

Wind Generated Energy

Head of Service: Tim Capper, Head of Democratic Services
Report Author: Neil White, Scrutiny Support Officer

Recommendation: that full council be requested to approve that:

“The Copeland Borough Council calls on the Secretary of State for Energy and Climate Change to give a commitment to seek to ensure that Government will reduce its over-reliance on onshore wind, reduce current wind-related targets and invest, as a matter of urgency, in other low carbon energy generation such as tidal power within Cumbria as this will reaffirm the Council’s commitment to the Energy Coast Masterplan.”

BACKGROUND

Full council at its meeting on 13 January 2009 received a motion that:

“Copeland Borough Council wish to support the motion that was passed by Cumbria County Council on Thursday November 20th 2008 in that the County Council has grave concerns that the current targets for onshore wind-generated energy ride rough shod over the capacity of our landscapes and seascapes to satisfactorily accommodate further wind farms. Cumbria’s environment is a key asset for economic wellbeing. The County Council believes that a proliferation of wind farms will undermine efforts to address the county’s economic problems.

The County Council calls on the Secretary of Stage for Energy and Climate Change to give a commitment to seek to ensure that Government will reduce its over reliance on onshore wind, reduce current wind – related targets and invest, as a matter of urgency, in other low carbon energy generation.”

An amendment to the motion was also submitted that stated:

“Copeland Borough Council wish to support the concerns raised in the motion passed by the County Council on Thursday 20 November 2008, and resolves to write to the Secretary of State for Energy and Climate Change, the local MP and the county council as follows:

The Copeland Borough Council calls on the Secretary of State for Energy and Climate Change to give a commitment to seek to ensure that Government will reduce its over-reliance on onshore wind, reduce current wind-related targets and invest, as a matter of urgency, in other low carbon energy generation.”

The Council agreed that that the Notice of Motion and amendment under Standing Order 8 submitted by Councillor N Clarkson be referred without discussion to the Overview and Scrutiny Committee for Economic Development and Enterprise.

This Committee considered this matter at its meeting on 5 March 2009 and during the debate on this item Members stressed the importance of reaffirming Councils support of the Energy Coast Masterplan and as such a further amendment was moved by Councillor Whiteside duly seconded and agreed that

“Copeland Borough Council wish to support the concerns raised in the motion passed by the County Council on Thursday 20 November 2008, and resolves to write to the Secretary of State for Energy and Climate Change, the local MP and the County council as follows:

The Copeland Borough Council calls on the Secretary of State for Energy and Climate Change to give a commitment to seek to ensure that Government will reduce its over-reliance on onshore wind, reduce current wind-related targets and invest, as a matter of urgency, in other low carbon energy generation such as tidal power this will reaffirm Councils commitment to the Energy Coast Masterplan.”

This further motion was considered by full council at its meeting on 31 March 2009 where the matter was referred back to this Committee for further consideration by a Task and Finish Group.

The Overview and Scrutiny Committee for Economic Development and Enterprise Committee at its meeting on 16 April 2009 agreed that the Wind Generated Energy item should be deferred until the first meeting of the new municipal year. At this time Committee members would be known and a Task and Finish Group could be formed.

The Economic Development and Enterprise Overview and Scrutiny Committee at its meeting on 2 July 2009 reconsidered this matter and agreed that it was not necessary to convene a Task and Finish Group.

The Committee agreed that the motion should be supported with the addition of the words “within Cumbria” to make it clear that the council is calling for these changes within Cumbria only.

Detailed below is the previous report which has been considered by the council which sets out some background on this issue.

ENERGY CONSUMPTION

The UK currently has around 76GW (gigawatts) of electricity generation capacity to meet annual consumption of about 350TWh (terawatt hours) and winter peak

demand of about 63GW. This level of capacity is roughly 20% higher than the expected level of peak demand.

The UK also has a diverse electricity generation mix. In 2006, 36% was generated by gas-fired power stations, 37% from coal, 18% from nuclear, and 4% from renewables. The remainder comes from other sources such as oilfired power stations and electricity imports from the continent.

The Government has set the ambitious target of reducing the UK's carbon emissions by at least 60% by 2050. Under the Climate Change Bill the emission reduction goals for 2020 and 2050 will become statutory, with the introduction of five-year 'carbon budgets' (total emission limits). The Government will be required to produce plans to meet its carbon budgets, and to report to Parliament on how it is doing so.

