing. Managed by Environ, an environmental charity, with support from Leicester City Council, the EcoHouse demonstrates a range of environmental ideas, such as furniture and flooring made from natural and recycled materials, solar powered water heating, a ‘draft free fresh air’ ventilation system and rainwater collection for flushing toilets. Everything exhibited in the house is commercially manufactured.

Since it opened in 1989, the EcoHouse has attracted over 100,000 visitors, 80% of whom claim to have changed their homes, gardens or lifestyle practices as a result of their visit.

Source: Environ, Making your home an EcoHouse, 2002.

The East Midlands Renewable Energy Technology Transfer (EMRETT) aims to assist the commercialisation of sustainable energy technologies. EMRETT works with industry, academia and government to promote commercial sustainable development through research and dissemination. EMRETT, founded in 1996, has over 160 members, covering large engineering companies, NGOs and SMEs from all over the UK. EMRETT identifies and researches business opportunities within the membership network, and then acts as a link between business and the universities, co-ordinating the research consortium and ensuring the results are widely disseminated. Recent EMRETT projects include:

- Management of a national internet based research network to bring together industry and universities interested in renewable energy research in order to highlight business opportunities for industry relating to renewable energy.
- Project to attract inward investment by renewable energy companies into the region.
- Dissemination of market opportunities and research linked to energy efficient building materials.
- Training students in energy management in the East Midlands through the MSc courses at the universities of De Montfort, Loughborough and Nottingham.
- Development of sustainable liquid fuels from waste; and
- Assisting communities in the development of local renewable energy projects, leading to community regeneration and rural job creation.

3.6 **ENVIRONMENTAL CONSERVATION AND ENHANCEMENT**

The environmental conservation sector is defined as those organisations and businesses directly involved in the conservation and enhancement of the natural and historic built environment. A number of organisations already covered under the categories above are involved in conservation activities, including the Environment Agency, local authorities, English Nature, English Heritage and the RSPB. For this reason, the employment estimate for these activities has not been added to the regional total in order to avoid double counting.

Organisations surveyed during this study report that at least 350 people are involved in conservation activities in the East Midlands (full time equivalent). In addition, surveyed organisations report that they work with approximately 5,800 volunteers (1) on environmental conservation and enhancement projects in the East Midlands. Examples are shown in Box 3.10.

**Box 3.10 Examples of Conservation and Environmental Enhancement Projects**

**Conkers** is a business that offers a range of tourist attractions, including outdoor activities such as nature trails and an assault course, restaurants, specialist shops and craft workshops, tailor made education courses and conference facilities. It is built on land owned by the Heart of the National Forest Foundation, a not-for-profit organisation, and all profits from the business go towards the wider restoration and economic development of reclaimed land within the National Forest.

Conkers has been built on remediated spoil heaps at an old colliery site. A visitors centre opened three years ago on a 12 acre site and a new 120 acre Discovery site opened in April 2001. The centre will have had 260,000 visitors by the end of February and have generated £1.2 million in revenue. At peak times, it employs 80 people, falling to 35 when tourism is lower.

There have been many small environmental projects taking place around the site, all with the underlying principle of maximising the involvement of the general public. For example, visitors helped build a 10 m long willow screen which provides a backdrop to a sculpture, protects visitors from a steep bank and contains peep-holes for bird observations. Several hundred volunteer hours have ensured the success of the environmental projects, including New Deal participants and local school children and pensioners.

The company aims to achieve 5 – 10% growth per annum, with a target 250,000 people per annum. They aim to expand the educational side of the business and further benefit the local economy through increasing the number of tourist overnight stays.

*Source: www.visitconkers.com, Mike Stickland pers. comm., Helen Fenby pers. comm.*

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(1) The figures given are an underestimate of the true number of people involved and the true regional spend. The relate to only 13 organisations (of the 70 non-commercial organisations who received a questionnaire), and do not included the numerous small organisations with limited staff and budgets but who make a significant contribution to the environment.
Box 3.10 (continued)

**Treswell Wood** is a 118 acre ancient woodland which has remained largely unchanged since the time of the Domesday Book. Through bringing the woodland back under a traditional coppicing management regime, the Nottinghamshire Wildlife Trust has enhanced the reserve’s biodiversity whilst also generating income for the reserve, creating jobs and enhancing the recreational value of reserve.

Cutting different areas of the wood on a seven to thirty year cycle creates a diversity of habitats that allows more species to survive than in an unmanaged woodland. Moreover, timber products such as fence posts and timber for construction are collected and sold on by local woodsmen.

Some of the woodland has been cut and traditional techniques used to make charcoal, which is then sold on in the local area. The Trust has recently taken over management of the charcoal manufacturing from a local company and is planning to expand into other reserves.

A local farmer has diversified his business through grazing pigs in the woodland and selling the free range meat in his local farm shop. This has the additional benefit of controlling the brambles in the woodland, which reduce access to wild flowers and limit recreational use.

*Source: Erin McDaid, pers. comm.*

**Economic Benefits:** Nature conservation activities provide economic as well as environmental and social benefits – as illustrated in Box 3.11. They can help to strengthen rural economies by generating direct employment (generating an estimated 18,000 full time equivalent jobs exist in the UK (1)); helping to attract visitors and tourists to rural areas; and direct expenditure by conservation organisations provides revenues for local businesses.

The majority of jobs in nature conservation are in the public sector, split between 50% in national bodies and 30% in local authorities and national parks. The remaining 20% are in the voluntary sector (2).

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(1) Rayment and Dickie (2001) “Conservation Works... for local economies in the UK”
(2) Scottish Natural Heritage (1996) “Employment in the natural environment sector”
Box 3.11 Economic Impact of the Wildlife Trusts in the East Midlands

The Wildlife Trusts in the East Midlands have been working with Sheffield Hallam University on the significance of nature conservation to local and regional economies. Further details on the impact of associated nature based leisure and tourism is given in Section 5.

Direct expenditure by the Wildlife Trusts in the East Midlands is approximately £4 million p.a. Using a multiplier effect of 1.45 developed by the National Trust, this gives a total estimated impact of £5.8 million.

Direct employment by the Trusts is 108 full-time equivalent employees. In addition, the visitors to Trust sites spend over £9 million p.a. This leads to additional employment. The figures below are based on multipliers developed by the Countryside Agency for the impact of visitor spend on the local economy:

| Direct employment (of those supplying goods and services to visitors) | 250 |
| Direct employment (of those who supply those businesses) | 27 |
| Induced jobs (supported by the spending of employees) | 14 |
| Total | 291 |


3.7 SUMMARY

The environmental industry in the East Midlands encompasses the activities of a wide range of private, public and voluntary sector organisations and employs a total of 26,000 people. This is therefore a significant part of the regional economy. As shown in Section 6, there is considerable potential for growth - for example, prudent forecasts indicate that employment in businesses supplying environmental goods and services in the region could increase from 20,000 to 28,000 over the next decade. Section 7 identifies actions to help capitalise on this growth potential in the future.
4. LAND-BASED INDUSTRIES

4.1 OVERVIEW

This section examines the importance of environmentally beneficial activities in the land based industries of agriculture, forestry and fisheries. It covers:

- Agriculture: agri-environment schemes, organic farming and regional produce;
- Environmentally beneficial aspects of the Forestry sector; and
- Fisheries and aspects of countryside sports.

These activities generate or help to sustain approximately 4,051 jobs in the East Midlands—see Table 4.1. Whilst this total is relatively small when compared with total employment in the region, the number is significant when viewed in the context of the 46,915 (1) employed in the agricultural sector. Taken together, these activities play an important role in sustaining and diversifying rural economies and communities in the East Midlands.

Table 4.1 Environment Related Jobs in the Land Based Industries of the East Midlands

<table>
<thead>
<tr>
<th>Activity</th>
<th>Employment</th>
<th>Section Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agri-Environment Schemes</td>
<td>1,271</td>
<td>4.3</td>
</tr>
<tr>
<td>Organic farming</td>
<td>310</td>
<td>4.4</td>
</tr>
<tr>
<td>Regional produce</td>
<td>2,600</td>
<td>4.5</td>
</tr>
<tr>
<td>Environmentally beneficial forestry</td>
<td>70</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>4,251+</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: This figure of 4,251+ includes jobs which agri-environment schemes help to secure yearly (rather than create).

4.2 AGRICULTURE IN THE EAST MIDLANDS

As in other parts of the UK, agricultural employment in the East Midlands has been in decline. However, given the rural nature of parts of the region, agriculture remains an important sector. It still employed 1.8% of the workforce in the region in 1998 with up to 6.0% in more rural counties, such as Lincolnshire.

The economic importance of agriculture is more significant than the relatively low employment figures would suggest. In addition to persons

(1) ERDP Regional Chapter- data relates to 1997.
employed directly in agriculture, there is a significant amount of employment in related industries, such as food processing and agricultural engineering. Very often, alternative employment opportunities in rural areas are scarce, which increases the local dependency on this sector.

Agricultural farm incomes represent 1.4% of regional gross value added in the East Midlands – this contribution is high compared to other English regions – see Figure 4.1.

**Figure 4.1  The Contribution of Agriculture to Regional GDP, 1999**

Source: DEFRA, Farm Incomes in the UK

Note: Agriculture’s share of total regional gross value added at basic prices. The ‘value added’ to the raw materials in transforming them into an output is one way of measuring GDP - there are other ways using an income and consumption approach.

The Region includes marginal hill farming in north and west and highly intensive productive farming in the Lincolnshire fens. Agricultural land use covers about 80% (1,279,732 ha) of the East Midlands total land area. Of this total, 62% is used for cropping and fallow, whilst grazing and set-aside accounts for 31% and 3% respectively.

Thirty seven percent of the population in the East Midlands live in rural areas (compared to the average for England of 20%). Diversification of agriculture, conversion to organic farming and integrated land management under agri-environmental schemes and LEAF Demonstration farms play an important role in sustaining and adding value to employment in rural areas.
Box 4.1  **Integrated Farm & Crop Management**

Integrated Crop Management (ICM) is a whole farm management approach that brings environmental benefits along with improved financial performance compared to farms not adopting ICM. LEAF has recorded the performance of LEAF Dairy/Arable farms compared to non-ICM farms in a number of case studies over four years. This has shown that ICM arable farm profitability is over 12% higher than at non-ICM farms and for dairy/arable farms a profit gain in excess of 100% (£17,763). ICM farms combine crop variety selection and improved energy efficiency with a positive management plan of landscape and wildlife features like planting woodland, restoring hedgerows and managing field margins.

Although there is no prescription for increased profitability, ICM and integrated farm management promotes best practice, which in turn leads to greater efficiencies of production, whilst considering the environment, potential markets, and the end consumer.

It aims to provide the basis for efficient and profitable production which is economically viable and environmentally responsible.

Source: LEAF, Andersons & Lloyds TSB

Under the Rural Development Programme 2000-2006, the Rural Enterprise Scheme helps to support diversification from reliance on agricultural incomes – see Box 4.2.

Box 4.2  **Agri Environment Schemes within the Rural Development Programme**

Rural Development Programme - The Government’s Rural Development Programme aims to bring a shift away from production-related payments, towards:

- sustaining publicly valued goods in the countryside (i.e., landscapes and habitat)
- diversification of farm incomes and improved efficiency; and
- an expansion of environmentally sustainable farming practices / agri-environment schemes - for example, existing schemes such as ESAs, CSS, Organic Farming Scheme, the Farm Woodland Premium Scheme, the Woodland Grant Scheme; new schemes such as the Energy Crops, Vocational Training and Rural Enterprise schemes; and re-focusing support for Less Favoured Areas by introducing the Hill Farm Allowance;

As a result, agri-environment schemes in UK regions will receive £1,052 million between 2000 and 2006, which represents an increase in annual spending of 126% on 1999/2000 levels. This will lead to significant increases in the area covered by schemes to conserve and improve the environment and encourage the development of new products and markets.

Rural Enterprise Scheme - This major new scheme will provide targeted assistance to support the development of more sustainable and diversified agriculture. Nine categories of project are covered, including:

- diversification of agricultural activities;
- agricultural water resources management and marketing of quality agricultural products;
- renovation and development of villages;
- protection and conservation of the rural heritage and the protection of the environment.

Vocational Training – There is a need for agricultural training in line with the changing focus of agricultural practices towards land-management, nature conservation and diversification. The scheme provides skills development for conservation skills, training in information and communication technology, business skills, marketing, personal development, diversification and new ways of working, farm food production and procession skills.
Source: DEFRA, 2002.
4.3 AGRI-ENVIRONMENT SCHEMES

It is estimated that **1,271 jobs** are created or sustained on farms by agri-environment schemes in the East Midlands. 101 jobs are estimated to be created through the more labour intensive schemes (1) and an estimated 1,170 existing jobs in farm businesses are sustained by these schemes in the East Midlands (2).

Reform of the EU’s Common Agricultural Policy (CAP) is encouraging agriculture to shift away from intensive production towards practices which take more account of the environment. There are also signs that consumer demand is also gradually shifting away from intensively farmed produce towards organic and regionally produce.

The study focuses on agricultural activity that explicitly aims to contribute to the quality of the environment – activities which, for example, receive financial grants or subsidies in return for undertaking environmental protection or enhancement work. The following schemes have been identified and are outlined below:

- Countryside Stewardship Scheme;
- Environmentally Sensitive Areas (ESAs);
- Organic Farming Scheme;
- Wildlife Enhancement Scheme Management Agreements (English Nature);
- Other DEFRA schemes (Moorland Scheme, Habitat Scheme); and
- National Park Schemes.

Estimated RDR grant funding in England for 2001-2 was £189.4m. The majority of that sum is divided between two large schemes. The Countryside Stewardship Scheme is the larger (£51 m), followed by the Environmentally Sensitive Areas scheme (£48 m). The Hill Farm Allowance Scheme (£27 m), the Organic Farming Scheme (£18 m), and the Woodland Grant Scheme (£16.6 m) take much of the rest. The remainder is divided into small schemes: the Farm Woodland Premium Scheme (£9m); the Rural Enterprise Scheme (£8.3m); the Energy Crops Scheme (£4m); the Processing

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(1) This is based on the net changes in farm employment under the CSS, calculated to generate 50 FTE on farm jobs and 220 FTE outside contractors and advisors jobs nationally from 143,573ha under CSS. Based on the 11.3% of national CSS area in the East Midlands and extrapolated to other agri-environmental schemes in the East Midlands, 101 jobs are created through agri-environmental schemes.

(2) This is based on an average of ‘1’ job for every 46 ha (including part time, full time and casual or seasonal jobs) - applied to the 53,811+ ha covered by agri-environment schemes in the East Midlands. Awaiting further information on total area covered by agri-environmental schemes in the East Midlands, which will increase the number of sustained farming jobs.
and Marketing Grant (£4m); the Vocational Training Scheme (£2m) and the Organic Conversion Information Service (£1.5m).

