



Towards a Regional Energy Strategy

A Sustainable Approach to Energy in the East Midlands

Executive Summary

Consultation Document

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Produced by Land Use Consultants, with National Energy Foundation and IT Power, for the East Midlands Assembly's Energy Task Group.

Foreword

Viewpoints on Sustainable Energy in the East Midlands reported in early 2001 that the East Midlands is a region that could become a viable source of renewable energy and a region full of opportunity.

The East Midlands Assembly through the Energy Task Group has undertaken further research to highlight the potential of the East Midlands to become Britain's first sustainable energy region. Within the consultation draft of *Towards a Regional Energy Strategy* is a methodology for challenging present day concepts and barriers. Its implementation, in which everyone can play a role, will help future generations to live in harmony with the planet. This will form part of the Integrated Regional Strategy (IRS), which is the Sustainable Development Framework for the region.

The primary challenge and objective of the work described in this document is to reduce energy use, improve energy efficiency and achieve a significant take up of renewable energy at local and regional level. At the cutting edge of joined up thinking, the East Midlands is one of the most proactive and challenging regions for sustainability in Europe and one where there is considerable expertise and environmental champions. We have exemplar beacon local authorities within the region and two very successful European energy agencies and three proficient Energy Efficiency Advice Centres now supported by Britain's first Regional Community Renewables Initiative.

There can be no doubt that the East Midlands region is striving to meet the challenge of Climate Change and Global Warming and that the key actors and implementers are engaging within a rational programme that involves the community regionally as well as locally. Identifying the energy ambassadors and those involved in the battle against climate change is most significant; it's everyone living and working in our region and of course those in the rest of the world.

Global warming knows no borders or distinguishes between countries or continents. In the East Midlands we have seen the effects first hand and understand the needs of a sustainable region and one where fuel poverty will not be tolerated or accepted. *Towards a Regional Energy Strategy* will be utilised to communicate the opportunities and stimulate key actions at all levels and through all sectors and this will require all of us to implement them in our homes and work places. The challenge is to be sustainable in our use of energy and grasp the opportunity to lead in the economic exploitation of the products and processes which this implies. It has been a great opportunity to be the Chair of the East Midlands' Energy Task Group and to take on forging commitment and actions in a coordinated programme. The future challenge is one that will require continuing dedication by the partnership and engagement with the community. This document is just a start. We must also open up the markets for the products, services and jobs the region is well placed to develop and supply. We are already working on that.

Don Lack, Chair of the Energy Task Group

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ES1 Background and introduction

This document is an executive summary for the document '*Towards a Regional Energy Strategy - A Sustainable Approach to Energy in the East Midlands*', otherwise known as the 'main document'. **Throughout the main document and this executive summary, the term 'strategy' is used. Please note that when the term is used in the context of a current document (e.g. draft strategy, or regional energy strategy), it refers to the main document, i.e. '*Towards a Regional Energy Strategy - A Sustainable Approach to Energy in the East Midlands*'. The term strategy is used as a convenient shorthand, although it is recognised that the document is not a strategy.**

ES1.1 Energy White Paper

1. In February 2003, the government published its long awaited Energy White Paper *Our energy – creating a low carbon economy*. It aims to address three key challenges: the threat of climate change; the implications of reduced UK oil, coal and gas production; and the need to replace or update much of our energy infrastructure.
2. The White Paper sets out a strategy to reduce carbon emissions over the next 50 years through reducing energy use, expanding renewable energy and energy efficiency. It sets out four goals for the government's energy policy:
 - To work towards cutting emissions of carbon dioxide by 60% by 2050.
 - To maintain the reliability of energy supplies.
 - To promote competitive energy markets in the UK and beyond.
 - To ensure that every home is adequately and affordably heated.

ES1.2 The East Midlands' Approach

3. Building on a long history of traditional energy generation, the East Midlands has become renowned for its innovative approach to energy conservation, energy efficiency and renewable energy development. The Energy Task Group was appointed by the assembly and comprises key regional stakeholders. In 2001, the Energy Task Group produced a report entitled the *Viewpoints on Sustainable Energy in the East Midlands*, which included a series of regional and county-based renewable energy, CHP (combined heat and power, also known as co-generation) and energy efficiency targets. This integrated approach set it apart from the work of other regions and provided a model for a regional approach to energy policy, which the Energy White Paper advocates.

ES2 Aims and scope of the strategy

4. Once developed, the energy strategy will form part of a suite of strategies designed to give expression to the region's Integrated Regional Strategy (IRS), which forms the Sustainable Development Framework for the region.
5. This document develops and updates the Viewpoints Report. It sets out a vision for establishing the East Midlands as a sustainable energy region; includes regional and county area (where these include city unitary areas) targets; and sets out an action plan showing how regional bodies and local authorities intend to help deliver the strategy's objectives. It also acts as a contribution by the region to the development of national policy.