In spring 2007 the Government helped secure agreement in the EU to an ambitious target to source 20% of the EU's total energy use – a combination of electricity, heat and transport – from renewable sources by 2020. This compares to around 8.5% across the EU in 2005. Member State contributions to this overall target have yet to be agreed, but the European Commission has proposed that the UK should provide renewable sources for 15% of its total energy use by 2020

The Government considers that this is a very challenging target. In 2006 only around 1.5% of our final energy consumption came from renewable sources, and under current policies we expect this to rise to 5% by 2020. To meet the proposed EU target by 2020 we will have to increase the proportion of our energy coming from renewables ten-fold from 2006 levels, three times more than current policies are designed to achieve.

UK RENEWABLE ENERGY STRATEGY

From June to September 2008 the Government undertook consultation on its UK Renewable Energy Strategy that contained a range of possible additional measures to encourage deployment of renewable energy in the UK. These measures are designed to achieve a 15% renewable energy target for the UK by 2020.

The Strategy stated that:” We would need to develop a completely new approach to renewable heat: providing a substantial incentive to jump-start this new market, developing supply chains and encouraging large numbers of households to find renewable ways of heating their homes. We would also need to develop a new sustainable biomass market. The country's current wind generation capacity, on and offshore, would have to increase by a factor of ten.

We expect the key growth area to be wind power, both on and offshore. Analysis on electricity constraints suggests that up to 33 GW of offshore wind might be

achievable by 2030. However, our initial modelling suggests that by 2020 deployment may be closer to 14 GW, compared to less than 1 GW today. This would equate to around 3,000 extra offshore turbines of 5 MW. Others have suggested that higher levels might be achievable – for example, Renewables Advisory Board (RAB) estimated that around 18 GW of offshore wind could be deployed by 2020. BERR is undertaking a Strategic Environment Assessment (SEA) to assess the feasibility (economic, technical and environmental) of proposals for up to a further 25 GW of offshore wind on top of the 8 GW already planned. We want to make full use of the potential for offshore development.

Our initial modelling suggests that we might need approximately 14 GW of onshore wind too, compared to 2GW today – equating to around 4,000 new 3 MW onshore turbines in addition to the approximately 2,000 turbines already installed. Others have estimated a slightly lower level of onshore deployment, for example, RAB estimated that around 13 GW of onshore wind could be deployed by 2020. Subject to planning permission, we would expect that a large proportion of onshore wind development will take place in Scotland. Tidal barrages and lagoons, such as the options being discussed in Severn Estuary, could also make a key contribution if they are able to meet environmental assessment, economic and other criteria.”

The Government also states in the strategy that: “there are potential tensions between local concerns and wider national policy and needs. Renewable developers often complain that the balance between them is not always struck correctly; that the planning system takes too long, costs too much and, in some cases, does not consistently reflect national policy. This can block new generation and the extensions to the electricity grid which are necessary for it to become operational, adding delay and cost to investment.”

The Government further stated that it was “seeking powers to address some of these concerns through the Planning Bill and the Marine Bill, notably by ensuring that all onshore wind developments above 50 MW and offshore wind developments above 100 MW in England and Wales are considered by a new Infrastructure Planning Commission (IPC) on tight timeframes and on the basis of a new National Policy Statement for renewables.”

WIND GENERATION

The British Wind Energy Association is the trade and professional body for the UK wind and marine renewables industries.

It states that the wind industry is experiencing significant growth, three years ago in 2005 it reached 1 gigawatt of installed wind capacity, last month it passed the 3GW mark and within another three years it will achieve 8GW. Within 5 years wind is anticipated to overtake nuclear energy in terms of installed generating capacity.

As of October 2008 there were just over 20GW worth of wind energy schemes at one stage or another in the development cycle.

Onshore status	Schemes	MW Cap	Offshore Status	Schemes	MW Cap
Operational	186	2,590	Operational	7	566
Under construction	27	772	Under construction	7	467
Approved, not built	131	3,379	Approved, not built	9	3,413
In planning	262	7,142	In planning	5	1,678

REGIONAL SPATIAL STRATEGY

Targets for renewable energy production are set on a regional basis in order to meet the Government's overall targets.

The targets for different types of renewable energy generation across the North West have recently been adopted in the North West Regional Spatial Strategy (The North West Plan, September 2008).

All local authorities contributed to and commented on drafts of the Regional Spatial Strategy. The Regional Spatial Strategy was then subject to a public examination, where objections were considered, before adoption.