Many farmers undertake environmental work but without receiving grants or subsidies, which is difficult to quantify. This study focuses on the quantifiable part of agriculture contributing to environmental quality.

Table 4.2  Environmental Schemes under Agreement in the East Midlands

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Number of participating sites joining yearly</th>
<th>Uptake Area (ha) joining yearly</th>
<th>Annual commitment (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defra Operated Schemes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Countryside Stewardship Scheme</td>
<td>260-270</td>
<td>4,000</td>
<td>1,800,000</td>
</tr>
<tr>
<td>• Countryside Access Scheme</td>
<td>4</td>
<td>53</td>
<td>2,370</td>
</tr>
<tr>
<td>• Habitat Scheme</td>
<td>22</td>
<td>730</td>
<td>212,000</td>
</tr>
<tr>
<td>• Environmentally Sensitive Areas (ESAs)</td>
<td>10</td>
<td>43,308</td>
<td>1,376,062</td>
</tr>
<tr>
<td>• Hill Farm Allowance Scheme (HFA)</td>
<td>-</td>
<td>-</td>
<td>2,100,000</td>
</tr>
<tr>
<td>• Organic Farming Scheme</td>
<td>62</td>
<td>4,135</td>
<td>n/a</td>
</tr>
<tr>
<td>• Farm Woodland Premium Scheme</td>
<td>-</td>
<td>6-700</td>
<td>O/s</td>
</tr>
<tr>
<td>• Woodland Grant Scheme (Forestry Commission/Defra)</td>
<td>-</td>
<td>6-700</td>
<td>1,750,000</td>
</tr>
<tr>
<td>• Energy Crops Scheme</td>
<td>5</td>
<td>104</td>
<td>104,160</td>
</tr>
<tr>
<td><strong>Other Conservation schemes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Farm Conservation Scheme (FCS)</td>
<td>140</td>
<td>181</td>
<td>135,000</td>
</tr>
<tr>
<td>• English Nature Management Agreements</td>
<td>175</td>
<td>-</td>
<td>397,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>683+</strong></td>
<td><strong>53,811+</strong></td>
<td><strong>7,876,592+</strong></td>
</tr>
</tbody>
</table>

1Annual commitment is for 2001 while number of participating sites and uptake area are for 1999. 2 data relates to the whole North Peak ESA for yearly joining number of sites and total uptake area. Annual commitment includes also other ESAs, which are within the East Midlands, but administered by DEFRA offices outside the region. 3 Includes the Wildlife Enhancement Scheme. “-” data not available.

4.3.1 Environmentally Sensitive Areas (ESA)

The main ESA in the region is the North Peak ESA. ESA schemes aim to conserve and enhance environmentally sensitive areas, landscape and historic features, as well as improving public access. It is only open to farmers within the geographic area of the ESA and all farmers who apply, receive grants.

Tangible environmental benefits from the ESA funded activities include:

- improved numbers of wading birds in lowland wet grassland;
- protection and improvement of species rich grassland on the chalkdowns and in hay meadows;
• landscape improvements from better management of features such as hedges and dry stone walls and from conversion of arable to grassland; and
• protection of historic features, such as ancient field systems.

Achievements in the North Peak up to 1998 are shown in Table 4.3.
### Table 4.3  Agri-Environmental Achievements in the North Peak until end 1998

<table>
<thead>
<tr>
<th>Scheme/feature</th>
<th>Area (% of national uptake – ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countryside Access Scheme 1994-1998: Open Access</td>
<td>43 (53%)</td>
</tr>
<tr>
<td>Farm Woodland Premium Scheme 1992-1998: Area of woodland planted</td>
<td>1,778 (11%)</td>
</tr>
<tr>
<td>Nitrate Sensitive Area 1994-1998: Area of agricultural land under management</td>
<td>19,120 (68%)</td>
</tr>
<tr>
<td>Moorland Scheme 1995-1998: Area of Heather Moor</td>
<td>nil</td>
</tr>
<tr>
<td>Organic Aid Scheme 1994-1999</td>
<td>1,749 (8.73%)</td>
</tr>
<tr>
<td>Habitat Scheme 1994-1998: Area of Wildlife Habitat</td>
<td>796 (11.02%)</td>
</tr>
<tr>
<td><strong>Total Area until end 1998</strong></td>
<td><strong>23,486 ha</strong></td>
</tr>
</tbody>
</table>

Source: DEFRA 1999

#### 4.3.2  Countryside Stewardship Scheme

The Government’s Countryside Stewardship Scheme provides farmers with grants for enhancing and restoring the natural beauty and diversity of the countryside, wildlife habitats and historical features, as well as for improving public access. It operates outside Environmentally Sensitive Areas and is a competitive grant open for all land managers.

Farmers and land managers enter 10-year agreements to manage land in an environmentally beneficial way in return for annual payments. Grants are also available for capital works such as hedge laying/planting and repair of dry stonewalls, etc.

By the end of 1999 there were 1,088 Countryside Stewardship agreement holders in the East Midlands, covering 14,669 ha for a total commitment of £3,250,000 (DEFRA, 2001). *Figure 4.2* illustrates the increase in yearly commitment under the CSS - from £200,000 at the start of the scheme in 1991 to £1.8 million under the 2001-2006 ERDP.

#### Figure 4.2  CSS Annual Commitment for the East Midlands 1991-2006
4.3.3 *Energy Crops Scheme*

The Energy Crops Scheme aims to encourage farmers to plant energy crops in order to help reduce reliance on fossil fuels and thereby reduce carbon emissions in order to help meet UK greenhouse gas emission targets.

The scheme provides financial support for establishing miscanthus (elephant grass) and short rotation coppice (S.R.C.) - £1,000/ha for S.R.C. and £920/ha for miscanthus planted on agricultural land. In addition, farmers can receive set aside payments (around £200/ha) when participating in the Energy Crops Scheme. Farmers and landowners receive a one off payment and enter into 5-year agreements for producing energy crops. *Table 4.4* shows the UK Energy Crops Scheme budget.

The scheme commenced in January 2000 with a total of 323 ha planted or planned to be planted by spring 2001 in England.

In the East Midland Region, five participating farmers have received funding for short rotation coppice. The S.R.C. area in the region currently covers 104 ha, representing support of £104,160. The farmers have made agreements to supply crops to the ARBRE biomass energy generator in Yorkshire.

The Energy Crops Scheme is not aiming exclusively for large scale power plant supply, small scale heat and power generation is also included. DEFRA expects the energy crop area to increase by 5% to 10% yearly over the next five years and is working with other Government organisations to address planning issues relating to the power stations. With a budget of £32.3 million, DEFRA aims to support 16,700ha under short rotation coppice and 5,000 ha of miscanthus by 2006/7. This would represent close to 280,000 tonnes of biomass produced and between 40,000 and 190,000t of carbon saved in energy production (1).

*Table 4.4* *Energy Crops Scheme Expenditure (£ million)*

<table>
<thead>
<tr>
<th>Energy Crops Schemes</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in Agricultural Holdings - Miscanthus</td>
<td>0</td>
<td>0.7</td>
<td>0.8</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
<td>5.1</td>
</tr>
</tbody>
</table>

(1) Depending on the replacement energy.
Energy Crops Schemes 2000 2001 2002 2003 2004 2005 2006 Total
Afforestation of Agricultural Land S.R.C. 0 3.3 3.9 4 4 4 4 23.2
Non-agricultural land S.R.C. 0 0.5 0.7 0.7 0.7 0.7 0.7 4
Total £ Million 0 4.5 5.4 5.6 5.6 5.6 5.6 32.3

S.R.C. = Short Rotation Coppice

### 4.3.4 Hill Farm Allowance Scheme

The Hill Farms Allowance Scheme (HFA) is a new support mechanism aiming at maintaining the social fabric of upland communities through support for continued agricultural land use in less favoured areas (LFAs)(1) through the use of sustainable farming practices. East Midlands farmers received approximately £2,100,000 under the 2001 HFA scheme, 99% of which went to farmers in Derbyshire.

The scheme replaces the Hill Livestock Compensatory Allowance (HLCA), which was based on the level of farming production – which encouraged over production and risked damaging the environment in hill areas. The HFA Scheme is now based on the area farmed, as opposed to the level of farm production, and is conditional on the use of Good Farming Practice – i.e. avoidance of over- or under-grazing.

### 4.3.5 Other Agri-Environment Schemes

**The Countryside Access Scheme:** The Countryside Access Scheme is a five-year, voluntary scheme encouraging farmers to provide public access to routes along field margins, open sites on whole or part fields. Many sites provide vantage points for attractive features, or are sites of historical or wildlife interests, which the public is likely to want to use. Payment rates, reflecting additional land management costs, amount to £90 per km of access and £45 per ha for open field sites. In the East Midlands, a total of £29,600 was granted for public access between 1995/1996 and 2000/2001.

**Box 4.3 Economic Evaluation of Access Provisions in Agri-Environment Schemes**

Surveys undertaken by DEFRA into the economic evaluation of access provisions under Agri-environment Schemes show that access users (e.g. walkers, cyclists or horse riders) are willing to pay additional tax in order to increase levels of access provision in areas close to their home. Responses showed that users were happy to spend between 23p and 56p per mile within 50 miles of their homes.


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(1) Less Favoured Areas (LFAs) are upland areas and the Isles of Scilly.
The Habitat Scheme: The Habitat Scheme was launched in 1994 as a pilot scheme aimed at creating or enhancing valuable habitats by taking land out of agricultural production, introducing extensive grazing and managing it for the benefit of wildlife. The scheme operates for 20 years (or 10 year agreements for extensive grazing on water fringes). A total of £740,000 has been allocated under the scheme in the East Midlands since the start in May 1994.

4.3.6 Non-DEFRA Agri-Environment Initiatives

Woodland Grant Scheme (WGS): The WGS provides incentives for landowners and leaseholders to create and manage woodlands with the aim to increase timber production, improve the landscape, provide new habitats and offer recreational and leisure opportunities.

Jigsaw is a national scheme under the Woodland Grant Scheme, run by the Forestry Commission which aims to reduce the fragmentation of forest habitats, help meet bio-diversity targets and provide stepping stones for wildlife. Since 1920, the East Midlands has lost over 2,200 ha of ancient semi-natural woodland – the loss of hedgerows and wooded watercourses has increased the isolation and fragmentation of surviving ancient woodland. The Forestry Commission in the region concentrates funds on a discrete, well defined area within which, landowners can make a bid for afforesting agricultural land, but moving the eligible area from year to year to enable linkages of woodland to be set up in a wider area. A total of £125,000 is granted yearly providing close to 600ha new woodland yearly.

Wildlife Enhancement Scheme (WES) & Nature Management Agreements: English Nature runs the Wildlife Enhancement Scheme and the Nature Management Agreements. The two schemes provide farmers with grants for protecting Sites of Specific Scientific Interest (SSSIs) covering lowland heathland and bog, lowland wet grassland, upland meadows and pastures, magnesium limestone habitats, upland limestone habitats and heather moorland.

Farm Conservation Scheme: The Peak District National Park provides assistance and grants to farmers in safeguarding and enhancing conservation and recreation values in important sites and features where national agri-environmental funding is not available or does not meet local needs. The grant also indirectly supports and promotes traditional skills such as hedge laying and dry stonewalling, which has brought economic benefits to the local community. In 2000/2001, 140 Farm Conservation Schemes were concluded with a total expenditure of ca £135,000 of those...
agreements. At the present time there are about 800 agreements under this grant in the National Park.

The Peak District National Park also attracts funding and funds schemes, which seeks to develop the wider rural economy through the enhancement of the natural and built environment. Examples of these are listed in Box 4.4.
Box 4.4  Projects Linking the Environment and the Local Economy in the Peak District National Park

**Farm and Environment Project** – an Objective 5b project running from 1999-2001, incorporated a countryside advisory service, woodland marketing and development, environmental management, countryside training and a rural skills register. The project engaged 220 local businesses and safeguarded 186 jobs as well as creating an additional 73,907 work years. Some of the activities developed include winter livestock housing enabling improved management of ecologically important grassland, construction of farm waste management equipment, farm energy audits and training in environmental management systems and the development of a Woodland Marketing Development Strategy. 14 recreational facilities were also developed.

**Farm Building Conversion Grant Scheme** - commenced in 1999 to aid farm convert redundant farming buildings. At present time, nearly £300,000 has been awarded to 21 buildings creating 30 new jobs and safeguarding 23 existing jobs in agriculture and helping to create sustainable farm businesses. There was a large interest in the project with 200 people registering interest in the project at the up-start. Total expenditure on the conversions is almost £800,000.

**Moors for the Future** - aims to restore 300 ha of fire damaged moorland, 19 km path damaged by recreational trampling and assess the sensitivity of birds to disturbance at 4 sites. The moors are a long-standing attraction for the 2 million visitors yearly to the National Park, but also support sheep farming and grouse shooting, the latter representing a potential income of around £1.45 million per year (1).

**Peak Rural Opportunities** – a Leader II programme from 1998-2001 supported 12 different projects including Bakewell Farmers’ Market, the Peak District Products Exhibition Centre and 5 farm tourism projects. The Grant aid of £92,000 generated £230,000 in value of work creating 6 new jobs and enhancing 86 existing jobs.

**Dry-stone Walling Skill Training** – enabled 12 people to receive training on dry-stone walling with the aim of them being able to be employed or self-employed [information on outcome and funding]

**The Peak District Land Management Initiative (LMI)** – is one of 9 different Countryside Agency LMIs aiming to encourage more sustainable land management by testing what would happen if the public funding for rural areas was wholly devoted to developing new business opportunities and paying for the environmental services farmers and landowners provide. The project recognises the limited effects from existing rural development and environmental schemes as less than 10% of the current agricultural budget is spent on these measures and over 90% of the support is production linked.

Source: Peak District National Park

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**4.4 ORGANIC PRODUCE**

Conversion to organic farming provides gains in terms of soil health and fertility, benefits for bio-diversity and wider landscape benefits resulting from the use of crop rotations, as well as reduced use of pesticides, herbicides and fertilisers. In addition, organic products can command a premium price in the market – helping to strengthen farm businesses.

National statistics from UKROFS\(^{(1)}\) indicate a recent rapid increase in organic production. The conversion of land in the UK has grown from 35,000 ha in 1992 to 540,000 ha in 1999 with the fastest growth in 1998 and 1999, where land under conversion almost doubled. Organically farmed land, as percentage of total agricultural land in the UK, increased from 1.5% to 3% in 2000. The number of organic producers and processors in the UK rose threefold from 1999 to 2000 to 2,000 organic producers and 1,650 organic processors.

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\(^{(1)}\) United Kingdom Register of Organic Food Standards
The Organic Farming Scheme was reopened in January 2001, after closing in November 1999. The scheme now provides a yearly increase in budget of more than 50% from the first round. It provides five years of support to farmers converting to organic farming, of between £50-£450 per ha in total over the 5 year support period. Applications submitted in the East Midlands relate to 62 sites and more than 4,000 ha (see Table 4.5), representing 6.7% of total land applying for OFS in the UK.