ES2.1 Vision, aims and objectives

6. The vision for energy in the East Midlands in 2020, which provides a framework for the strategy, is set out below.

Panel ES2.1: Vision for energy in the East Midlands in 2020

The East Midlands region will be an exemplar of sustainable energy use and production. energy awareness will influence the way we live, the way we work and the way we move around. Energy consumption will be minimised and energy use will be more efficient, with an acceptance that improvements to quality of life can be achieved without increased energy use. A significant proportion of our electricity will come from renewable sources bringing social, economic and environmental benefits for local communities. Building on the East Midlands' rich heritage of traditional energy activity, the region will host a thriving sustainable energy industry, which will compete in the global market place.

7. In order to realise the vision, the strategy has three overriding aims:
- To eradicate fuel poverty by 2015 and to facilitate minimum energy efficiency improvements by 2010 in the domestic sector by 10%; the office, retail, public sector and other non-industrial sector by 12.5%; and the industrial sector by 20%.
 - To increase substantially the appropriate deployment of renewable energy technology and coal mine methane systems in the East Midlands. This will help to meet the regional targets for electricity generation from renewable sources of 10.6 % by 2010 and 20% by 2020, and also to increase the use of heat pumps, wood heat systems and solar water heating systems.
 - To use fossil fuels efficiently - by encouraging a switch to generating plant which minimise CO₂ (carbon dioxide) emissions, including increasing the capacity of CHP plants in the region by adding over 100 MW_e (mega watts of electricity output) of new CHP plant by 2010, and trebling capacity by 2020.
8. To help achieve these aims, the strategy has five key objectives. Many aspects of these are linked to other regional strategies within the framework of the IRS, in particular Regional Planning Guidance (draft revised RPG 8), which includes the Regional Transport Strategy (RTS), and the Regional Environment Strategy. The objectives are:
- To foster greater awareness, understanding and appreciation of the need for, and benefits of, a more sustainable approach to energy generation, in the context of climate change.
 - To encourage greater community involvement in the planning, design and delivery of sustainable energy projects.
 - To promote sustainable energy development through the land use planning process.
 - To influence non-land use strategies, plans and programmes in the region to ensure that they integrate the principles of the 'energy hierarchy'.
 - To build the market for sustainable energy, through research and development and the development of a sustainable energy business network.

Panel ES2.2: The Energy hierarchy

First, reduce the need for energy, through careful planning, design, lifestyle choices and encouraging behavioural change.

Next, use energy more efficiently, through a variety of measures such as improving insulation, heating or lighting.

Use energy from renewable sources, such as wind, solar, biomass and hydropower.

And finally, make clean and efficient use of fossil fuels, such as coal and gas.

ES3 Policy framework

ES3.1 Links with other strategies and policy areas

9. The overall aim of the Assembly's Integrated Regional Strategy (IRS) is to achieve sustainable development within the East Midlands region. This will require the integration of policies across the economic, environment, social and spatial themes of the IRS. Energy cuts across all four of these themes and related topic areas, as follows:
- Environment: The Regional Environment Strategy aims to encourage the reduction in the environmental impact of energy use in the region.
 - Land Use Policy: The draft revised Regional Planning Guidance (RPG) sets out regional priorities for energy which are underpinned by the energy hierarchy. See section below.
 - Transport: regional transport policy, set out in the Regional Transport Strategy (RTS) as part of RPG, seeks to limit traffic growth by reducing the need to travel and improving public transport systems. See section below.
 - Public health: this strategy addresses issues which recognise the needs of the 'fuel poor' in the Region and the effects that fuel poverty have upon their state of health and well-being.
 - Waste: Unlike the national targets for renewable energy, this strategy excludes energy derived from incineration of municipal and commercial waste. Renewable energy targets should not drive decisions of the management of waste; rather these decisions should be guided by the waste policy, which prioritises waste reduction, re-use, and recycling before energy recovery.
 - Economic Development: The Regional Economic Strategy seeks to 'develop a strong culture of enterprise and innovation'. Encouraging renewable energy development will facilitate such a culture through small business start-ups and new avenues for diversification.
 - Rural Development and Agriculture: With the region having extensive agricultural land, the opportunities for farm diversification into biomass production are significant. There are also opportunities to reduce 'food miles' by encouraging local food production.
 - Housing: As outlined in the consultation draft of the regional Housing Investment Strategy, meeting housing requirements in the region will entail significant new build and the refurbishment of existing housing, preferably using modern methods of construction. This presents opportunities to improve energy efficiency of homes, as well as the use of district heating and CHP, as well as the potential for integration of renewables such as photo-voltaics.
 - Regeneration: Regeneration of former coalfield areas is a key objective for the region. Such locations offer significant opportunities for the development of coal mine methane and renewable energy projects, particularly wind power and biomass.
 - Skills: skills in the energy sector will be developed, recognising the Framework for Employment Skills and Action (FRESA) and CITB's new regional construction skills forum.
10. There are a wide range of organisations in the region that are actively involved in progressing the development of sustainable energy initiatives, and many existing schemes are viewed as national exemplars.