The current target which is in line with the North West Sustainable Energy Strategy, is that by 2010 at least 10% (rising to at least 15% by 2015 and at least 20% by 2020) of the electricity which is supplied within the Region should be provided from renewable energy sources. To achieve this new renewable energy capacity should be developed which will contribute towards the delivery of the indicative capacity targets. More detail on the targets is set out in Appendix "A".

CUMBRIA WIND ENERGY SUPPLEMENTARY PLANNING DOCUMENT

The Cumbria Wind Energy Supplementary Planning Document that was adopted by the Council in September 2007 stated that: "The wind resource in Cumbria is greatest on west facing upland sites and along the coast. It does not take into account that wind energy developments are now being built in areas of lower wind speeds or the technical, environmental or cultural constraints that may affect land. Neither does it provide a basis for individual development decisions.

Many of the windiest parts of Cumbria fall within national landscape designations. The Lake District National Park and Yorkshire Dales National Park, Arnsdale and Silverdale, North Pennines and Solway Coast Areas of Outstanding Natural Beauty have the highest value landscapes in Cumbria. Policies have been put in

place to protect the landscape value of these areas and their settings, which limits the level of wind energy development that is likely to take place there. "

This planning document also included a map showing the Wind Energy

Development Sites in Cumbria as at July 2007. This is at Appendix “B”.

ANTI WIND AND WIND SUPPORTERS

The Guardian unlimited in December 2007 suggested that there were now 151 anti-wind farm action groups in the UK which have been formed as a result of wind farm developments planned for local countryside areas.

The Campaign to Protect Rural England Policy Position Statement on Onshore Wind Turbines which gives a useful explanation of the concerns about wind farms in the countryside is Appendix “C “.

In response to the Anti Wind Groups the Friends of the Earth, Greenpeace and WWF, created a website with the aim of providing information and resources for the public to support wind farm proposals locally.

It seeks to debunk what it calls the eight myths about wind power. Details of this are at Appendix “D “.

THE ENERGY COAST MASTERPLAN

The master plan states that for West Cumbria to be recognized as Britain’s Energy Coast not just in the UK but across the globe it must:

- Have a strong background in nuclear, other energy, environmental remediation and technological development
- Be a location for skills development
- Have government support with public private partnership
- Be at the forefront of cutting edge research in nuclear, energy and engineering fields.

Furthermore, the North West Development Agency Science Strategy identified renewable energy as a major opportunity for the Northwest and there are incentives for renewable energy arising from the Energy Review and White Paper e.g. the Environmental Transformation Fund.

PLANNING POLICIES

In determining planning applications for wind farms the council as the local planning authority has to consider each application on its individual merits on a case by case basis using the relevant adopted planning policies in place.

These policies are:

Regional Spatial Strategy

The North West of England Plan Regional Spatial Strategy to 2021 has a specific policy on Renewable Energy. This is Policy EM17 and is detailed in full at Appendix “E”.

Copeland Local Plan (June 2006)

The Copeland Local Plan has one policy relating to renewable energy in general (EGY1) and then a number of subsequent policies considering different forms of renewable generation in turn, including wind energy (EGY2).

Policy EGY 1 provides a list of criteria that any form of renewable energy development must satisfy in order to minimise adverse impacts of any development. This includes the consideration of any cumulative effects when considered against any previous extant planning approvals for renewable energy development or other existing/approved utility infrastructure in the vicinity.

Policy EGY2 reiterates the criteria in EGY1, together with a requirement that there is a scheme for the removal of turbines and associated structures and the restoration of the site to agriculture when the turbines become redundant.

The Local Plan Policies EGY 1 and EGY 2 can be found in full in Appendix “F”.

Cumbria and Lake District Joint Structure Plan (April 2006)

Policy R44: Renewable energy outside the Lake District National Parks and AONBs is a saved policy in the Cumbria and Lake District Joint Structure Plan and has not been superseded by the Regional Spatial Strategy (September 2008).

Its focus is very similar to policies EGY1 and EGY2 in the Copeland Local Plan.

Cumbria Wind Energy Supplementary Planning Document

The Cumbria Wind Energy Supplementary Planning Document was adopted by the Council in September 2007 as supplementary guidance to policies EGY1 and EGY2 in the Copeland Local Plan. The purpose of the document is to give a clearer indication of the potential capacity of different landscape character types and how cumulative effects of development will be considered, without being site specific.

It was produced and adopted jointly by a number of councils across the county to provide a consistent approach to proposals.