Uptake of organic farming varies widely between regions. For example, there are more than 1,000 farmers opting for Soil Association accreditation in the South West of England; 600 in Scotland; but only 180 in the East Midlands (compared to 40 farms in the North East, the lowest in the UK).

Table 4.5  Applications for the Organic Farming Scheme since January 2001 in the East Midlands

<table>
<thead>
<tr>
<th>County</th>
<th>sites</th>
<th>Uptake area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derbyshire</td>
<td>18</td>
<td>846.16</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>10</td>
<td>491.22</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>25</td>
<td>1,777.49</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>4</td>
<td>394.31</td>
</tr>
<tr>
<td>Nottinghamshire and Rutland</td>
<td>5</td>
<td>625.63</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>4,134.81</td>
</tr>
</tbody>
</table>

Source: DEFRA, 2002

Employment Effect: Existing studies have shown that an estimated 20% to 100% more labour is required on organic farms, depending on the diversity of the enterprise, the extent of on-farm marketing and processing activity and the crop type (1). Small organic farms tend to have higher labour requirements per hectare than larger enterprises.

Taking 50% as an estimate of the extra labour required on organic farms compared to non-organic farming, it is estimated that organic farming in the East Midlands currently generates **310 jobs** (representing an additional 103 jobs compared to non-organic production) (2).

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(2) This estimate for organic employment is based on data provided in the "Environmental Economy of the West Midlands" pro-rated according to the area of land under the Organic Farming Scheme.
Box 4.6  Robert Thomas Farm, Mansfield

The Robert Thomas Farm between Mansfield and Nottingham is a 9000 ha farm specialising in vegetable production. The farm began converting a part of the land to organic production three years ago. Currently, 11ha are fully organic and 188ha are under conversion. Richard Thomas, the owner, sees organic farming as a good market opportunity with the possibility to both add value to the produce and increase revenue by taking out an expensive part of the supply chain. The need to import most of organic produce to the region and the unachievable requirements to increase quality while reducing costs in conventional farming made the decision easy.

Robert Thomas Farm produces organic carrots, potatoes, leeks, beetroot, sweet corn, courgettes, pumpkins, broccoli, cauliflower and runner beans. As well as conventional brusselsprouts, oilseed, combined peas, onions and sugar beat.

The farm employs 20 people full time, but has used additional labour for weeding, harvesting and washing of vegetables since conversion to organic farming. Six people, who were previously long-term unemployed, now work almost full time on the additional tasks related to organic farming. Although the organic farming business is in the early stage, income per acre has doubled compared to conventional farming income. This growth is partly based on the added value of the organic vegetables, as well as alternative distribution networks which significantly increase income generated by the farm.

The Robert Thomas Farm is represented at farmers’ markets in Ripley, Heanor, Belper and Colville, fills a product gap in a farmshop in Leicestershire, which specialises in organic meat produce. The farm also supplies local retailers and wholesalers and runs a small scale Veggie Box scheme, where locals can pick up produce directly at the farm. The farm still has to decide whether to extend the Veggie Box scheme full scale and provide home delivery.

Source: Robert Thomas Farm, personal communication

Box 4.7  Bio-diversity and Farming

The Farming and Wildlife Advisory Group in the Midlands is running an initiative on Biodiversity to raise awareness of threatened species and habitats across the region amongst the farming community. Twelve advisors work in the East Midlands to assist farmers in maintaining the variety, which may be unique to their land – including the development of wetland habitats. Farmers can be guided by Farm Biodiversity Action Plans (Farm BAPS), which provide summaries of all wildlife habitats and species on the farm and set priorities and work guides.

Sainsbury’s is taking part in this initiative in promoting Farm BAPS amongst suppliers. Ten Farm BAPS have been established in the East Midlands during 2001.

Much of the advice given by FWAG also helps the farmer to cut costs, raise efficiency and identify sources of grant aid for environmentally friendly farming methods or capital improvements on the land such as dry stone wall restoration or hedgerow establishment.

Source: FWAG, 2001
It is estimated that regional produce in the East Midlands generates 2,600 jobs (see Table 4.6).

The development of regional and local produce helps add value to food production and reflects a growing desire amongst consumers’ to support local producers and demand for high quality produce that consumers can trust in terms of quality of product and production methods. Buying local products helps support local, small scale producers, promotes local employment and keeps money in the local economy. In addition, the promotion of local purchasing of food can help to reduce ‘food miles’ and transport impacts. Food mills have increased by 50% in the UK over the last 15 years (1) and the transport and packaging of food represents 12% of national fuel consumption.

Farmers Markets: More than 40 farmers’ markets currently operate in the East Midlands, providing extra income for farmers from high quality produce and important opportunity to socialise with fellow producers and consumers. Based on a nationwide survey of farmers markets, published in May 2000 (2), markets now generate annual revenues of £65 million. Forecasts, before the Foot & Mouth Crisis, estimated that revenue would increase to over £100 million by spring 2001, with more than 5.2 million ‘visits’ per year. Almost all (97%) of farmers participating in the survey said the main reason for attending these markets is to secure vital extra income. Although the F&M crisis undoubtedly set back the development of farmers’ markets across the UK, new markets are opening – for example, six new markets opened in Northamptonshire during the latter half of 2001.

Despite the importance of the food and drink sector to the East Midlands economy (3) and despite the relative importance of agriculture in the East Midlands (see Figure 4.1) the development of speciality food produce in the region is still limited compared to other regions – see Table 4.6.

<table>
<thead>
<tr>
<th>Speciality Food Producers by Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>South West</td>
</tr>
<tr>
<td>Scotland</td>
</tr>
</tbody>
</table>

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(2) Farmers’ Markets Business Survey, NFU, May 2000
(3) At present, the food and drink sector represents 16.9% of regional GDP and 17.5% of regional employment in the East Midlands
<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
<th>Number</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Eastern</td>
<td>390</td>
<td>6,000</td>
<td>430</td>
</tr>
<tr>
<td>Greater London</td>
<td>360</td>
<td>6,500</td>
<td>420</td>
</tr>
<tr>
<td>Eastern</td>
<td>270</td>
<td>6,200</td>
<td>440</td>
</tr>
<tr>
<td>Wales</td>
<td>270</td>
<td>3,400</td>
<td>240</td>
</tr>
<tr>
<td>West Midlands</td>
<td>200</td>
<td>1,700</td>
<td>90</td>
</tr>
<tr>
<td>Yorks &amp; Humber</td>
<td>190</td>
<td>3,000</td>
<td>170</td>
</tr>
<tr>
<td>North West</td>
<td>180</td>
<td>3,600</td>
<td>180</td>
</tr>
<tr>
<td>East Midlands</td>
<td>160</td>
<td>2,600</td>
<td>270</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>70</td>
<td>3,300</td>
<td>220</td>
</tr>
<tr>
<td>North East</td>
<td>60</td>
<td>900</td>
<td>90</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,100</strong></td>
<td><strong>52,000</strong></td>
<td><strong>3,580</strong></td>
</tr>
</tbody>
</table>


### Box 4.7 Nottingham Foods Initiative

The Nottingham Foods Initiative was established in March 2000 as a partnership involving health authorities, local authorities (Nottinghamshire, Broxtowe, City, Gedling, Hucknall and Rushcliffe), the voluntary sector, community groups, private companies and farmers to encourage organisations and individuals to eat healthy, affordable food from sustainable sources – including locally produced and organic food.

The Initiative was chosen as one out of 12 British pilot areas to host the Food Futures project, which looked at ways of developing local food supply networks. Activities undertaken as part of the Food Futures and Nottingham Food Initiative include:

- Four workshops were held with local individuals and organisations, mapping local food issues, finding solutions and creating schemes to promote local food distribution and consumption;
- Production and re-edition of ‘Notts Nosh’, Nottinghamshire’s only Local Food Directory presenting 48 local food suppliers;
- Food Futures 12 months pilot project, coordinated by the Soil Association, working on a series of food events;
- Networking tools for local projects;
- Support to the development of 3 new Farmers’ Markets in the Greater Nottingham Area;
- Develop urban community food enterprises and projects around the production, distribution and composting of food;
- County wide festival to raise awareness of local food issues in partnership with NFU and local food producers;
- Development of a food resource pack for schools to promote and facilitate a coordinated whole-school approach to healthy eating in co-operation with Nottingham Trent University.

Nottingham Foods Initiative employs one part time project worker and has been granted enough funding by the Nottingham Health Authority to continue its work for another 12 months.

Source: Nottingham Foods Initiative, Lauren Kinnersley

### 4.6 FORESTRY

Forests and woodlands are a renewable resource which, when well-managed, can bring important economic, social and environmental benefits.
Few other land uses can contribute to the diverse range of benefits, as highlighted in the Government’s forestry strategy\(^{(1)}\), see Box 4.9.

**Box 4.9 Benefits of Woodlands and Forest**

The Government’s forestry strategy provides a framework for sustainable forest management, which recognises the potential economic, environmental and social benefits.

**Economic benefits** include:
- direct employment within the forestry sector through planting and woodland management;
- indirect employment in sectors associated with forestry, including recreation and tourism;
- helping to maintain rural economies through incomes received from forestry activities;
- increasing the attractiveness of urban areas and helping to induce inward investment.

**Environmental benefits** include:
- enhancing the beauty of the countryside
- enhancing attractiveness of urban areas
- regenerating derelict areas
- enhancing wildlife and biodiversity
- reducing & filtering pollution, leading to healthier cities
- a renewable energy source

**Social benefits** include:
- opportunities for recreation
- community participation and health benefits
- improved quality of life
- increasing the attractiveness of areas for living and working

In line with the new national priorities set by the England Forestry Strategy there will now be greater emphasis on targeting:

- the creation of larger woodlands where they can bring greater benefits including the production of high quality timber;
- the creation of woodlands in the urban fringe including community woodlands;
- the restoration of former industrial land and new woodlands as a setting for permitted development;
- reversing the fragmentation of ancient woodlands in priority areas.

**4.6.1 Forestry and Woodlands in the East Midlands**

The East Midlands is covered by 5.1% of woodland (79,871 ha) compared to an average woodland cover of 8.4% in England \(^{(1)}\). The low woodland cover

in the Region as a whole varies significantly from 3.3% in Lincolnshire and Leicestershire, to 7.3% in Nottinghamshire. Although overall woodland cover is low, there are several well-wooded localities such as the old hunting forest areas of Sherwood, Charnwood and Rockingham.

More than half of the woodlands in the East Midlands is purely broad-leaved, with a total of 16% of all woodland being ancient semi-natural. The remaining woodland is split between mixed woodland and conifer plantations.

Managed forests account for almost 30% (21,000 ha) of woodlands and are managed as multi-purpose forests providing for public access and recreation, wildlife and habitat management, landscape enhancement and timber production. The private sector owns 70% (50,000 ha) of woodlands in the Region including Local Authorities, the National Trust and the Woodland Trust.

The Regional Environment Strategy sets targets for the protection and management of ancient and semi-natural woodland and aims to increase the extent of multi-purpose forests and woods. Table 4.7 lists these targets.

**Table 4.7 Forest Targets**

<table>
<thead>
<tr>
<th>Target</th>
<th>Target ha</th>
<th>% of total EM woodland cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in woodland area by 2021</td>
<td>65,000</td>
<td>92%</td>
</tr>
<tr>
<td>Total area of new woodland by 2005</td>
<td>4,000</td>
<td>5.7%</td>
</tr>
<tr>
<td>Area of native broad-leaved woodland on ancient woodland sites restored by 2005</td>
<td>2,500</td>
<td>3.6%</td>
</tr>
<tr>
<td>Total area of woodland under grant-aided management by 2005</td>
<td>5,000</td>
<td>7.1%</td>
</tr>
</tbody>
</table>


The Forestry Commission has also set the target to afforest 1000ha of old mining sites by 2004 in England, of which 500ha derelict areas will be redeveloped in the East Midlands. These areas represent excellent opportunities to improve the quality of the landscape and bio-diversity, generate timber income while offering local recreation areas, improving the quality of life for local residents and attracting inward investment.

Notts and Derby County Council are currently undertaking a feasibility study of derelict sites which could both meet the needs for local recreational uses and link with the regional aim to reduce fragmentation of woodlands.

(1) National Inventory of Woodland & Trees, Forestry Commission, 2001
The top ten areas in these two counties will be developed into multifunctional forest area within the next couple of years.

Box 4.10 The National Forest

The National Forest in the East Midlands is an exemplar of the social benefits that lowland multi-purpose forestry brings, of which 2/3 are situated in the East Midlands. Covering 500 square miles of Leicestershire, Derbyshire and Staffordshire, the National Forest encompasses a mix of good and poorer agricultural land; working and derelict mineral land; remnants of two ancient forests (Charnwood and Needwood); transport corridors; and busy towns and settlements.

Over the next two decades, the area will be transformed into a mosaic of land uses with 355ha of former mineral workings and derelict land have been restored with woodland, water features and open land for recreation. A total of 735 ha of forest land are dedicated to nature conservation and by the end of the planting season in March 2002, more than 3,000 ha of new woodland will have been created on 500 different sites. The National Forest is eventually aimed to extend the forest cover in the area from the original 6% to 30%. Today, over 13% of the area is restored to forest. The objectives of the National Forest are to:

- improve the landscape and environment
- regenerate the coalfield
- stimulate economic enterprise and employment opportunities
- create a major new creation and tourism resource
- produce new supply of timber for industry
- encourage the diversification of farmland and rural business

Since 1995, when development on the ground began, population growth is well ahead of the national average with a buoyant housing market, more than 330,000 new visitors have entered the area, generating £128 million yearly, and more than 500 new jobs have been created. Funds amount to £13 million invested in the rural economy via the National forest Tender Scheme, to undertake the planting of the forest, and £32.5 million has been provided by Government and European Programmes producing nearly £96, in additional leverage.

Source: Forestry Commission & National Forest company
Box 4.11 Greenwood Community Forest & Coal Pit Regeneration

The 1992 British Coal pit closure programme had a major impact in Nottinghamshire. Deep mining ceased at 9 of the 15 collieries with the loss of over 36,000 jobs. Nottinghamshire County Council and the Forestry Commission are now restoring seven coal pits converting 760 ha of colliery spoil heaps to woodland as part of the Greenwood Community forest project. The vision for the Community forest is to create within the next 40 years:

- 8640 ha of woodland
- 8560 ha of managed woodland
- 6280 ha of non-woodland habitats into management
- open 2400 ha of woodland and 1600 ha of non-woodland for public recreation and access;
- 640 km of linear routes such as Rights of Way, bridleways, footpaths etc.