ES3.2 A note about Regional Planning Guidance (RPG)

11. Regional Planning Guidance for the East Midlands (RPG 8) was issued by the Secretary of State in January 2002. It identified a number of policy areas where further development and research was required of which renewable energy locations was one. A draft Revised RPG for public consultation was launched in April 2003. Regional energy policies are underpinned by the energy hierarchy. Regional Planning Guidance and energy policies have also been informed by a study called "Energy issues and the Review of RPG for the

East Midlands” (January 2003) which was carried out in by the same consultants in advance of the draft Energy Strategy document. The Draft Revised RPG sets out ten objectives which include reducing overall energy use and maximising the role of renewable energy generation. Specific Energy Policy is set out under two headings covering Energy Reduction and Efficiency, and Renewable Energy. The role of transport in helping to reduce the level of greenhouse gasses is addressed in the Regional Transport Strategy which forms part of the RPG.

ES3.3 Energy policy

12. The UK’s Climate Change Programme, driven by International and European policy commitments, describes a variety of measures aimed at addressing CO₂ emissions. These include the Renewables Obligation (which requires electricity suppliers to purchase a certain proportion of electricity from renewable sources) and exemption of renewable electricity and good quality CHP from the Climate Change Levy.
13. The Energy White Paper outlines an additional range of practical measures aimed at meeting the targets for reducing energy use, energy efficiency and renewable energy deployment. These include new government spending on renewables; a carbon trading system to that will give energy suppliers and consumers incentives to switch to cleaner energy; and a new energy research centre to help develop the latest cutting edge energy technologies.
14. The White Paper confirms that the largest absolute reductions to CO₂ emissions are likely to come from greater energy efficiency, which is expected to contribute national carbon savings of 5MtC (mega tonnes, i.e. millions of tonnes, of carbon) per annum in the domestic sector and 6MtC per annum from businesses and the public sector

ES3.4 Land use planning

15. The government will shortly publish new planning guidance on renewables, together with a separate guide containing guidance on best practice. The wider planning reforms will seek to speed up the planning system and the handling of planning applications, increase the predictability of planning decisions, and streamline the public inquiry process for major infrastructure projects (including major energy projects).
16. The Local Government Act 2000 gave new powers to local authorities to promote the social, economic and environmental well being of their area. The planning reforms also require local planning authorities to contribute to the achievement of sustainable development. The implementation of these powers is backed by new resources and could greatly assist local authorities in promoting energy efficiency and renewable energy.
17. Draft revised Regional Planning Guidance which has been informed by a Study carried out in conjunction with this strategy emphasises that land use planning has an important role to play in energy policy. The draft RPG sets out policies for local authorities, energy generators and other agencies to promote energy reduction and efficiency and for Development Plans to facilitate the delivery of Renewable Energy targets.
18. The Development Plan policy framework in the East Midlands is generally supportive of sustainable energy developments. All structure plans include policies favouring renewables and a few plans also address energy efficiency.

ES4 Reducing energy use

19. The strategy sets out three key areas of energy activity in the East Midlands where change is needed in order to reduce energy use:

ES4.1 Housing

20. Over 25% of UK primary energy goes towards heating buildings, and this use accounts for the production of almost 50% of UK CO₂ emissions. The design of buildings has a direct impact on how much energy is consumed and dramatic savings can be made through

adopting the principles of passive solar design. These include: southerly orientation ($\pm 20^\circ$) of daytime living areas; a responsive zoned heating system; and appropriate areas of glass on southern facades.

ES4.2 Transport

21. The transport sector's energy consumption is also continuing to rise with the rapid growth in road and air traffic. To help address this, the strategy proposes that the 'transport hierarchy' – analogous to the energy hierarchy – should underpin the policies of regional bodies. This advocates the following actions, in descending order:
- Reduce the need to travel.
 - Use environmentally benign modes of transport.
 - Use the most environmentally efficient modes of travel.
 - Use environmentally harmful modes as efficiently as possible.