Copeland Local Development Framework

The Council is currently in the very early stages of producing new planning policies for the borough to replace the Local Plan through the Local Development Framework.

The issues around wind energy can be considered and consulted on fully as part of the due process for the Local Development Framework. The current timetable for the Local Development Framework will see policies adopted from June 2011.

Conclusion

The Committee is invited to consider this report and advise full council accordingly. This could be through forming a recommendation supporting or not the notice of motion on the basis of this report or through the establishment of a task and finish group if the committee feels it needs to see more detailed information on this subject.

List of Appendices

Appendix "A" – North West Indicative Targets for Renewable Energy

Appendix "B" – Wind Energy Development Sites in Cumbria as at July 2007

Appendix "C" – The Campaign to Protect Rural England Policy Position
Statement on Onshore Wind Turbines

Appendix "D" – Yes 2 Wind website eight myths about wind power

Appendix "E" – The North West of England Plan Regional Spatial Strategy Policy
EM17 Renewable Energy

Appendix "F" – Copeland Local Plan Policies EGY 1 and EGY 2

List of Background Documents:

None

Environment, Minerals, Waste and Energy 9

9.61 Government policy, as re-stated in the Energy White Paper 2007⁽¹²³⁾ and Energy Bill 2007-8, is quite clear that diversity in the provision of energy is fundamental and that it is essential to maintain electricity supply system security. Therefore, whilst renewable energy and microgeneration have an important role to play, there will be a continued need for other electricity generation including potentially nuclear, clean coal and gas generation technologies.

Table 9.6 Indicative Regional Renewable Energy Generation Targets

Renewable Energy Type / Scale	Existing Generating Capacity in 2005		Indicative Target for Total Generating Capacity in 2010 (including existing schemes) [Target = 3.59 TWh/yr (3,590 GWh/yr)]			Indicative Target for Total Generating Capacity in 2015 (including existing schemes) [Target = 5.66 TWh/yr (5,660 GWh/yr)]			Indicative Target for Total Generating Capacity in 2020 (including existing schemes) [Target = 7.93 TWh/yr (7,930 GWh/yr)]		
	No of schemes	Capacity (MW)	No of schemes	Capacity (MW)	Energy Output (GWh/yr)	No of schemes	Capacity (MW)	Energy Output (GWh/yr)	No of schemes	Capacity (MW)	Energy Output (GWh/yr)
Offshore wind farms	0	0	3	297	937	4	747	2,356	5	1347	4,248
On-shore wind farms	16	68.9	35 – 51	600	1,183	44 – 62	720	1,561	44 – 62	720	1,561
On-shore wind clusters											
Single large wind turbines			30	48	88.7	50	75	162.6	50	75	162.6
Small stand-alone wind turbines	Small	Small	50	1.5	3.0	75	2.25	4.9	75	2.25	4.9
Bldg.-mounted micro-wind turbines	0	0	1,000	1	1.7	10,000	10	16.6	20,000	20	33.3
Biomass-fuelled CHP / electricity schemes	2	11.1	7	31.1	150.5	12	56.1	271.5	15	106.1	513.5
Biomass co-firing	2	103	2	103	498.5	0	0	0	0	0	0
Anaerobic digestion of farm biogas	0	0	5	10	48.4	10	20	96.8	15	30	145.2
Hydro power	9	2.7	12	3.5	7.1	12	3.5	7.1	12	3.5	7.1
Solar photovoltaics ⁽¹²⁴⁾	V small	V small	1,000	2	1.7	25,000	50	52	50,000	100	124.8
Tidal energy	0	0	0	0	0	2	30	67	2	30	67
Wave energy	0	0	0	0	0	0	0	0	1	30	39.4
Energy from waste											
Landfill gas	52	113.4	52	113.4	548.8	19	79.1	382.8	0	0	0
Sewage gas	16	13.4	16	13.4	64.9	16	13.4	64.9	16	13.4	64.9
Thermal treatment of municipal / industrial waste	1	10.5	1	10.5	50.8	3	125.5	607.4	6	215.5	1043
TOTAL	97	312.5	215 – 229 plus PV plus Micro Wind	1,234.4	3,584.1	247 – 265 plus PV plus Micro Wind	1932	5,650.6	241 – 259 plus PV plus Micro Wind	2,692.8 plus Waste	8,014.7 plus Waste