These new community woodlands, situated at the urban fringe of Nottingham, will greatly enhance the area and attract inward investment needed to replace the lost colliery employment. The areas, once restored, will be managed by Forest Enterprise for the full range of benefits available from well-designed woodlands. They will provide valuable wildlife habitats as well as opportunities for a wide range of recreational activities, whilst producing much-needed timber for local industry.

Source: Forestry Commission & Greenwood Community Forest

4.6.2 Employment in the Forestry Sector:

Employment in public and private forests and primary wood processing is estimated at a total of 14,740 FTE (1) of which around 900 are estimated to be employed in the East Midlands. The East Midlands employment is marginally below the UK average in relation to its woodland area – see Figure 4.3.

Figure 4.3 Employment in Forestry & Primary Wood Processing by Region, 1998/99

![Graph showing employment and proportion of woodland by region](source)

Source: Forestry Commission, 2001

(1) Regional Employment in Forestry and Primary Wood Processing in GB 1998/99, Forestry Commission 2001
4.6.3 **Commercial use of Forests in the East Midlands**

A significant proportion of the privately owned woodland in the region is considered to be undermanaged leading to estimated 70-80,000 m³ of potential timber production not currently being realised and a £2 million non-captured turnover for the rural economy in the Region (1). Small farm woodlands are especially undermanaged. Marketing and processing is currently seriously underdeveloped in the Region with a limited infrastructure of processing facilities and the majority of timber products being exported outside the Region for processing, further adding to lost income generation within the region.

**Box 4.12 Marketing and Processing of Sustainable Forestry Produce**

Projects within the region to utilise and market woodland products and co-ordinate with woodland management in order to obtain the twin benefits of rural development and positive habitat management in under-managed woodlands, include the:

- LincWoods EU Obj 5 project has brought 400ha of woodland into the WGS in rural Lincolnshire;
- Rockingham Forest Trust’s reintroduction of positive management in Northamptonshire ancient woodlands. One of many activities undertaken by the Trust has been to analyse the wood product supply chain and work to develop local branding, marketing and markets for ancient woodland products such as charcoal, fuel wood, chips or firewood. Ancient woodlands are often the least well-managed forests with poor quality wood, but are also the sites with the highest biodiversity and habitat structures. The Rockingham Forest Trust is preparing regional wide environmental and business training courses for woodland owners to raise the awareness of woodland management, the quality and expertise in the regional woodland workforce and the potential for developing new markets. The total budget of the Trust is expected to quadruple from £125K this year to £500K by 2003.

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(1) EM regional ERDP
Box 4.11 Nottinghamshire Wood Heat Project

The Wood Heat Project, initiated by Nottinghamshire County Council, aims to create a market for value-added wood fuels, provide opportunities for the local economy, stimulate the environmental economy and help the Council towards its long term target of carbon neutrality.

The wood heat project is based on the concept of delivering a service (heat) rather than a commodity (wood) from local energy service companies (ESCOs). The ESCOs will function as vertical integration of a wide range of local suppliers, providing long-term 10-year heat supply contracts. The Nottinghamshire Wood Heat Trust has been established as a strategic partnership, made up of local key stakeholders to coordinate local resources, assist the partnership process and business start-ups and to negotiate services on behalf of local ESCOs.

Benefits expected from projects include:

**Economic and social benefits:** Improving business performance for locally owned enterprises and place renewable benefits in the heart of the community, ensuring all economic and employment benefits remain with in the community, increase opportunities to attract external investment, deliver local long term security through extended supply contract.

**Environment benefits:** Improved local air quality, well managed local woodlands, less chemical-intensive local agriculture using energy crops, reduced greenhouse gas emissions and reduced exploitation of finite natural resources.

The project seeks to establish at least ten public sector and ten private sector Wood Heat installations as the first catalyst to the market. The installation of ten wood heat commissions within the County’s properties is estimated to free up at least £500k in avoided boiler replacement capital expenditure and save around 4,000 tonnes CO₂ emissions per year. The County Council estimates that many of the 650 buildings in the County could benefit from such boiler replacement. The trial of the wood heat implementation is taking place in two of the county’s secondary schools, where wood heat boilers will replace old coal boilers. If progress continues satisfactorily, the two schools will be the first in the region to have a wood heat service contract.

Source: Nottinghamshire County Council, Peter Strutton

4.7 Fisheries and Countryside Sports

The region’s rivers and still waters are important to the rural economy through tourism and recreation (e.g. equestrian activities, game and coarse fishing and game shooting) and the links with the environment and landscape.

Shooting holds an important position in the social, economic and environmental fabric of rural areas and provides the incentive for the retention of many of the most important habitats listed in the UK BAP. Heather moorland is managed for grouse, hedgerows, arable field margins and woodland are managed for pheasant and partridge, inland ponds, reedbeds, wet grassland and saltmarsh are managed for ducks and geese while native woodland and upland heath are managed for deer.
Box 4.12  The Economic significance of Game Shooting & Angling

Game shooting and angling are valuable to rural economies, contributing to the maintaining of rural employment and populations, binding communities together socially and sustaining the level of service provision.

- Nationally, gamekeepers own or manage 18 million acres of land of which half is land with conservation designation. More than 13,000 jobs are estimated to be directly generated through shooting in the UK with an additional 14,500 people employed in associated trades and industries and generates more than £400 million per year (1).

- The total capital value of inland fisheries is worth £2,885 million. Coarse fisheries are the most valuable category of fishery type accounting for over 75% of the total market value of all inland fisheries (£2,235.1 million), trout fisheries come second with £563.9 million and salmon is valued at £86 million (2). Total expenditure for game anglers in England and Wales is estimated at £545 million (3) and it seems probable there are at least 12,000 FTE jobs directly dependent on the sale of fishing tackle alone in England and Wales (4).

Source: BASC & The Environment Agency

As well as the general recreational and economic benefits of angling, it can have more specific benefits to society such as from angling available in towns, providing low cost, easily accessible opportunities for recreation for people who may find it difficult to afford, or participate in, other recreational activities.

Box 4.13  River Trent Fisheries Refuge

The Environment Agency in partnership with Severn Trent Water and Nottinghamshire Wildlife Trusts and for the first time ever with support from a local angling club, is set to boost fish stocks, angling and bird habitat in the Trent Valley.

Worth £30,000, the project is creating a 10 ha fry refuge, digging a channel between the River Trent and the Marina Lake at Holme Pierrepont near Nottingham. The whole site is a complex of old finger ponds left over from gravel extraction and the associated willow and alder carr that has grown up since, owned by a local angling club. With the channel, it is expected the pond will act as a spawning area and refuge to enhance fish populations in the River Trent.

Recreational use of the countryside in the region has increased considerably over recent years with significant benefits for the rural economy and employment. The outbreak of Foot and Mouth delivered a severe blow on the rural economy, which the international declaration of foot and mouth free country on 22 January 2002 and the Countryside and Rights of Way Act 2000 extending the freedom of access, will contribute to bringing recreation and visits to the countryside up to former levels (125 million day

(3) The average annual expenditure for game anglers is £682/angler. There are approximately 0.8 million game anglers (NRA 1994)
visits and £169 million spending by UK tourists to the East Midland’s countryside (1).

Rights of way in the East Midlands comprise an estimated 19,061 km of footpaths, bridleways and byways open to all traffic with 2,459 km (13%) of these located within the Peak District National Park. The main National Trail is the Pennine Way running from Derbyshire to Scotland. Medium and long distance routes, also open to cyclists and horse riders, include routes such as the Viking Way, Nene Way, Midshire Way and Robin Hood Way. Outside these, a wide variety of recreation sites give access to the countryside like country parks and picnic sites, most beaches, woods and forests, canals and rivers, and open country and coastline owned by the National Trust and other conservation bodies.

Within the LEAP (2) areas, at least 265.5km of rivers and canals are designated for coarse fishing and 157.4km for salmon fishing. Within the whole region therefore, this figure is likely to be more (3). The region has a net in-migration of anglers who can make a considerable contribution to the local rural economy.

Currently, over 150,000 rod licences are sold per year within the East Midlands (4). Taking the price of full rod licences, which varies from £21 for migratory coarse and trout to £60 for salmon, the region receives a direct revenue of between £3.15m and £9m.

4.8 SUMMARY

Approximately 4,200 jobs are associated with land based activities covered in this study. There is potential for expanding these activities in the future, which would help to sustain and diversify rural economies and communities, as well as bringing environmental benefits to the East Midlands in the future. Section 6 considers the future growth potential and Section 7 provides recommendations for capitalising on this potential.

(1) Geoff Broom Associates, 1998

(2) Local Environment Agency Plans
(3) East Midlands Objective 2 Single Programming Document
(4) idem
5. CAPITALISING ON A HIGH QUALITY ENVIRONMENT

This section covers the contribution made by a high quality environment to:

- Tourism activities in the East Midlands;
- Inward investment and skills retention; and
- Quality of life benefits for residents and visitors.

Analysis shows that at least 34,543 direct jobs and additional 5,509 indirect and induced jobs are supported by tourism in the East Midlands dependent on a high quality environment. This total of 40,052 jobs relates to employment stemming from visits to the Region’s countryside.

Whilst a high quality environment can contribute to attracting inward investment and quality of life, it is not possible to quantify these effects - case studies are therefore used to illustrate the significance of the environment on these activities.

5.1 TOURISM AND THE ENVIRONMENT

A high quality environment contributes to tourism activity both directly and indirectly via:

- Specific ‘environmental’ attractions provide a direct reason for tourists to visit an area.
- A high quality environment is often a prerequisite for many activity-based holidays, e.g. canal boating, canoeing, cycling and walking.
- A high quality environment can also provide a ‘pull’ effect in terms of attracting people and firms to an area that they have visited as tourists.

Tourism is an important sector in the East Midlands economy which employs 72,859 people directly in accommodation, retail, catering, leisure attractions and transport. An additional 27,000 non-tourism jobs are dependent on the multiplier effect of spending from tourism. (1)

A large proportion of these jobs depend on tourist activity based on the quality of the region’s natural and historic built environment.

5.1.1 Environmental Attractions in The East Midlands

The diversity of the region’s environment, which ranges from the uplands of Derbyshire in the west to the Lincolnshire Fens in the east, offers a full range of attractions and pursuits for visitors and residents. Leading environmental (natural and historic built environment) include:

- The Peak District National Park – of which over a third is designated as SSSI (Site of Special Scientific Interest) status and attracts up to 22 million visitors per year.
- The Derwent Valley World Heritage site.
- The National Forest and Sherwood forest.
- The Lincolnshire coast, Gibraltar Point and The Wash.
- The Lincolnshire Wolds Area of Outstanding Natural Beauty.
- Rutland Water.
- Waterways and rivers such as the Nene and the Trent.
- Country Parks such as Rufford Country Park, Bradgate, Beacon Hill, Market Bosworth, Daventry, Irchester and Brixworth.
- Historic buildings such as Lincoln Cathedral; Nottingham Castle; Peveril Castle; Kirby Hall, Northamptonshire; Gainsborough Old Hall, Lincolnshire; Bolsover Castle, Derbyshire; and Ashby de la Zouch Castle.
**Box 5.1 The Peak District National Park**

Visitors: In 1998, the Peak District National Park (1) attracted 475,000 overnight tourist trips and 17,963,000 day visits. (More recent figures suggest that visitor numbers have reached 22 million per year).

Expenditure: Total visitor spend in the National Park amounted to over £185 million, equivalent to £10 per head. Of this total expenditure by overnight and day visitors, around 45% was on eating and drinking, 23% on shopping, 14% on accommodation, 11% on travel and the remaining 7% on attractions and entertainment.

Employment: Direct employment, in local businesses and the public sector (2), supported by this visitor expenditure amounted to 1,895 FTE jobs, equivalent to 3,229 actual jobs taking account of part-time and seasonal employment.

Indirect employment in businesses (3) supplying goods and services to tourism is estimated at 124 FTE’s. Induced employment generated by the spending of wages by people directly or indirectly employed as a result of tourism is estimated at 104 FTE’s.

Total employment arising from the Peak District National Park is therefore approximately 2,120 FTE’s (full time equivalent jobs).

**Box 5.2 Brixworth Country Park**

Brixworth Country Park is adjacent to Pitsford Reservoir (Anglian Water) and received 339,259 visits in 2000/01, generating income of £30,415 (1) from car parking and school trips alone. Total income has not been quantified but is estimated to be between £100,000 and £200,000 – enough to support between 3 and 6 FTE’s.

(1) This does not include spend in the cafe on site or the cycle hire/cycle shop facilities both of which are franchised by Anglian Water.

Forestry and woodlands are major regional assets. Attractions include: Sherwood Forest Visitors Centre and Country Park (attracting 750,000 visitors in 1999), The National Forest (attracting 200,000 visitors to the visitor centre ‘Conkers’ in the first six months) and ancient woodlands such as Clumber Park and Birklands in Sherwood and Calke Abbey in the Trent Valley.

(1) The Peak District National Park also falls within Cheshire, Staffordshire, Sheffield, Barnsley, Kirklees and Oldham.

(2) It is estimated that local authority employment in the wider Peak District area amounts to 94 FTE’s with a further 50 indirect FTE jobs supported by local authority capital and revenue spending on tourism activities.

(3) Businesses based in the ‘wider’ study area may fall outside of the East Midlands.
Box 5.3  The National Forest

“The National Forest is rapidly achieving the challenging objective of transforming the landscape, but is also doing much more than just planting trees….the creation of the Forest is helping to improve the local economy and is opening up new opportunities for community benefit” Pat Richards NFC Board Member. The National Forest has created jobs and helped sustain others through farm diversification. There has been a rapid growth in tourism with more than 330,000 new visitors to ‘Conkers’ the new visitor centre and £100m income generated per year.  

The region is home to 114 registered historic parks and gardens and many which are non-registered dating from the 19th Century. Some of the most well known market towns and historic houses are located in the region such as the town of Bakewell, an ancient market town dating from at least 1300 and Chatsworth House, both situated within the Peak District National Park.

The industrial heritage of the Region is well known and has been showcased in restoration projects for educational and economic purposes e.g. Pleasley Pit in Bolsover; Snibstone Discovery Centre in Ashby de la Zouch; and Britain’s only main line steam railway the ‘Great Central Railway’ in Loughborough.

As well as this historic heritage, the Region contains 21 natural areas, including Rutland Water, Saltfleet by Theddlethorpe, Gibraltar Point, Donna Nook and Tetney. These provide a wealth of wildlife attracting visitors from all over the UK.

(1) The National Forest Company, Fact File.
(2) English Heritage Register of Historic Parks and Gardens
**Box 5.4 Gibraltar Point**

Gibraltar Point National Nature Reserve is an area of some 430 hectares comprising sandy and muddy seashores, sand-dunes, saltmarshes and freshwater habitats extending for a distance of about 3 miles along the Lincolnshire coast, from the southern end of Skegness to the entrance of the Wash. The Nature Reserve is recognised both nationally and internationally as an area of outstanding wildlife and geomorphological importance. It has been designated an SSSI, NNR, RAMSAR (site of international wetland importance), SPA (EC Birds directive). The primary function of the Reserve, which is recognised as an area of international scientific interest, is to conserve this unspoilt stretch of coastline and its important communities of plants and animals.