ES4.3 The economy

22. There is considerable scope to reduce energy consumption in the manufacturing and service sectors through ensuring that buildings are not overheated or over-lit, and that equipment is well maintained and never operating unnecessarily.

ES4.4 Passive solar design target

23. The strategy includes a regional target for passive solar design savings. This target figure illustrates the reduction in additional energy consumed by new dwellings in the region in GWh/annum (giga watt hours, i.e. billion watt hours, per year) after six years (i.e. in 2010), allowing a 12 month lag for improvements to filter into the design process. In other words, this is not a saving against current actual energy use, rather a saving against future growth in energy use.

Table ES 1: Passive solar design target

	Target saving by 2010	
	GWh/yr	%
Passive solar design	114	0.3%

ES5 Energy efficiency

24. In the words of the Energy White Paper, energy efficiency remains 'the cheapest, cleanest and safest way of addressing our energy policy objectives'. The regional strategy sets targets for energy savings in existing premises and organisations of:

Table ES 2: Targets for energy savings in existing premises and organisations

	Target saving by 2010	
	GWh/yr	%
Domestic sector	3,750	10.0
Offices, retail, public sector and other non-industrial	1,670	12.5
Industry	5,600	20.0

25. The domestic target builds on the existing initiatives being carried out by local authorities under the Home Energy Conservation Act (HECA) and fuel utilities through the Energy Efficiency Commitment, supported by information and advice from the Energy Efficiency Advice Centres. This target is in fact lower than the 30% total savings for 1996-2010 envisaged under HECA when it was first introduced, but is believed to be achievable and an honest assessment of what can happen in the time available.

26. The alleviation of fuel poverty by 2015 is seen as an important component of a truly sustainable energy strategy. Although this is often linked to areas of general poverty or especially poor housing (e.g. in former mining areas), better co-ordination at a local and regional level could potentially speed up the date of its eradication. However this will need careful targeting of homes to receive a full package of measures (not just piecemeal improvements) to bring homes up to at least a SAP (Standard Assessment Procedure) of 80. In carrying out this work, the strategy indicates that special consideration needs to be given to maintaining internal air quality and rural energy issues.
27. For average and higher income groups, the main barriers are seen as being in public perception, typically believing that their homes are already sufficiently energy efficient and wishing to avoid the inconveniences of having to install improvements. More information e.g. through EEACs (Energy Efficiency Advice Centres) could help redress this, although National and European legislation setting minimum standards for building works and domestic appliances will also be an important driver.
28. The key actions are seen as being:
- Energy efficiency marketing needs to be improved.
 - The position of HECA in local authorities can be strengthened.
 - While recognising that public sector house builders are already required to accommodate modern methods of construction, house-builders should be motivated to build innovative low-energy developments.
 - Those involved in the building industry should be given additional training on energy efficiency and skills in newer technologies.
 - Regional milestone targets need to be developed.
 - Energy efficiency guidelines for the public sector need to be strengthened.
 - Guidance should be prepared for active solar.
 - There should be more support for demonstration projects.
29. A specific target of 27GWh_{th}/yr (giga watts thermal energy) for the useful heat output has been set for active solar (domestic hot water). This assumes that solar systems will be installed on 7.5% of new homes and retrofitted onto 0.75% of existing homes in the region.
30. In the non-domestic sector the region has a number of exemplary buildings and companies, but recent research has indicated that knowledge of the practical benefits of energy efficiency remains very low among the mass of small and medium-sized enterprises (SMEs). Industry and commerce is believed to be capable of meeting higher targets than in the domestic sector, partly as a result of the impact of the Climate Change Levy and its associated negotiated agreements and the EC's Integrated Pollution Prevention and Control Directive. However there is also an increasing internal desire to gain recognition for environmental achievements through the Energy Efficiency Accreditation Scheme and ISO 14001 (the international standard for environmental management).
31. SMEs have great energy saving potential, but are potentially harder to access. Indifference to environmental/energy issues and the desire for very short payback periods are seen as being significant barriers, along with a long-term downward trend in energy prices. Better support for the sector will help, marketing tools such as the Energy Management Matrix and through innovative approaches such as ESCOs (energy service companies).
32. Overall the key actions in the non-domestic sector are:
- Simplification of advice and support, ideally at a regional level.
 - Targeting specific sectors and organisations where cost-effective improvements may be made, rather than using a blanket approach.
 - Establishing new partnerships with centres of excellence – especially in the region's universities.
 - Raising the level of awareness of the benefits of energy efficiency.