123 Meeting the Energy Challenge, A White Paper on Energy, May 2007, CM7124.

124 This category is assumed to consist of a variety of different scales of domestic, commercial and “motorway” scheme with an average size of 2kW

9 Environment, Minerals, Waste and Energy

Table 9.7a Indicative Sub-Regional Breakdown of Target for Total Generating Capacity in 2010 (including existing schemes)

Indicative Renewable Energy Generation Type/Size	Region-Wide Targets	Cheshire	Cumbria	Greater Manchester	Lancashire	Merseyside	Warrington & Halton	TOTAL
Offshore wind farms	3 (297)	-	-	-	-	-	-	3 (297)
On-shore wind farms	-	5-7 (82.5)	13-18 (210)	5-7 (90)	11-16 (195)	2 (15)	1 (7.5)	37-51 (600)
On-shore wind clusters								
Single large wind turbines	-	3 (4.5)	4 (9)	8 (12)	7 (10.5)	6 (9)	2 (3)	30 (48)
Small stand-alone wind turbines	-	8 (0.24)	10 (0.3)	12 (0.36)	10 (0.3)	8 (0.24)	2 (0.06)	50 (1.5)
Bldg.-mounted micro-wind turbines	-	95 (0.095)	75 (0.075)	370 (0.37)	205 (0.205)	190 (0.19)	65 (0.065)	1,000 (1)
Biomass-fuelled CHP / electricity schemes	-	1 (4)	2 (8)	1 (4)	1 (9)	1 (4)	1 (2.1)	7 (31.1)
Biomass co-firing	2 (103)	-	-	-	-	-	-	2 (103)
Anaerobic digestion of farm biogas	-	1 (2)	1 (2)	1 (2)	1 (2)	1 (2)	0	5 (10)
Hydro power	-	0	8 (2.4)	2 (1)	2 (0.1)	0	0	12 (3.5)
Solar photovoltaics ⁽¹²⁶⁾	-	95 (0.19)	75 (0.15)	370 (0.74)	205 (0.41)	190 (0.38)	65 (0.13)	1,000 (2)
Tidal energy	0	-	-	-	-	-	-	0
Wave energy	0	-	-	-	-	-	-	0
Energy from waste								
Landfill gas	-	7 (16.2)	6 (5.4)	13 (23.7)	14 (20.2)	7 (13.5)	5 (34.4)	52 (113.4)
Sewage gas	-	3 (0.7)	0	5 (8.5)	4 (1.2)	2 (2.0)	2 (1.0)	16 (13.4)
Thermal treatment of municipal / industrial waste	-	0	0	1 (10.5)	0	0	0	1 (10.5)
Total ⁽¹²⁷⁾	5 (400)	28-30 (110.4)	44-49 (237.3)	48-50 (153.2)	50-55 (239)	27 (46.3)	13 (48.2)	215-229 (1,231.4) [1234.4?]

126 This category is assumed to consist of a variety of different scales of domestic, commercial and "motorway" scheme.

127 All totals are exclusive of micro wind and photovoltaics installations

Environment, Minerals, Waste and Energy 9

Table 9.7b Indicative Sub-Regional Breakdown of Target for Total Generating Capacity in 2015 (including existing schemes)

Indicative Renewable Energy Generation Type/Size	Region-Wide Targets	Cheshire	Cumbria	Greater Manchester	Lancashire	Merseyside	Warrington & Halton	TOTAL
Offshore wind farms	4 (747)	-	-	-	-	-	-	4 (747)
On-shore wind farms	-	7-10 (120)	15-21 (247.5)	6-8 (97.5)	13-20 (232.5)	2 (15)	1 (7.5)	44-62 (720)
On-shore wind clusters								
Single large wind turbines	-	6 (9)	6 (9)	14 (21)	11 (16.5)	10 (15)	3 (4.5)	50 (75)
Small stand-alone wind turbines	-	12 (0.36)	15 (0.45)	18 (0.54)	15 (0.45)	12 (0.36)	3 (0.09)	75 (2.3)
Bldg.-mounted micro-wind turbines	-	950 (0.95)	750 (0.75)	3,700 (3.7)	2,050 (2.05)	1,900 (1.9)	650 (0.65)	10,000 (10)
Biomass-fuelled CHP / electricity schemes	-	2 (9)	3 (13)	2 (9)	2 (14)	2 (9)	1 (2.1)	12 (56.1)
Biomass co-firing	0	-	-	-	-	-	-	0
Anaerobic digestion of farm biogas	-	2 (4)	2 (4)	2 (4)	3 (6)	1 (2)	0	10 (20)
Hydro power	-	0	8 (2.4)	2 (1)	2 (0.1)	0	0	12 (3.5)
Solar photovoltaics ⁽¹²⁹⁾	-	2,375 (4.75)	1,875 (3.75)	9,250 (18.5)	5,125 (10.25)	4,750 (9.5)	1,625 (3.25)	25,000 (50)
Tidal energy	2 (30)	-	-	-	-	-	-	2 (30)
Wave energy	0	-	-	-	-	-	-	0
Energy from waste								
Landfill gas	-	2 (8.7)	3 (3.9)	2 (12)	7 (14.3)	3 (9.7)	2 (30.5)	19 (79.1)
Sewage gas	-	3 (0.7)	0	5 (8.5)	4 (1.2)	2 (2.0)	2 (1.0)	16 (13.4)
Thermal treatment of municipal / industrial waste	-	1 (25)	0	2 (100.5)	0	0	0	3 (125.5)
Total ⁽¹³⁰⁾	6 (777)	35-38 (182.5)	52-58 (284.8)	53-55 (276.2)	57-64 (297.4)	32 (64.5)	12 (49.6)	247-265 (1,932)