The Reserve is managed by the Lincolnshire Wildlife Trust and owned by Lincolnshire County Council and East Lindsey District Council. Management is designed to assist visitors to enjoy and appreciate the area. There is a network of paths, designed to take the visitor easily around the major habitats whilst keeping disturbance to a minimum. Many typical plants growing in characteristic habitats are labelled at points where they may easily be seen from the paths.

There is an observation platform at Mill Hill with extensive views of the surrounding landscape, and public hides overlook the Mere and Fenland Lagoon.

The site attracts around 190,000 visitors per year contributing £10,000 per year in car parking fees to maintaining the site as well as visitor spend on local goods and services. If we assume that each visitor spends £14 per day visit and that £30k - £40K can support one local job (HETB and RSPB), the 190,000 visitors to Gibraltar Point could generate around £2.5 million, equivalent to 72 jobs.

Source: Gibraltar Point Nature Reserve (www.lincstrust.co.uk/reserves)

Much tourism activity is based around the major rivers of the region such as the Trent, Derwent, Soar, Welland, Nene and Rother. Future actions should aim to strengthen this economic activity and enhance the value of strategic river corridors (e.g. the River Trent, Wethan, Weland and Neane).
Box 5.5  
Case Study: Rutland Water

Visitors to Rutland are attracted by the countryside, market towns and villages and the attractions of Rutland Water, the largest man-made lake in Western Europe. Tourism is dispersed through leisure attractions, accommodation, catering and retailing and indirectly benefits a wider sector of the county’s economy.

Visitors range from day-trippers from within a 60Km radius (the majority) to those from further away attracted by its international reputation for bird-watching, trout fishing and sailing on Rutland Water and high quality hotels.

The total number of visitors is estimated to be over 1 million per year and total visitors to the County are likely to be twice this number. Tourism plays a major role in Rutland’s economy but this has not been accurately quantified, the most recent data is from 1991 when the East Midlands Tourist Board estimated it was worth £11.2 million to Rutland and directly or indirectly contributed to 1,000 jobs. (1)

If we assume that each visitor spends on average £14 per day visit and that £30,000 - £40,000 can support one local job (2), the 1 million visits to Rutland Water generate approximately £14 million revenue for the regional economy, sufficient to support 400 jobs.

In addition, special events are held at Rutland including the British Bird Watching Fair which is a three day event attracting over 12,000 people and generating over £2 million turnover. (3)

(1) Anglian Water
(2) HETB for spend per day visit and RSPB Spending by Visitors to RSPB Reserves, 1999 for expenditure to support one job.
(3) Personal communication with Rutland Water Nature Reserve.
5.1.2 The Economic Value of Tourism Based on the Environment

It is possible to identify tourism sites in the East Midlands where environment is key part of the attraction (Table 5.1). Visitor data for these sites can be converted into expenditure and employment estimates, drawing on studies such as the Countryside Agency’s income and employment multipliers.

Box 5.6 Case Study: Carsington Water

Carsington is England’s ninth largest reservoir and is also Severn Trent Water plc’s flagship attraction for leisure and recreation in the East Midlands. It attracts 1.1 million visitors per year and employs up to 55 people through the watersports centre, education centre and retailing (Severn Trent Water plc are presently undertaking a study which will value the environmental and economic impacts of the first ten years of Carsington Water – to be published in May).

Many of Severn Trent’s others sites attract significant numbers of visitors, for example, the Derwent Valley in the Peak National Park has three reservoirs attracting some 2 million visitors per year. Tittesworth, located north of Leek attracts some 270,000 visitors per year and Staunton Harold, located within the National Park attracts 370,000 visitors per year.

Box 5.7 Economic Impact of Visitors to Wildlife Trusts in the East Midlands

The economic impact of visitors to Wildlife Trust sites in the East Midlands has been quantified on the basis of visitor expenditure and associated employment. An estimated 794,000 day visits are made to Wildlife Trust sites per year. Assuming that these visitors an average of £11.87 per day (1), indicates that total expenditure of £9,425,000 would be generated. Using the Countryside Agency’s methodology and multipliers, this is estimated to support approximately 250 direct jobs, 27 indirect jobs and 14 induced jobs in local economies (2).

Source: Nottingham Wildlife Trust, Sheffield Hallam University, (December 2001).

(1) The Derbyshire Dales Visitor Survey (1998) found that the average UK Visitor spent £11.87 per day.
Table 5.1  Day Visits to Environmental Attractions in the East Midlands

<table>
<thead>
<tr>
<th>Attraction</th>
<th>Number of visitors per year (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country Parks</td>
<td>7.9</td>
</tr>
<tr>
<td>Historic Buildings</td>
<td>1.9</td>
</tr>
<tr>
<td>Countryside Crafts</td>
<td>0.3</td>
</tr>
<tr>
<td>Heritage Centres and Attractions</td>
<td>0.4</td>
</tr>
<tr>
<td>Farms Visits and Parks/Zoos/Aquariums</td>
<td>1.1</td>
</tr>
<tr>
<td>Museums (based on the environment)</td>
<td>0.4</td>
</tr>
<tr>
<td>Gardens</td>
<td>0.3</td>
</tr>
<tr>
<td>Nature Reserves and Environmental</td>
<td>5.9</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>17.9</td>
</tr>
<tr>
<td><strong>Total - extrapolated (1)</strong></td>
<td><strong>29.83</strong></td>
</tr>
<tr>
<td>Peak District National Park (2)</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>47.83</strong></td>
</tr>
</tbody>
</table>

(1) The questionnaire from which the data was obtained had a response rate of 60 percent. Hence ‘Total HETB results’ was extrapolated to cover the missing 40 percent in order to provide a more comprehensive total.  (2) Peak District National Park was not included.

Day Visits:

The total number of day visits to attractions listed by the Heart of England Tourist Board is 18.7 million. Visits to ‘environmental attractions’ as given in the sub-total in Table 5.1, therefore comprise 96 percent of reported day visits to specific attractions.

The 17.9 million day visits to environmental attractions does not represent the total number of day visits motivated by the environment. For example, only 60 percent of the sample replied and the data does not include day trips to the Peak District, which we know to be just under 18 million. We have therefore included the missing 40 percent by means of extrapolation and added the Peak District National Park to reach 47.83 million day visits.

Total day trips (including those listed in Table 5.1) by County are given in Table 5.2.

Table 5.2  Total Day Trips by County

<table>
<thead>
<tr>
<th>County</th>
<th>Day Trips (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derbyshire</td>
<td>19.7</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>20</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>14.5</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>2.6</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>15.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>72.4</strong></td>
</tr>
</tbody>
</table>
Based on these figures, day visits motivated by the environment comprise 66 percent of all day trips. This could be an underestimate as it does not include:

- Day trips on canal boats.
- Organised walking, cycling and horse-riding activities and those dedicated paths, trails and bridleways outside Country Parks and Forestry Commission Woodlands.
- Day visitors who undertake their own activities not related to specific attractions. For example, many visitors will take a trip to the region to enjoy the landscape, have a pub lunch, a walk and not visit any specific attractions.

The 47.83 million day visits to environmental attractions can be converted into employment by assuming that day visitors spend £14 per day visit and that £30,000 to £40,000 of spending can support one local job. On this basis, the 47.83 million day visits to ‘environmental’ attractions in the East Midlands region generate approximately £670 million revenue for the regional economy, sufficient to support 19,132 jobs.

**Overnight Stays:**

The total number of overnight trips to the East Midlands by County is given in Table 5.3.

**Table 5.3  Total Trips by County**

<table>
<thead>
<tr>
<th>County</th>
<th>(million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derbyshire</td>
<td>2</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>2</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>1.3</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>0.13</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7.23</strong></td>
</tr>
</tbody>
</table>

If we assume the same proportion of overnight visitors as day visitors are motivated by the environment (66 percent), then the total number of visitors attracted to the East Midlands for longer visits is 4.77 million. If we assume that average spend per night is £28.27 and the average visitor stays for 4 nights then around £539 million is spent in the regional economy by overnight visitors which is sufficient to support 15,411 jobs.

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(1) HETB personal contact regarding average spend per day visit and RSPB Spending by Visitors to RSPB Reserves, 1999 for expenditure to support one job.

Total Trips:

Spend by both day and overnight visitors attracted to the East Midlands ‘environment’ totals £1,209 million. This represents around 56 percent of total tourism spend (£2,144 million) in the East Midlands. (1)

The £1,209 million expenditure from all visits to the East Midlands (based on the environment) is estimated to support 34,543 direct jobs.

The 35,543 direct jobs will further be supported in the local economy through indirect and induced effects. The magnitude of these effects will obviously depend on many unknown factors, including the proportion of goods sourced locally and the relationships between firms and suppliers in the region. As a consequence, multiplier effects (both supply and income multiplier effects) mean that accurate prediction is difficult without recourse to an input/output model.

HM Treasury guidance as set out in a Framework for the Evaluation of Regeneration Projects and Programmes (EGRUP) indicates that supply multipliers, (purchase of locally produced goods and services) in terms of effects on employment in local labour markets have ranged from 1.05 to 1.11 although high estimates should be supported by an input-output analysis. We have used a supply multiplier of 1.05, which is the lower end of the range and therefore a conservative estimate. In terms of income multiplier effects, (raising local income through employment is likely to generate additional expenditure in the area), EGRUP advises that for most activities, local multiplier effects are likely to be small around 1.1 although regional multipliers may be larger ranging from 1.2 to 1.5. Again, given that we are unable to undertake a detailed impact analysis we have taken a conservative approach and used an income multiplier of 1.1. Both multipliers generate an additional 5,509 jobs as illustrated in (Table 5.4).

<table>
<thead>
<tr>
<th>Table 5.4</th>
<th>Indirect and Induced Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>Supply (direct x 0.05)</td>
</tr>
<tr>
<td>35,543</td>
<td>1,777</td>
</tr>
</tbody>
</table>

By way of context, work undertaken by the Countryside Agency shows that all trips to the Countryside in the East Midlands in 1998 generated:

• Net spend of £1,065 million; and
• 32,920 jobs (28,310 direct, 3,040 indirect and 1,570 induced).

5.1.3 Employment in Tourism

Using the Countryside Agency data - of the 32,920 jobs created through tourism in the East Midlands, 28,310 are directly related to tourism activity. We are unable to provide a complete breakdown of jobs according to sector for the East Midlands as some of the Counties are unable to provide such information. However, we know the proportion of jobs by industry for England as a whole, and can apply these percentages to the total (28,310) as given in Table 5.5.

Table 5.5: Breakdown of Employment in the English Countryside

<table>
<thead>
<tr>
<th>Industry</th>
<th>England Percentage Employed</th>
<th>East Midlands Numbers Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>18</td>
<td>5,096</td>
</tr>
<tr>
<td>Catering (restaurants, cafes etc)</td>
<td>45</td>
<td>12,739</td>
</tr>
<tr>
<td>Retailing</td>
<td>8</td>
<td>2,265</td>
</tr>
<tr>
<td>Attractions</td>
<td>21</td>
<td>5,945</td>
</tr>
<tr>
<td>Transport</td>
<td>8</td>
<td>2,265</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>28,310</td>
</tr>
</tbody>
</table>

Part of the business turnover will be re-spent in purchasing local supplies and services within the local area (although leakage effects will vary in different economies) and this spend supports 3,040 jobs. The remaining 1,570 jobs are generated by the spending of wages by people directly or indirectly employed as a result of tourism activity.

5.2 INWARD INVESTMENT

A high quality environment contributes to creating the ‘right climate’ for attracting inward investment.

“The beautiful rolling countryside of rural Rutland is similar to that in Dodgeville, Wisconsin, where Lands End’s US headquarters is based, yet Oakham is within striking distance of several major cities. Rutland has also provided us with our most important asset, a hardworking dedicated and friendly workforce. These attributes were significant factors in our search for a UK site and our further expansion in Oakham”. - Managing Director, Lands End.

Source: Leicestershire Development Agency
There are clearly many factors that influence locational decisions including proximity to markets, transport links, skilled labour, property prices and quality of life. It is difficult to isolate or quantify the contribution that the environment makes towards attracting inward investment. For example, the development of the region’s National Forest is bringing about change for the area and Burton upon Trent and Coalville are emerging as key centres for inward investment. It is unclear however, how much the ‘National Forest’ has contributed to that success.

5.3 **REGENERATING THE PHYSICAL ENVIRONMENT**

The process of physical regeneration is important in improving the environment in order to attract new investment and retain / attract skilled personnel to an area.

The regeneration of derelict land in both urban and rural areas has contributed to regional economic development in the East Midlands as demonstrated by the work of the Coalfield Alliance (Box 5.8).

**Box 5.8  Regeneration Projects by the Coalfields Alliance**

<table>
<thead>
<tr>
<th>Manton Colliery Site: A £4 million programme to reclaim the defunct Manton Colliery site has brought about significant economic benefits for the local economy. The project is funded by English Partnerships through the National Coalfields Programme. East Midlands Development Agency (EMDA) has responsibility for development and marketing the site.</th>
</tr>
</thead>
<tbody>
<tr>
<td>With more than 20 hectares to build on, the renovated former Nottinghamshire pit is targeted to attract major inward investment.</td>
</tr>
</tbody>
</table>

**Avenue Coking Works:** The Avenue project aims to regenerate the site of the former Avenue Coking Works following decades of industrial pollution.

The project is promoted by East Midlands Development Agency and funded through English Partnerships programme for returning derelict colliery sites to beneficial use. Additional support has been secured from European Structural Funds. British Coal, the former site operator, polluter pays responsibility will be met by the Department of Trade and Industry (as their successor).
Box 5.9  *Sherwood Energy Village*

The Sherwood Energy Village is a major sustainable regeneration project in the East Midland, transforming 91 acres of a former colliery site in North Nottinghamshire into an sustainable site combining industry, housing, recreation and leisure facilities and implementing energy efficient and environmentally sound building standards on one site. The area is within 2 hours of 50% of England’s population, 18 miles from Nottingham, close to major infrastructure and with a link to the national railway if the Robin Hood Line is upgraded to passenger transport.

The Village plans to generate heat and power from an on-site biomass power plant, solar panels, photovoltaics and wind generation with the aim of showing how a carbon neutral community can function. Houses and offices will be constructed according to ecological principles and people living and working on the site will be encouraged to participate in waste minimisation and recycling initiatives, green transport planning etc led by the Sherwood Energy Village.