- Integrating energy efficiency with renewables.
 - Seeing to develop workable energy services companies.
33. Heat pumps are seen as an emergent technology that may be applied to both the domestic and non-domestic sectors. At present there is low awareness which, coupled with a high initial cost, has restricted their use. Better dissemination of case studies and general awareness raising in the region should help, together with training and accreditation for installers. A target of 3,005 installed units has been set for 2010, with a total heat output capacity of 60MW_{th} (mega watts of thermal energy).

ES6 Renewable energy

34. At present renewable energy sources make only a minor contribution to the region's electricity generating capacity, accounting for 40 MW (mega watts) of installed capacity in 2003, and providing for approximately 1.4% of the region's electricity consumption. Landfill gas currently provides the bulk of renewable energy supply within the East Midlands.
35. For each renewable energy type, the strategy sets out:
- A key objective (see box below).
 - The regional resource and current practice.
 - Regional and county area targets (including a comparison with the targets included in the Viewpoints Report).
 - Benefits associated with meeting the targets.
 - Issues to address.
 - Actions required - addressing the issues and meeting the targets.
 -

Panel ES6.1: Suggested objectives for renewable energy technologies

Onshore wind power: To optimise the development of onshore wind power developments within the Region.

Offshore developments: To encourage the development of offshore renewable energy projects in the region, and to support the development of the local renewable energy industry, building on the offshore developments already planned

Biomass: To develop practical initiatives to realise the potential of biomass projects within the region.

Small hydro schemes: To maximise small hydro schemes in the East Midlands by encouraging developers to invest in the region.

Landfill and sewage gas: To generate electricity from landfill and sewage gas at existing and future landfill and sewage sites.

Anaerobic digestion: To promote the development of anaerobic digestion plants for sewage sludge and the organic portion of municipal waste in the context of an assessment of the 'best practicable environmental option' (BPEO) of these waste streams.

New technologies: To increase the take up of new and emerging low carbon technologies, in addition to supporting the ongoing research and development of the next generation of sustainable energy solutions.

Small scale and domestic renewables: To promote the adoption of renewable energy technologies at a local level, both amongst businesses and organisations requiring power for off-grid applications, and amongst communities and households seeking to reduce emissions by exploiting their local renewable energy resources.

36. Against the backdrop of the low level of existing deployment of renewable energy within the region, the targets proposed in the strategy (see below) may appear ambitious. However, the targets are considered to be readily achievable and they take account of the constraints on the exploitation of renewable energy, such as the extent of protective environmental designations, public acceptability of proposed schemes and potential future changes in the nature and economics of the various technologies. A range of key stakeholders also endorsed them during the preparation of the strategy. The strategy therefore indicates that the targets should be treated as **minimum targets** rather than aspirational targets.

37. The regional targets for electricity generated from renewable energy are set out in Table ES 3 and Figure ES 1. Figure ES 2 provides a summary of the county area targets for 2010. In addition, the regional targets for heat from biomass for 2010 in the East Midlands is 40MW_{th} (this figure excludes CHP).

Table ES 3: Renewable energy regional targets for 2010

Technology type	Target for 2010	
	Capacity (MWe)	Electricity GWh/yr
Wind – offshore	400	1056
Wind – onshore	122	319
Biomass – wet agricultural wastes	5.1	41.7
Biomass – poultry litter	15	118.3
Biomass – energy crops & forestry residues	46	344
Hydro	10.6	39.1
Solar – photovoltaics	2	1.72
Landfill gas	52.5	438
Anaerobic digestion	18.4	137.3
Total renewables	671.6	2495.12