Features planned for the village include:

- 40 acres for industry and commerce and 80 private housing units for mixed ages and tenure;
- 1.8 acres of public garden in the middle of the Village, on the site of the colliery;
- ‘Energy Trail’ showing visitors examples of plants grown as fuel, drought resistant species and species adapted to poor soil, sculpture and examples of renewable energy features such as lamps powered by photovoltaics, mini windmills etc;
- Onyx Arena, a natural amphitheatre for open space and recreational use;
- visitor/information centre providing information on the concept, experience and workings of the Village;
- exhibition centre providing high quality facilities for exhibitions, conferences and trade fairs to attract local, national and international business;
- cycle ways connecting to the county-wide cycle trails, currently being developed by Nottinghamshire County Council; and
- the first full scale sustainable urban drainage in the UK as flood prevention.

Sherwood Energy Village is currently finalising the preparation of the site for developers, spending £4 million to remove, demolish and reuse the old infrastructure of British Coal and ensuring the ground is of secure quality. Construction of housing is expected to start in May-June 2002 and with the interest shown by local, regional and national companies to relocate to Sherwood Energy Village, the site may well be fully built out in 2-3 years.


Many of Groundwork’s ‘Changing Places’ projects such as Carr Vale have improved the quality of the environment for social, economic and environmental benefit in the East Midlands, by providing training opportunities for local residents, improving quality of life and attracting further investment.
Box 5.10  
**Carr Vale Regeneration**

‘Carr Vale is at the vanguard of economic, social and environmental regeneration in north Derbyshire and has been successful in attracting further resources to the area. A wide range of physical improvements has been undertaken including the creation and conservation of wetland habitats, the reclamation of mining spoiled landscapes, community recreation provision and the restoration of sites of heritage importance. The implementation of the project has enabled a wide range of community training opportunities to be achieved’. (1)

Improving the quality and recreational value of the natural environment can also provide employment opportunities – as illustrated by community forests such as Brierley Forest Park.

Box 5.11  
**Brierley Forest Park**

Projects like Brierley Forest provide employment opportunities and contribute to the success of major employment sites.

‘Brierley Forest Park has created a new Community Forest within the wider Greenwood Community Forest. The project has enhanced the existing ecology and provided new habitats through the creation of meadows, woodland, hedgerows and wetland. New paths, a visitor centre and other recreation facilities have been built. The project along with a new adjacent industrial estate has created much needed employment. Community events and ‘Friends of Brierley Forest’ will ensure the active involvement of the community long into the future.’ (1)

Box 5.12  
**Ilkeston Greenspace**

Community-led regeneration projects like Ilkeston contribute to improving the quality of the environment and area image for the benefit of the local community. Ilkeston has battled with against a negative image caused by a number of relatively small but significant sites.

‘Ilkeston Greenspaces has transformed several pockets of land in Ilkeston. Community led regeneration has included improving access routes, creating ‘pocket’ parks and safe play areas, upgrading a derelict pond and improving canal-side area.’ (1)

Improvements to the Historic Built Environment: The work of organisations such as English Heritage, in the restoration and protection of the historic built environment is also important in attracting businesses, improving quality of life as well as promoting activities such as tourism. For example, between 1994 and 1999, English Heritage investment in the East Midlands through

the Conservation Area Partnership (CAP) scheme (now replaced by the Heritage Economic Regeneration scheme) amounted to over £3.6 million.\(^{(1)}\) This has included high profile projects such as Creswell Crags and Bolsover Castle.

**Box 5.13** *Creswell Crags*

Creswell Crags is situated in the Medan Valley, at the heart of the coalfield of North Nottinghamshire, North East Derbyshire and South Yorkshire.

The Meden Valley lost 7,000 colliery jobs between 1984 and 1996, leading to average unemployment of 11.5 percent. The Valley displays signs of multiple deprivation with housing and health problems (e.g. 3,600 houses currently designated unfit for human habitation, 16.7 percent of the population affected by long term illness) and suffers from a poor image.

A Programme of works to improve the conservation, management and interpretation of the centre has been undertaken through English Heritage and English Nature and subsequently the reclamation of the Creswell Model Village, including the restoration of 280 cottages (Townscape Heritage Initiative, Heritage Lottery Fund).\(^{(3)}\)

**Box 5.14** *Examples of Improvements to the Historic Built Environment*

**Bolsover Castle and District:** The CAP scheme has brought new life to the historic Market Place by enabling refurbishment of a terrace of traditional stone buildings and bringing a derelict shop back into use. Bolsover Castle, attracting over 45,000 visitors per year is also undergoing restoration work as part of a larger £11 million regeneration scheme (CAP, ERDF, RECHAR and SRB).

**Towcester:** Towcester is a Roman town which has faced the dual pressure in recent years of heavy traffic undermining the town centre environment, combined with retail competition from nearby Northampton and Banbury. The CAP scheme in Towcester invested a total of £332,681 with CAP grants of £94,376 and private sector investment of £238,305. 12 dwellings were improved, 10 jobs were created and 33 safeguarded.

**Shirebrook Regeneration:** A £24 million project for the regeneration of Shirebrook has been agreed involving the reclamation of the former Shirebrook colliery for employment use, new access road, refurbishment of properties in the Shirebrook model village, new school and sports pavilion.

*Source: English Heritage.*

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5.4 **QUALITY OF LIFE AND THE ENVIRONMENT**

A high quality environment provides a number of less tangible benefits to residents of the region, relating to:

• Physical and mental quality of life benefits: health and social issues are clearly related to an individual’s environment. Also, wooded and natural areas are believed to relieve stress and may also contribute to lower incidences of conditions such as asthma (see Sherwood Forest, Box 5.18); and

• Environmental understanding: Natural areas, woodlands and green space in urban and rural areas provide opportunities for learning about nature and the environment.

5.5 SUMMARY

The quality of the environment already makes a significant contribution to economic activities in the East Midlands such as tourism and inward investment. It also brings social benefits which enhance the quality of life for residents and visitors. There is clear scope and opportunity for increasing these benefits – see Section 6. Actions for capitalising on these opportunities are outlined in Section 7.
6. **GROWTH POTENTIAL**

This section examines the potential for developing the environmental economy of the East Midlands and for increasing its contribution to the region’s economy. *Section 7* then recommends actions for capitalising on this growth potential.

6.1 **GROWTH POTENTIAL IN THE ENVIRONMENTAL INDUSTRY**

6.1.1 *Businesses Supplying Environmental Goods and Services*

The environmental industry in the East Midlands is a fast growing sector with significant growth potential over the next decade – both in terms of market opportunities in the UK and overseas. The UK market for environmental goods and services, for example, is forecast to grow from £14.8 billion in 2001 to £21 billion by 2010; and the world market is forecast to grow from US$515 to US$680 billion over the same period (1) – see Figure 3.1 (in Section 3). In overseas markets, growth will occur in ‘developed’ markets such as the US and Western Europe, as well as ‘developing and rapidly industrialising regions’ such as Central and Eastern Europe, China and South East Asia.

*Table 6.1* summarises the growth potential in different sub-sectors of the environmental industry. Highest growth prospects exist in sub-sectors such as waste management, contaminated land remediation, energy management, renewable energy and cleaner technologies and processes.

**In the light of future market growth forecasts, prudent estimates indicate that employment in the region’s environmental industry could increase by 8,000 from 20,100 to around 28,000 by 2010.**

Future growth potential is being driven by a range of factors, including regulatory drivers are compliance with EC regulations such as the:

- Urban Wastewater Treatment Directive
- the Landfill Directive
- the EC Water Framework Directive
- the EC Waste Electrical and Electronic Equipment Directive (WEEE), and

Markets are also by international agreements such as the Kyoto Protocol and UK policy and legislation such as the Environmental Protection Act 1995, the UK Landfill Levy, the Climate Change Levy and the UK Waste Strategy 2000.

Examples of strong market drivers are given in Box 6.1 and 6.2.

Table 6.1: Summary of Future Growth Potential in the Environmental Industry

<table>
<thead>
<tr>
<th>Sub-Sector:</th>
<th>Future Growth Potential:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Management (WM)</td>
<td>⬤ ⬤ ⬤ Significant growth is forecast for UK markets - including minimisation and recycling. Big opportunities at home and overseas for specialist waste management service and technology providers. Technology manufacture provides opportunity for diversification in other sectors (e.g. engineering industry). Opportunities for adding value in the waste industry by increasing materials reprocessing in the East Midlands. This would help to promote “closed loop” waste management in the East Midlands.</td>
</tr>
<tr>
<td>Renewable energy (RE)</td>
<td>⬤ ⬤ ⬤ Strong market drivers – e.g. Kyoto and renewable energy targets. Potential to increase RE technology manufacture in the East Midlands BUT overseas competition is strong.</td>
</tr>
<tr>
<td>Energy Management (EM)</td>
<td>⬤ ⬤ ⬤ Strong market drivers for energy efficiency services &amp; technologies, e.g. Climate Change Levy, will continue to drive industrial demand. Also Government programmes (e.g. Energy Savings Trust and Carbon Trust) is encouraging demand amongst domestic users.</td>
</tr>
<tr>
<td>Cleaner processes and technologies (CTP)</td>
<td>⬤ ⬤ ⬤ UK and EU environmental policies are promoting pollution control at source, rather than end-of-pipe. This will drive demand for process engineering and clean technology expertise – as well as a life cycle assessment and product design for eco-efficiency.</td>
</tr>
<tr>
<td>Contaminated Land Remediation (CLR)</td>
<td>⬤ ⬤ ⬤ Relatively high levels of demand will continue in the East Midlands and UK markets. There are opportunities for developing CLR techniques and exporting Regional know-how.</td>
</tr>
<tr>
<td>Environmental Consultancy Services (ECS)</td>
<td>⬤ ⬤ ⬤ Likely increases in demand are expected in the East Midlands and UK driven by expanding environmental regulations – e.g. waste minimisation, environmental auditing and management systems (e.g. ISO 14001) and contaminated land remediation activity. BUT growth will depend on level of environmental penalties and rate of regulatory implementation. Good export opportunities in regions such as Central &amp; Eastern Europe.</td>
</tr>
<tr>
<td>Environmental Monitoring &amp; Instrumentation (EMI)</td>
<td>⬤ ⬤ ⬤ Demand for EMI services will see moderate growth in line with likely increases in monitoring required by regulations. There are good opportunities for producers of innovative EMI technologies.</td>
</tr>
<tr>
<td>Water and Wastewater Treatment (WWT)</td>
<td>⬤ ⬤ ⬤ The market in the UK may not increase substantially because of current high levels of water industry investment, but it will remain large. Opportunities exist in relation to out-sourcing of effluent management for industry, build-own-operate contracts, implementation of ‘tertiary’ treatment systems and upgrading of UK water supply networks (e.g. leakage control). Also significant growth in overseas / developing country markets. Good opportunities for innovative WWT technologies which reduce costs and improve performance.</td>
</tr>
<tr>
<td>Landscape industries (LI)</td>
<td>⬤ ⬤ ⬤ Demand for landscape practitioners will continue to be reasonably buoyant in the face of Regional regeneration and land remediation programmes.</td>
</tr>
<tr>
<td>Air Pollution Control (APC)</td>
<td>⬤ ⬤ ⬤ The current market in the UK is relatively subdued, but may increase in the future with tighter regulation. Overseas opportunities are good. Strong East Midlands companies could capitalise on UK and overseas opportunities.</td>
</tr>
<tr>
<td>Noise and Vibration Control (NVC)</td>
<td>**</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Marine Pollution Control (MPC)</td>
<td>*</td>
</tr>
</tbody>
</table>

Key: ★★★ = significant growth potential; ★★ = moderate growth potential; ★ = relatively limited growth potential.
**Box 6.1 Market Drivers for Waste Management and Recycling**

**Landfill** – The EU Landfill Directive contains targets to: reduce biodegradeable municipal waste going to landfill to 75% of 1995 level by 2010, 50% of 1995 level by 2013 and 35% by 2020. Co-disposal of hazardous and non-hazardous wastes will be banned, as will the landfill of tyres (whole tyres by 2003, shredded tyres by 2006). Landfill of liquid wastes, infectious clinical wastes and explosive or highly inflammable wastes will also be banned.

**Recycling and Recovery** – Targets set by the Government will require local authorities to increase recovery and recycling or composting of waste sent to landfill. Recovery should reach 40% by 2005 and 67% by 2015; recycling or composting should reach 25% by 2005 and 33% by 2015.

**Incineration** – Potential increases in waste incineration and waste to energy schemes in order to achieve UK Waste Strategy targets.

**Sewage Sludge** – The EU Waste Water Treatment Directive brought an end to sea dumping of sewage sludge in 1998. This is driving the development of alternative sludge disposal strategies such as use as a fertiliser and incineration.

**Economic instruments** such as the existing Landfill Tax and proposed Aggregates Tax will drive waste minimisation, reuse and recycling.

**Other regulatory drivers** – Additional regulations will drive the development of recycling infrastructures and the recycling industry. These regulations include: the Draft End-of-Life Vehicles Directive (implementation expected in 2007); the Packaging Waste Regulations; and the Waste Electrical and Electronic Equipment Directive (WEEE) expected to be implemented in 2006.

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**Box 6.2 Market Drivers for Renewable Energy**

**Market Drivers for Renewable Energy**: 2% of UK electricity currently comes from renewable sources. The Government’s target is to increase this to 10% by 2010. The Renewables Obligation, which came into effect in April 2002, places a statutory requirement on all electricity suppliers to demonstrate that a percentage of their electricity sales come from a renewable source – this is currently 3%, rising to 10% by 2010. With these types of requirements, the Government expects to create a £1 billion market for renewable energy by 2010. In addition, the Government is providing support to facilitate the planning process for renewables and introducing a £260 million programme over the next three years to support development of renewable energy sources in the UK.

**In the East Midlands**, the national targets have been translated into a regional target to increase renewable energy capacity by over 1,000% by 2010. This target is based on an assessment of the region’s capacity to generate electricity from all potential renewable energy sources (see Table 6.2). Initiatives and policies to help meet targets will lead to significant growth opportunities for renewable energy suppliers (technologies, services and generators) in the East Midlands.
Table 6.2  Summary of East Midlands Targets for Renewable Energy Generation

<table>
<thead>
<tr>
<th>Renewable Energy Source</th>
<th>Capacity (MW&lt;sub&gt;e&lt;/sub&gt;)</th>
<th>Evaluation Schemes</th>
<th>Target for 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offshore wind</td>
<td>0</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>Onshore wind</td>
<td>0.05</td>
<td></td>
<td>122</td>
</tr>
<tr>
<td>Wave / Tidal</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Biomass: Wet agricultural wastes</td>
<td>0</td>
<td></td>
<td>5.1</td>
</tr>
<tr>
<td>Biomass: Poultry litter</td>
<td>0</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Biomass: Energy crops</td>
<td>0.1</td>
<td></td>
<td>46</td>
</tr>
<tr>
<td>Hydropower</td>
<td>2.5</td>
<td></td>
<td>10.6</td>
</tr>
<tr>
<td>Solar - Photovoltaics</td>
<td>0.08</td>
<td></td>
<td>15.9</td>
</tr>
<tr>
<td>Municipal and industrial waste</td>
<td>7</td>
<td></td>
<td>55</td>
</tr>
<tr>
<td>Landfill gas</td>
<td>27.2</td>
<td></td>
<td>52.5</td>
</tr>
<tr>
<td>Anaerobic digestion</td>
<td>7.2</td>
<td></td>
<td>18.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44.1</strong></td>
<td></td>
<td><strong>465.5</strong></td>
</tr>
</tbody>
</table>


6.1.2  Cost Effective Environmental Improvement in Industry

At present, whilst a proportion of firms in the East Midlands have introduced cost effective environmental improvements, substantial scope exists for wider uptake amongst the region’s industrial companies. These improvements, as already demonstrated by leading companies in the East Midlands, could bring significant cost savings and help enhance industrial competitiveness.