Figure ES 1: Existing renewable energy schemes and targets for 2010

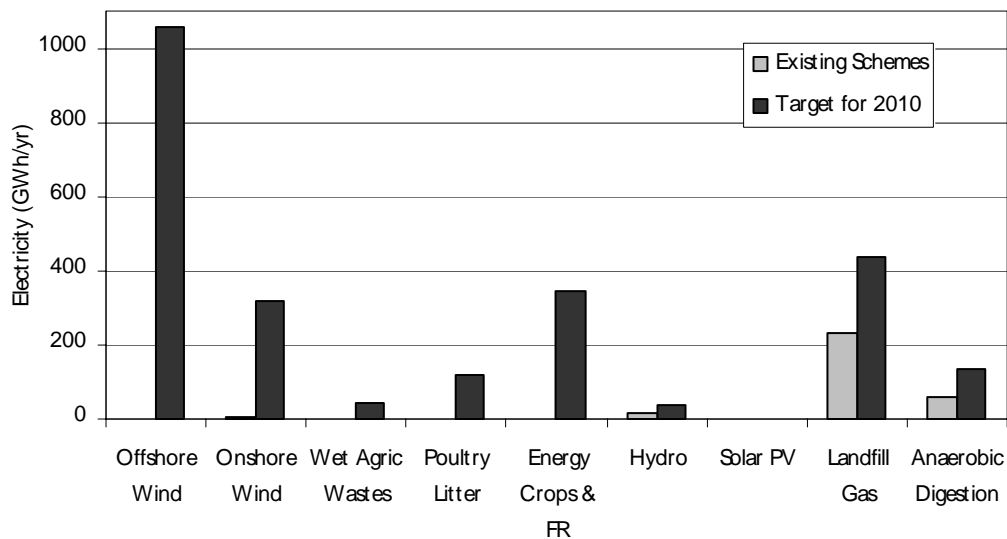
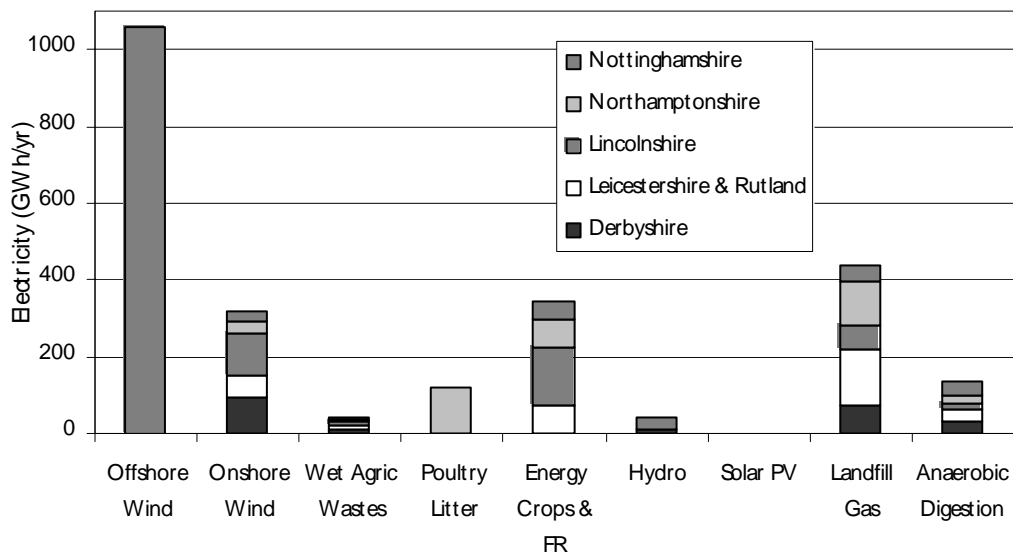


Figure ES.2: Renewable energy county area targets for 2010



ES6.1 2020 targets for renewable energy

38. It has been estimated that 20% of the projected demand for electricity in the UK in 2020 would be approximately 79,500GWh. The East Midlands has 6.8% of the UK population, 6.2% of the landmass and presently approximately 6.2% of UK electricity consumption. Assuming that the East Midlands produces 6.2% of the 20% target, this would require a target of **nearly 5,000GWh** to be produced in the region by 2020.

ES6.2 Green Procurement

39. Green procurement is concerned with developing economically and ecologically sound purchasing practices. It involves the integration of environmental considerations into all stages of the purchasing process: from the identification and purchasing of greener alternatives to the avoidance of unnecessary purchases. Green procurement can help to meet targets for reduction of CO₂ emissions; publicly demonstrate commitment to sustainability; and support the development of renewable energy projects.

40. Local authorities and other organisations should be encouraged to develop and use a sustainability checklist for procurement (exploiting the IRS's sustainability checklist), to help them assess whether products or services will lead to a reduction in the need for energy, more efficient use of energy, and/or an increase in the percentage of electricity procured from renewable energy sources. In particular, the strategy recommends that local authorities should aim to increase procurement of products that will reduce the use of energy, such as 'A-rated' appliances (e.g. light bulbs, fridges, computers) and high efficiency motors, etc. In addition, it is recommended that by 2010, all local authorities within the East Midlands should be purchasing green electricity to meet at least 20% of their electricity needs. Finally, the strategy recommends that 2% of the electricity needs of businesses and households should be supplied from green electricity tariffs that lead to the generation of renewables over and above the output supported via the renewables obligation by 2010.

ES7 Efficient use of fossil fuels

41. The final priority on the energy hierarchy relates to the need to make clean and efficient use of fossil fuels, such as coal and gas. The strategy addresses two main topics: combined heat and power (CHP), and coal mine methane.

ES7.1 Combined Heat and Power

42. Combined heat and power (CHP) systems involve the simultaneous generation of heat and power to achieve high overall efficiencies and to utilise heat that would otherwise be wasted in other electricity generation systems. In 2000, there was 292MWe of CHP electricity generation capacity in the East Midlands, accounting for 6.8% of UK CHP capacity.
43. The regional CHP target broken down by sector is set out in Table ES 4

Table ES 4: East Midlands CHP target for 2010 and 2020

Sector	Existing CHP 2000 (MW _e)	Target 2010 (MW _e)	Target 2020 (MW _e)
Industrial/Commercial	354.0	454.0	1000.0
Domestic	17.0	57.0	120.0
East Midlands Total	371.0	511.0	1120.0

44. Very little CHP has been installed in recent years. For the regional targets to be met, new legislation or the scrapping of New Electricity Trading Arrangements and additional financial incentives are required *within the next 2 years*. Any longer delay in the reform of the electricity market is likely to reduce national capacity to install large-scale CHP and, even if investors sanction such schemes, newly approved schemes would be unlikely to come on stream before 2008 at the earliest. With the present level of support a significant minority of consultees considered that the most appropriate target for the commercial/industrial sector for 2010 is to maintain capacity at the 2000 level, rather than to aim for any growth at all.
45. The 2020 target incorporates a greater amount of domestic and commercial business CHP potential from the new technologies. These targets also include a component of the biomass targets that would also be in CHP mode, although the majority of CHP installations are likely to be fuelled by natural gas. The 2020 targets represent a doubling of capacity in between 2010 and 2020 and a trebling of capacity from the current level.

ES7.2 Coal mine methane

46. Coal mine methane (CMM) has been identified as having an important role to play in the sustainable energy mix within the region, offering the potential for significant reductions in greenhouse gas emissions. The East Midlands region is home to one of the UK's biggest resources of coal mine methane due to its vast coalfield areas, and a large number of closed/abandoned deep mines. In addition to those already operating, there are over 40 potential CMM sites in the East Midlands which technically could be developed.
47. Assuming an average plant size of 5 MW, the proposed CMM targets for 2010 and 2020 are shown in Table ES 5. The targets assume that the majority of these plants would use the CMM for electricity production rather than gas sales. They also assume that a mechanism is put in place to improve the economic viability of CMM schemes, it is suggested that approximately 20 sites could be developed before 2010 and nearly all 40 potential sites by 2020.

Table ES 5: Coal mine methane targets for 2010 and 2020

	Existing CMM Capacity (MW _e)	Target 2010 (MW _e)	Target 2020 (MW _e)
East Midlands Total	26	100	180

ES8 Making it happen

48. The strategy includes detailed actions that relate specifically to energy use, energy efficiency, renewable energy and the efficient use of fossil fuels. It also sets out the key actions of a generic nature that are required to meet the overall aims and objectives of the strategy. As with the technology specific actions, these are described in terms of 'What should be done?', 'How should it be done?', 'Who should do it?' and 'Timeframe?'. A summary of 'What should be done' is provided below. Many of these are dependent upon other strategies etc e.g. RPG, thus the extensive cross references under Objective 4.

ES8.1 Objective 1: Raising the profile of sustainable energy

1.	Understand people's attitudes to sustainable energy development and identify any information needs
2.	Develop a communication strategy to clarify key messages about the benefits of sustainable energy and the trade-offs with other objectives, and satisfy information needs
3.	Implement communications strategy covering the use of the media
4.	Integrate sustainable energy education in both school and community education curriculum
5.	Lobby for post-coded electricity consumption data from electricity companies and need for CO ₂ emission information to be included on bills, so that the benefits of sustainable energy can be fully recognised
6.	Promote greater energy awareness in the housing market
7.	Develop a green tourism trail for the East Midlands

ES8.2 Objective 2: Community involvement

8.	Encourage community action on sustainable energy
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ES8.3 Objective 3: Planning for sustainable energy

9.	Facilitate local authority targets for energy efficiency, renewable energy and CHP
10.	Appraise the environmental, social and economic costs and benefits of alternative sustainable energy strategies
11.	Promote local energy planning
12.	Engage with construction industry

ES6.2 Objective 4: Ensuring policy integration

13.	Encourage the integration of energy objectives into other regional policies
14.	Encourage use of the renewable energy matrix

ES8.5 Objective 5: Building the market

15.	Make the region a centre of expertise in sustainable energy
16.	Develop and promote the sustainable energy sector in the region
17.	Develop a suitable skills base, for those sustainable energy options identified as having potential in the region for both deployment and job creation
18.	Overcome financial and technical barriers to sustainable energy development in the region
19.	Overcome lack of large-scale investment in emerging renewable energy niche markets (eg woodheat, biogas, solar thermal)

ES9 Monitoring and review

49. Monitoring will be required to assess progress against the regional targets for reducing energy use, improving energy efficiency, and deploying and procuring renewable energy and CHP.