6.1.3  Environmental Conservation and Enhancement

Organisations undertaking conservation and environmental improvement work are expected to grow in line with increasing public awareness of the importance of nature conservation and the historic built environment, and increasing public participation in conservation activities. This work will also be driven by:

- The development of regional and local Biodiversity Action Plans and targets for maintaining or enhancing populations of plants and animals or habitats.
- A desire amongst some regional partners to incorporate environmental conservation / enhancement into regeneration and site development projects in the East Midlands.
- An increase in statutory designations such as the European Union’s Natura 2000 network, as well as the greater emphasis now being placed
on non-designated sites will also drive nature conservation activities in
the region.

- Employment schemes such as New Deal / Environment Task Force are
likely to continue to contribute to the conservation work in the region,
helping to provide the necessary human resources to deliver the future
opportunities identified above, as well as providing skills and
employment opportunities for participants.

**6.2 GROWTH POTENTIAL IN THE LAND BASED INDUSTRIES**

Significant opportunities exist to develop land based activities relating to the
environment in the East Midlands. These are being driven by:

- Expansion of UK and EU funding for agri-environment schemes.
- Growing consumer awareness of agri-environment issues and rapidly
growing markets for organic and regional produce in the UK.
- Further scope for development of woodlands / forestry to regenerate
urban and rural areas, attract investment and provide a valuable
environmental and recreational resource.
- Growing demand for sustainable forestry products, for example, under
the Forestry Stewardship Certification (FSC).
- Scope for the development of non-food crops to be used as an
environmentally benign raw material in products such as fibre for car
and aircraft upholstery, oil for bio-solvents, bio-lubricants and bio-fuels.

Future growth of environmental improvement schemes in land-based
industries is to a large extent driven by the availability of public funds. These
are being increased significantly under the English Rural Development
Programme (ERDP) to 2006 (1) in line with the EU and UK policy to switch
support from the first to the second pillar (2) of the Common Agricultural
Policy (CAP).

The principle of ‘modulating’ agricultural support payments into rural
development and environmental management was introduced in the
Agenda 2000 Reform of the CAP. Currently, less than 10% of the
agricultural budget is allocated to agri-environment schemes and wider
rural development schemes. This level may to increase significantly beyond
the ERDP provisions in the longer term, influenced by the report of the
Policy Commission on the Future of Farming and Food (3) that stresses the

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(1) Agri-environment schemes in the UK will receive £1,052 million between 2000 and 2006, an increase of 126% from the
previous ERDP.
(2) Pillar I relates to production-linked support measures. Pillar II is environmental management or business development.
(3) Farming & Food, a sustainable future, Policy Commission on the Future of Farming and Food, January 2002
need for public money to be ‘refocused on real social and environmental public benefits whilst making farming and food production profitable again.’

**Organic farming and produce:** The market for organic produce is growing and is forecast to be particularly strong in the UK compared to other European countries (See Box 6.3).

**Box 6.3 Organic Produce Development in the UK**

The market for organic produce in the UK it grew by 35% to £980 million in 2001 and is forecast to reach £1.2 billion in 2002 and top £1.76 billion by 2005, making the British Europe’s biggest spenders on organic produce.

Fruit and vegetables account for 41% of all sales - the largest share of the market, followed by dairy products at 16% and prepared foods at 15%. Sales of organic meat continue to boom, with consumers buying £83 million worth last year.

The organic baby foods market is now valued at £55 million accounting for almost 40% of the total baby food sold - compared with 23% in 2000.

Tesco plans to increase its organic market to £1 billion within five years, although the price of purchasing organic foods is the key off-putting factor with 40% of consumers.

**Source:** Consumer Analyst Mintel

Although the area under organic production or conversion and the numbers of farmers and organic producers have increased significantly in recent years, there is still an unmet demand for organic produce. Estimates indicate that 40% of domestic demand is currently being met by imports.

The reopening of the Organic Farming Scheme in January 2001 gave a boost to farmers wanting to shift to organic farming with an average of £20m funding per year. The yearly budget is now more than 50% larger than expenditure in 1999/2000.

**Regional Produce:** Local food and drink can play a significant role in promoting tourism in the region, raising the profile of a destination and enriching the visitor experience of an area. It plays an increasingly important role in the support of managing the countryside, strengthening local identity and regenerating of the rural economy. Successful suppliers of regional produce include Curtis Ltd of Lincoln, which won a Gold award at the International Fresh Foods 2000 competition for their ‘Cornish Pasties’, shortcrust sausage rolls, farmhouse dry cured bacon and farmhouse Lincolnshire sausages; and FC Phipps who won Gold for their pork & Stilton pie, pork & apple and duck & orange pies. The development of more than 40 Farmers’ Markets in the region and various Veg Box Schemes illustrate the growing market and awareness of regional produce.
Support will be available through the ERDP to develop production and marketing of locally sourced regional. A number of other initiatives in the region aim to promote regional produce, including:

- **Food & Drink Forum** / cluster, joining up local, regional and national producers in the region and landowners to develop the food and drink industry;
- **‘Eat the View’** a policy initiative by the Countryside Agency which aims to promote products which aims to promote products which play a role in the maintenance of the landscape;
- **‘Food and Drink in Tourism’** a major project now halfway in the 3-year programme to develop the distinctiveness of the Heart of England through its food and drink culture through key food and drink events, regional Food and Drink excellence awards scheme, pilot destinations in Leicestershire, Derbyshire/the Peak District and encouragement to businesses and organisations to source local produce;
- **Local food and drink initiatives** including the establishment of county based awards schemes for food and drink, Nottingham Foods initiative and ‘A Taste of Leicestershire’ linking food and drink to shopping.

**Non-Food Crops:** There is considerable scope for developing the non-food crop market in the UK and Europe. The Central Science Laboratory’s alternative crops and biotechnology unit in York estimates the market for bio-lubricants to be worth £1 billion in non-food crops (growing by 40% per year in the next five years). Non-food crops are used as a raw material for many products including fibre for car and aircraft upholstery, oil for bio-solvents, bio-lubricants and bio-fuels and specialist crops for the herbal supplements and pharmaceutical market. Farmer confidence in taking on new types of crops and co-operation between farmers to guarantee sufficient supply are some of the crucial elements of unlocking the emerging markets of non-food crops.

**Increasing demand for farm based tourism** e.g. fishing, horse riding, guided walks, conservation work. The Rural Action Plan for the East Midlands (EMDA, 2000) stresses the importance of reducing the dependency of rural economies on sectors with declining employment, such as mining and agriculture. The Action Plan highlights the development of rural tourism as a potential way of diversifying rural economies. Regional examples include Lincolnshire Tourism’s Farm Tourism project. Farm based tourism can be closely linked to the development of organic and regional produce.
**Growth in Energy Crops and non-food crops:** Demand for renewable energy crops is set to increase in line with UK commitments to the Kyoto protocol.

Potential sources include:

- Wet agricultural wastes such as anaerobic digestion of slurry from cattle, pigs and laying hens;
- Poultry litter, which can be used as fuel;
- High Erucic Acid Rapeseed (HEAR) can be grown for industrial purposes. Oilseeds from this crop are crushed and used as a lubricant in certain industrial processes. HEAR offers a benefit to farmers in that it can be grown on set-aside land, thus allowing growers to make use of otherwise unproductive land. At the moment, the crop is not widely grown \(^{(1)}\); and
- Energy crops – use of straw, forestry residues and short rotation coppice and miscanthus.

### 6.3 Capitalising on a High Quality Environment

#### 6.3.1 Tourism Based on a High Quality Environment

Opportunities for increasing tourism in the East Midlands which is based on the high quality environment relate to:

- Development of rural tourism, including farm based attractions and facilities in the East Midlands.
- Promoting the region’s environmental attractions through the region’s local food and drink - tourism businesses could increase local sourcing of food and drink.
- The sustainable development of tourism along Lincolnshire’s Coastline and historic environment.
- Development of the Region’s forestry and woodlands as recreational and tourism resources, as exemplified by Sherwood Forest and the National Forest.

Development of these tourism activities will need to be carefully managed in order to prevent it harming the very quality of the environment on which these activities are based.

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\(^{(1)}\) in 1998, approximately 30 000 hectares were grown in England and Wales. East Midlands Renewable Strategy.
6.3.2 Business Investment and Regeneration

There are clear opportunities to contribute to inward investment and economic and social regeneration through further improvements in the region’s physical environment. Opportunities include continuing the regeneration of the former coalfield areas and derelict industrial sites, physical regeneration in market towns and in disadvantaged urban areas. Potential also exists for new developments to incorporate sustainable construction practices.

6.4 SUMMARY

Strong market drivers provide significant opportunities for developing the range of activities that comprise the environmental economy of the East Midlands. This will generate new jobs, help to diversify the region’s industrial base, invigorate rural economies and accelerate progress towards sustainable development in the East Midlands. Actions for helping to achieve this potential are identified in Section 7.
7. MOVING FORWARD

The previous sections have shown that the environmental economy of the East Midlands makes a significant contribution to the region’s economy, and indeed progress towards sustainable development. There is considerable scope for increasing this contribution, through:

- growth of businesses supplying environmental goods and services;
- increasing the uptake of cost-effective environmental management in industry;
- regenerating and enhancing the environment in parts of the region;
- expanding environmental improvement activities in land based sectors such as agriculture and forestry; and
- increasing the contribution of the region’s environment to economic activities such as tourism and inward investment.

The following actions are recommended to capitalise on these opportunities. Actions have been developed in consultation with regional partners.

7.1 THE ENVIRONMENTAL INDUSTRY

7.1.1 Supporting Growth of Environmental Businesses

Barriers to Growth and Support Needs:

In order to capitalise on significant market opportunities, environmental businesses in the East Midlands need to overcome a range of barriers (as identified in the business survey). These include:

- lack of financial and staff resources to invest in growth;
- lack of knowledge of market opportunities in the UK and overseas;
- strong competition;
- The need to develop competitive new services and technologies;
- difficulties in recruiting skilled personnel; and
- uncertainties over future implementation of government policies and regulations in areas such as renewable energy and waste recycling.

Support needs identified by surveyed companies are summarised in Figure 7.1. High priorities include:
- advice on accessing available sources of business funding and support - many companies reported that they were not aware of what support is available or where to obtain it;
- support with marketing activities in the UK and overseas;
- support with innovation and development of new environmental technologies and services; and
- support in identifying market opportunities in the UK and overseas.

**Figure 7.1 Company Support Needs**

![Company Support Needs](image)

*Source: Environmental Business Survey, 2001.*

**Recommended Actions:**

The environmental industry in the East Midlands is a strong and growing sector with good prospects for future growth. In the light of opportunities, barriers and business support needs, we have developed a number of recommendations.

These recommendations build on a number of initiatives already being introduced by EMDA and regional partners, such the establishment of the East Midlands Environmental Industries Forum (EIF) and development of a skills action plan for environmental businesses. Other key players in delivering future support include: the Small Business Service, Business Links, the Regional Supply Office, Trade Partners UK, Sub-Regional Strategic Partnerships and R&D organisations including universities.
**Co-ordinated Regional Approach:** In order to capitalise on significant growth potential in the environmental industry, it is recommended that regional partners should establish a co-ordinated regional Strategy and Action Plan for developing the environmental industry.

This co-ordinated regional approach would help to:

- provide a clear strategic framework for environmental business support activities, targeted towards company needs and future market opportunities;
- provide a clear action plan of support activities which sets out objectives, targets, priorities, responsibilities and performance indicators;
- avoid duplication of effort amongst support providers;
- provide a clear, easily accessible support structure for businesses.

Potential actions within this Strategy and Action Plan include (*Box 7.1 provides more details)*:

1. General business support.
2. Export support.
3. Innovation support.
4. Skills development.
5. Support for start-ups and spin-offs.
7. Strategic inward investment.
9. Business clustering and networking events.
10. Strengthening regional supply chains for environmental goods and services, in emerging areas such as ‘end-of-life–vehicles’.
11. Actions to stimulate regional ‘demand’ for environmental goods and services, including: public sector procurement policies and regional action plans to achieve UK renewable energy and waste recycling targets.

Key players in delivering future support include: EMDA, the Small Business Service, Business Links, Trade Partners UK, Sub-Regional Strategic Partnerships, the East Midlands EIF, the Environment Agency, the Government Office, the Regional Assembly and the RTAB *(1)*.

*(1) Regional Technical and Advisory Body - responsible for developing the Regional Waste Management Strategy.*
Support actions could be delivered under a number of programmes in the East Midlands, including the Regional Economic Strategy (RES) Delivery Plan, Sub-Regional Strategic Partnership (SSP) action plans; cluster development programmes; the regional skills action plan; and innovation programmes.
**Box 7.1 Recommended Actions for Supporting Environmental Business Growth**

**One-to-one business support:** for environmental firms with good potential for growth (e.g. those with innovative products and services, and good business acumen), including support such as:

- Technical innovation – including innovation grants, links to R&D organisations, technology transfer.
- Assistance with marketing – e.g. expo stands, ‘meet the buyer’ events.
- Assistance in identifying market opportunities in UK and overseas.
- Support with skills and training in companies.
- Support to companies in accessing finance – e.g. regional venture capital funds, ‘business angels’, support with corporate finance.
- Diversification - supporting businesses in other sectors to diversify their operations / products towards growing environmental markets.
- General business advice – e.g. assistance with identifying businesses premises, use of IT, doing business over the internet.

**Strengthening Supply Chains and Networks:** Actions to strengthen links between environmental businesses, end-users in the East Midlands, component suppliers to environmental businesses and R&D organisations, including:

- Supplier searches for regional component suppliers;
- ‘matching-making’ activities between companies in the East Midlands;
- networking events by the “Environmental Industries Forum” to strengthen collaboration and improve networking;
- involvement of environmental businesses in supply-chain / cluster development initiatives with other industries – in order to strengthen links to end-user sectors in the East Midlands.