ES9.1 Indicators and data availability

50. The indicators set out in the East Midlands Integrated Regional Strategy (IRS) provide a context for monitoring. These include:
- Energy use per household.
 - Installed capacity for energy production from renewable sources as a percentage of electricity generated.
 - Fuel poverty – (households spending more than 10% of their income to keep warm)
51. A range of other indicators are identified for the purpose of monitoring progress in meeting the strategy's wider objectives.

ES9.2 Review of the strategy

52. The final draft of the strategy will be subject to ongoing review to reflect progress against the regional and county area targets, to respond to technological developments and enhanced funding regimes. Reviews will also address the social, economic and environmental benefits and dis-benefits associated with implementation.

Panel ES9.1: Inputs to the draft energy strategy

The preparation of the draft strategy was driven over more than two years by the work and enthusiasm of the Energy Task Group, which was appointed by the East Midlands Assembly. The Energy Task Group is made up of representatives from the Government Office for the East Midlands, the Assembly, government agencies, local authorities, universities, the energy industry, and other key stakeholders.

Consultation with regional stakeholders was, and will continue to be, vital to the process of preparing the strategy, to ensure that a high degree of consensus was reached about its contents and proposed actions. The consultation process involved eleven topic-based focus group meetings, which were attended by representatives of district and county councils; businesses; universities; community groups; environmental interests; and renewable energy developers. Alongside the topic group meetings, five county-based workshops were held with planning officers.

The outcomes of the topic group and county meetings, and subsequent written responses were used to inform the preparation of this draft strategy. These contributions are gratefully acknowledged.

ES10 What happens next?

ES10.1 Further Copies

The full document, and further copies of this document, can be obtained by visiting our website: www.eastmidlandsassembly.org.uk or by emailing feedback@eastmidlandsassembly.org.uk, or faxing the Energy Coordinator on 01664 568201 or call 01664 502563.

ES10.2 Schedule of Forthcoming Events

Publication date for this document (i.e. ' <i>Towards a Regional Energy Strategy – A Sustainable Approach to Energy in the East Midlands - Consultation Document</i> ' full version and executive summary).	June 2003
Consultation sessions	June to September 2003
Feedback period ends	30 September 2003
Development of next version	July to November 2003

For details of consultation sessions and other news, please see the East Midlands Assembly website www.eastmidlandsassembly.org.uk or email feedback@eastmidlandsassembly.org.uk, or fax the Energy Coordinator on 01664 568201 or call 01664 502563.

ES10.3 Feedback

Preferably using the forms below, you are invited to comment on the development of the energy strategy, according to the above schedule.

Feedback form

Please respond by: 30 September 2003. Please complete and email the separately available form to info@emra.gov.uk ; or fax this form, completed, to the Energy Coordinator on 01664 568201, or post it to: Energy Coordinator, East Midlands Assembly, Council Offices, Nottingham Rd, Melton Mowbray, Leicestershire, LE13 0UL.

Name and where appropriate job title and organisation of reviewer:	
E-mail and contact details of reviewer:	
Please briefly state why you are concerned with energy and what your particular interests are:	
Date	
Are you commenting on the executive summary or full strategy document (or both)?	

Detailed comments on particular sections of the strategy can be made overleaf. Please however fill out the fields here with your general comments:

Have we identified the key issues, challenges, objectives and solutions that are needed at the regional level?
What strengths and weaknesses do you feel the document has?
Are the targets and indicators appropriate to the regional level? Are they SMART (specific, measurable, achievable, realistic and time-bound)? What others can you suggest?
Are there examples of good practice which could be included in this document? Is there work ongoing that we haven't mentioned??
Have we identified the key linkages with other regional work and / or strategies?
Please comment on implementation issues. We are very interested in hearing considered comments on how you feel that the strategy should be implemented.
This space is for other general comments

Feedback form (continued)

Please use this section to comment on particular sections or subjects. If necessary, please add more rows to this table, or duplicate the page. Please indicate whether you are commenting on the full document or the executive summary.

Section no. / name, page no.	Comments

Please complete and email the separately available form to info@emra.gov.uk or fax this form, completed, to the Energy Coordinator on 01664 568201 or post it to: Energy Coordinator, East Midlands Assembly, Council Offices, Nottingham Road, Melton Mowbray, Leicestershire, LE13 0UL, by: 30 Sept. 2003.