**Developing and capitalising on the Region’s R&D capabilities** – including initiatives to:

- Strengthen the links between environmental suppliers and R&D organisations - university departments and Research and Technology Organisations (RTOs).
- Strengthen environmental technology R&D capabilities in the region’s universities and RTOs, including the commercialisation of existing R&D.
- Examine the potential for establishing national or regional ‘Centres of Excellence’ for R&D in growth areas such as waste management and recycling technologies, environmental monitoring technologies, renewable energy technologies and cleaner technologies.
- Strengthen the links between R&D organisations and business support providers such as Business Links, so that the latter are better able to put companies in touch with appropriate R&D organisations.

**Export Promotion:** In view of substantial overseas market opportunities and existing export successes amongst some East Midlands environmental suppliers, partners such as TPUK, EMDA, the Environmental Industries Forum et al should provide regional export support initiatives, possibly including:

- an ‘export club’ for regional environmental businesses interested in accessing overseas opportunities;
- assistance with market intelligence on overseas market opportunities;
- promotion of export best practice;
• trade missions (inward and outward);
• support in establishing overseas distribution channels – e.g. agents and licensing arrangements;
• regional links to national initiatives such as the work of the Joint Environmental Markets Unit (JEMU).

**Targeted Inward Investment** – Attract selected environmental industry inward investment in sub-sectors with strong growth opportunities for growth but which lack major manufacturers in the East Midlands (e.g. renewable energy technology manufacturers) and establish strong links to regional component suppliers.

**Business Sites and Premises: ‘Eco-Business’ Park** - Explore regional demand and opportunities for establishing innovation parks or high-tech incubators specialising in environmental businesses. These would have close links to universities to foster product innovation and facilitate commercialisation and would help to develop links between suppliers in environmental industry business clusters. Also **encourage the development of environmental infrastructures** – e.g. waste recycling, materials reprocessing facilities and renewable energy infrastructure.

**Stimulating the Regional ‘Demand-Side’**: Public and private sector organisations in the East Midlands can play an important role in stimulating regional markets for environmental businesses, including:

- **Recycling and Renewables** - The implementation of regional strategies and actions for increasing waste recycling and renewable energy generation in order to meet government targets in these areas.
- **Environmental management in industry**: Encourage manufacturing industry in the East Midlands to adopt cost effective environmental improvements – thereby stimulating industrial demand for environmental goods and services. Actions include waste minimisation clubs and linking environmental suppliers into industrial supply chains.
- **The Environment Agency and local authorities** should continue to apply strict enforcement of environmental regulations on the region’s industry.
- **Public sector organisations** should commit to improving their own environmental performance and ‘greening’ their purchasing policies (e.g. renewable energy and recycled products) thereby stimulating regional demand.

### 7.1.2 Actions to Increase the Take-Up of Cost Effective Environmental Improvements in Industry, include:

- The revised Regional Economic Strategy and all SSP action plans should incorporate objectives to enhance resource productivity in the region’s industry and economy.
- Regional and sub-regional partners should develop a clear regional Strategy and Action Plan for helping industry to achieve cost effective environmental improvements and for enhancing resource productivity. Potential actions include:
- establishing ‘Envirowise’ networks for companies throughout the region to promote cost-effective environmental best practice in industry; and

- developing high profile industrial estate based environmental management projects in the East Midlands (along the lines of the Premier Business Park model in Wallsall).

- Regional partners should support the development of supply chain projects to help companies address emerging regulatory issues such as the EU End-of-Life Vehicles Directive or the WEEE Directive\(^{(1)}\).

Key regional players in delivering these actions include EMDA, the Small Business Service, Business Links, the East Midlands Business Forum, trade associations in the region, the East Midlands Advisory Group for the Environment (EMAGE), East Midlands Environment Link (EMEL), the Government Office for the East Midlands, the Environment Agency, the Regional Assembly, Groundwork and Sub-Regional Strategic Partnerships.

7.1.3 Regenerating and Enhancing the Environment:

Environmental protection and enhancement projects can bring significant economic, social, as well as environmental benefits to the East Midlands – either as ‘discrete’ environmental projects, or as parts of larger physical regeneration projects. Recommended actions for developing these activities include:

- Major flagship environmental improvement projects such as improvements to the Lincolnshire coast, which will help to attract visitors and tourist income to the area.

- Continuation of environmental improvements in the Coalfields in order to help attract investment and create employment opportunities.

- Encourage project partnerships to make environmental improvement / conservation a major part of regeneration projects such as the Nottingham riverside, Derbyshire canals and Fenland waterways projects.

- Expansion of community led environmental improvement projects in the East Midlands to bring economic, social and environmental benefits.

- Region-wide application of sustainable construction practices as demonstrated in projects such as the Sherwood ‘Energy Village’ and the ‘Leicester Ecohouse’.

\(^{(1)}\) WEEE = Waste Electronics and Electrical Equipment Directive.
• The revised RES and sub-regional partnership strategies and action plans should seek to support the development of regional conservation activities which generate clear economic and social benefits.

Key organisations to be involved in these actions include: the Sub-Regional Strategic Partnerships (SSPs) and Local Authorities, EMDA, English Nature, NGOs (such as the RSPB, the Wildlife Trusts, the National Trust, the BTCV, Groundwork etc), the Environment Agency, the Countryside Agency, the Government Office and key businesses such as Severn Trent.
7.2 **REGENERATING LAND BASED INDUSTRIES**

As recognised in the Rural White Paper and the Rural Action Plan for the East Midlands, the rural economy, in common with other regions, faces significant changes and challenges relating to declining farm incomes, the possible expansion of the European Union and changes in the financial support for agriculture.

It is important that businesses in the land based sector are encouraged and supported to diversify into a broader range of activities which benefit the environment as well as bringing economic and social benefits. There is every indication that this is already beginning to happen, but there is scope for accelerating and deepening this process.

In the light of consultations with key organisations in the East Midlands, the following actions are recommended.

A very clear lead is required to take these actions forward. Organisations potentially to be involved include: the Countryside Agency, EMDA, SSPs, the Heart of England Tourist Board (HETB), the East Midlands Biodiversity Forum, the East Midlands Rural Action Group, the East Midlands Sustainable Development Round Table and the East Midlands Rural Consultation Group.

7.2.1 *Actions to Promote Environmentally Beneficial Farming*, in line with the Rural Development Programme (RDP), include:

- Increase awareness amongst the region’s farmers of the benefits of agri-environmental schemes and support / opportunities available under the RDP. Specific actions should include development and show-casing of successful agri-environment projects in the region.
- Provide farmers with clear contacts points and ‘sign-posting’ for accessing information and support on agri-environment schemes – including the provision of advice through the Farm Business Advisory Service (FBAS).
- Streamline and simplify the co-ordination and administration of existing agri-environment schemes at the next national review in 2002/2003.
- Build on the achievements of FWAG in working with farmers on environmental training linked to agri-environment schemes.
- Explore the potential for and, if appropriate develop farm based composting of organic waste within the region. Also examine the case for expanding rural biomass or biofuel projects across the region.
7.2.2 *Actions to Support the Development of Regional and Organic Produce*

Demand in the East Midlands and throughout the UK is growing for locally grown and regional produce, as well as organic produce (though at present a large proportion of this produce is imported). Recommended actions to help realise the growth potential in regional / organic produce in the East Midlands include:

- Support for the development of links / clusters between farms, local food processing businesses and retailers in the East Midlands in order to develop regional produce and increase the value added of farm products in the region.
- Incorporate more actions to support regional and organic produce into SSP action plans and the revised RES – in line with regional food and drink strategies.
- Actions to strengthen the links between tourist destinations and local food and drink in the East Midlands – including the work of SSPs and the HETB.
- Examine the scope for a regional brand or ‘logo’ which links regional produce to tourism in the region (this is currently on trial in the region, before national roll-out).
- Support producers develop new, high value regional, based on the quality of the local environment – e.g. regional shellfish products.

Key partners in delivering these actions include EMDA, the food and drinks industry, trade associations such as the Shell Fisheries Association, the Countryside Agency, DEFRA, the HETB, local authorities and the SSPs.

7.2.3 *Actions to Promote Environmentally Beneficial Forestry*

Much has already been achieved in the East Midlands in generating economic and social benefits from environmentally beneficial forestry activities. The following actions are recommended in order to help build on these achievements:

- Examine, and if appropriate, support the development of regional biomass projects which make use of wood waste and capitalise on opportunities for potential for bio-crops. Initiatives need to build on existing work in the region by organisations such as the Forestry Commission, EMRETT and Nottinghamshire County Council.
- Build on the successes of flagship projects such as the Leicester Ecohoused project which demonstrated the economic and environmental benefits of sustainable construction using woodland materials.
• Public and private sector site developers should be encouraged to incorporate sustainable woodland design into business site developments and infrastructure development in the region.

• Regional partners should examine the scope for increasing the use of woodlands in the regeneration of selected derelict / brownfield sites.
7.3  CAPITALISING ON A HIGH QUALITY ENVIRONMENT

7.3.1  Actions to Develop Tourism Based on a High Quality Environment

The East Midlands’ natural and historic built environment provides significant assets for tourism activities. Scope exists for increasing the contribution of these activities to the region’s economy. However, activities need to be carefully managed in order to avoid damaging the very environment on which this tourism is based. As a general principle, new tourism projects should only be developed where there is clear market demand and strong prospects of long-term financial viability – echoing national and regional tourism strategies. Recommended actions include:

- The HETB and regional partners should implement proposals for developing environment-related tourism in the region as contained in ‘Visitor Focus: Growing Prosperity in the Heart of England through Tourism, 1999-2003’.
- Implement English Heritage’s recommendations to repair neglected buildings in the region and put conservation at the heart of renewal and regeneration projects.
- Undertake specific projects such as supporting the revitalisation of Lincoln as a heritage and tourism location and investment in environmental and tourism infrastructure along Lincolnshire’s Coastline.
- Support the implementation of the HETB Action Plan ‘Food and Drink in Tourism’ to strengthen the Region’s distinctiveness as a tourist destination.
- Implement proposals in the Regional Economic Strategy to promote tourism and sports-tourism based on the environment.
- Provide support for stronger marketing of the region based on the quality of the region’s natural and historic built environment.
- Promote environmental good practice (e.g. Green Globe) in the region’s tourist industry.

Activities should be developed in line with the English Tourism Council’s framework for the sustainable tourism and the East Midlands Rural Action Plan. Key partners in delivering these actions include the East Midlands include tourism businesses, the Heart of England Tourist Board (HETB), Sub-Regional Strategic Partnerships and Local Authorities, EMDA, English Heritage, British Waterways, the Regional Assembly, the National Trust and the Countryside Agency.
7.3.2 Enhancing the Contribution of the Region’s High Quality Environment to Inward Investment and Quality of Life

Recommended actions include:

- Regional and sub-regional partners to allocate resources to build on major regeneration projects such as the regeneration of the former Shirebrook colliery - generating significant economic, social and environmental benefits.

- Regional and sub-regional economic development partners should recognise the role of the environment in attracting inward investment and retaining/attracting a skilled workforce and tailor regional marketing plans accordingly.

- Support community-led regeneration activities to improve the Region’s physical environment, as well as helping to attract investment, strengthening communities, improving skills and increasing quality of life – e.g. Groundwork ‘Bright Site’ projects.

- Implementation of English Heritage’s recommended actions for putting conservation at the heart of renewal and regeneration.

7.4 Actions for Developing the Environmental Economy as a Whole

As well as the recommended actions for specific parts of the environmental economy of the East Midlands, it is also recommended that:

- EMDA and regional partners should incorporate actions to support the growth of the environmental economy into the revised Regional Economic Strategy and future revisions of the Regional Delivery Plan.

- Sub-Regional Strategic Partnerships should incorporate actions to promote the environmental economy in their sub-regional development strategies and action plans.

- Local Strategic Partnerships and Local Authorities in the region should recognise the importance of the environmental economy in their local development plans. This needs to be reflected in local authority activities such as regeneration, planning processes, enforcement of environmental regulations and delivery of support and grants to businesses.

- The Regional Assembly and the commissioning partners of this study should examine how they can monitor future development and expansion of the region’s environmental economy, in order to accelerate
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**Consultees**

Anglian Water
Centre Parcs
Countryside Agency
DEFRA
Derbyshire Wildlife Trust
East Midlands Development Agency
East Midlands Environmental Industries Forum
East Midlands Environmental Industries Pathfinder Group
East Midlands Food & Drink Forum
Ecofilters
EMCAT
EMEL
Energy Advisors Ltd
English Heritage
English Nature
Environ
Environment Agency
Extec Ltd
Forestry Commission
Government Office for the East Midlands
Greenwood Community Forest
Groundwork
Heart of England Tourist Board
Kenley Manufacturing
LEAF
Leicester County Council
Lincolnshire Wildlife Trust
LincsWood
EMRETT
National Federation of Farmers' Market
National Forest Foundation
National Trust
Nottingham County Council
Nottinghamshire Food Initiative
Nottinghamshire Wildlife Trust
Nottingham Trent University
Peak District National Park
Robert Thomas Farm
RSPB
Rutland County Council
Rutland Water
SATRA
Sherwood Initiative
The Soil Association
UKROF
## Glossary

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<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BTCV</td>
<td>British Trust for Conservation Volunteers</td>
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<td>CAP</td>
<td>Conservation Area Partnership</td>
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<td>CBI</td>
<td>Confederation of British Industry</td>
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<td>EIF</td>
<td>East Midlands Environmental Industries Forum</td>
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<tr>
<td>ELV</td>
<td>End of Life Vehicle</td>
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<td>EMAGE</td>
<td>East Midlands Action Group for the Environment</td>
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<td>EMDA</td>
<td>East Midlands Development Agency</td>
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<td>EMEL</td>
<td>East Midlands Environment Link</td>
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<td>EMRETT</td>
<td>East Midlands Renewable Energy Technology Transfer</td>
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<td>FBAS</td>
<td>Farms Business Advisory Service</td>
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<td>FTE</td>
<td>Full Time Equivalent (employment)</td>
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<td>FWAG</td>
<td>Farming and Wildlife Advisory Group</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GOEM</td>
<td>Government Office for the East Midlands</td>
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<td>HETB</td>
<td>Heart of England Tourist Board</td>
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<td>NFU</td>
<td>National Farmers Union</td>
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<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<td>R&amp;D</td>
<td>Research and Development</td>
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<td>RDP</td>
<td>Rural Development Programme</td>
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<td>RES</td>
<td>Regional Economic Strategy</td>
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<td>Royal Society for the Protection of Birds</td>
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<td>RTAB</td>
<td>Regional Technical Advisory Board</td>
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<td>SSP</td>
<td>Sub-Regional Strategic Partnership</td>
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<td>WEEE</td>
<td>Waste Electrical and Electronic Equipment</td>
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