129 This category is assumed to consist of a variety of different scales of domestic, commercial and "motorway" scheme. With domestic PV now encouraged via the Bldg. Regulations the number of domestic installations increases greatly.

130 All totals are exclusive of micro wind and photovoltaics installations

9 Environment, Minerals, Waste and Energy

Table 9.7c Indicative Sub-Regional Breakdown of Target for Total Generating Capacity in 2020(including existing schemes)

Indicative Renewable Energy Generation Type/Size	Region-Wide	Cheshire	Cumbria	Greater	Lancashire	Merseyside	Warrington	TOTAL
	Targets			Manchester			& Halton	
Offshore wind farms	5 (1,347)	-	-	-	-	-	-	5 (1347)
On-shore wind farms	-	7-10 (120)	15-21 (247.5)	6-8 (97.5)	13-20 (232.5)	2 (15)	1 (7.5)	44-62 (720)
On-shore wind clusters								
Single large wind turbines	-	6 (9)	6 (9)	14 (21)	11 (16.5)	10 (15)	3 (4.5)	50 (75)
Small stand-alone wind turbines	-	12 (0.36)	15 (0.45)	18 (0.54)	15 (0.45)	12 (0.36)	3 (0.09)	75 (2.3)
Bldg.-mounted micro-wind turbines	-	1,900 (1.9)	1,500 (1.5)	7,400 (7.4)	4,100 (4.1)	3,800 (3.8)	1,300 (1.3)	20,000 (20)
Biomass-fuelled CHP / electricity schemes	-	2 (9)	4 (18)	2 (9)	3 (19)	2 (9)	2 (42.1)	15 (106.1)
Biomass co-firing	0	-	-	-	-	-	-	0
Anaerobic digestion of farm biogas	-	2 (4)	3 (6)	3 (6)	5 (10)	2 (4)	0	15 (30)
Hydro power	-	0	8 (2.4)	2 (1)	2 (0.1)	0	0	12 (3.5)
Solar photovoltaics ⁽¹³²⁾	-	4,700(9.5)	3,750 (7.5)	1,8500 (37)	10,250 (20.5)	9,500 (19)	3,250 (6.5)	50,000 (100)
Tidal energy	2 (30)	-	-	-	-	-	-	2 (30)
Wave energy	1 (30)	-	-	-	-	-	-	1 (30)
Energy from waste								
Landfill gas	-	0	0	0	0	0	0	0
Sewage gas	-	3 (0.7)	0	5 (8.5)	4 (1.2)	2 (2.0)	2 (1.0)	16 (13.4)
Thermal treatment of municipal / industrial waste	-	1 (25)	0	2 (100.5)	1 (40)	1 (40)	1 (10)	6 (215.5)
Total ⁽¹³³⁾	8 (1,407)	33-36 (179.5)	51-57 (292.4)	52-54 (288.4)	54-61 (344.4)	31 (108.2)	12 (73)	241-259 (2692.8)

132 This category is assumed to consist of a variety of different scales of domestic, commercial and “motorway” scheme. With domestic PV now encouraged via the Bldg. Regulations the number of domestic installations increases greatly.

133 All totals are exclusive of micro wind and photovoltaics installations.

Wind Energy Development Sites

Map 2

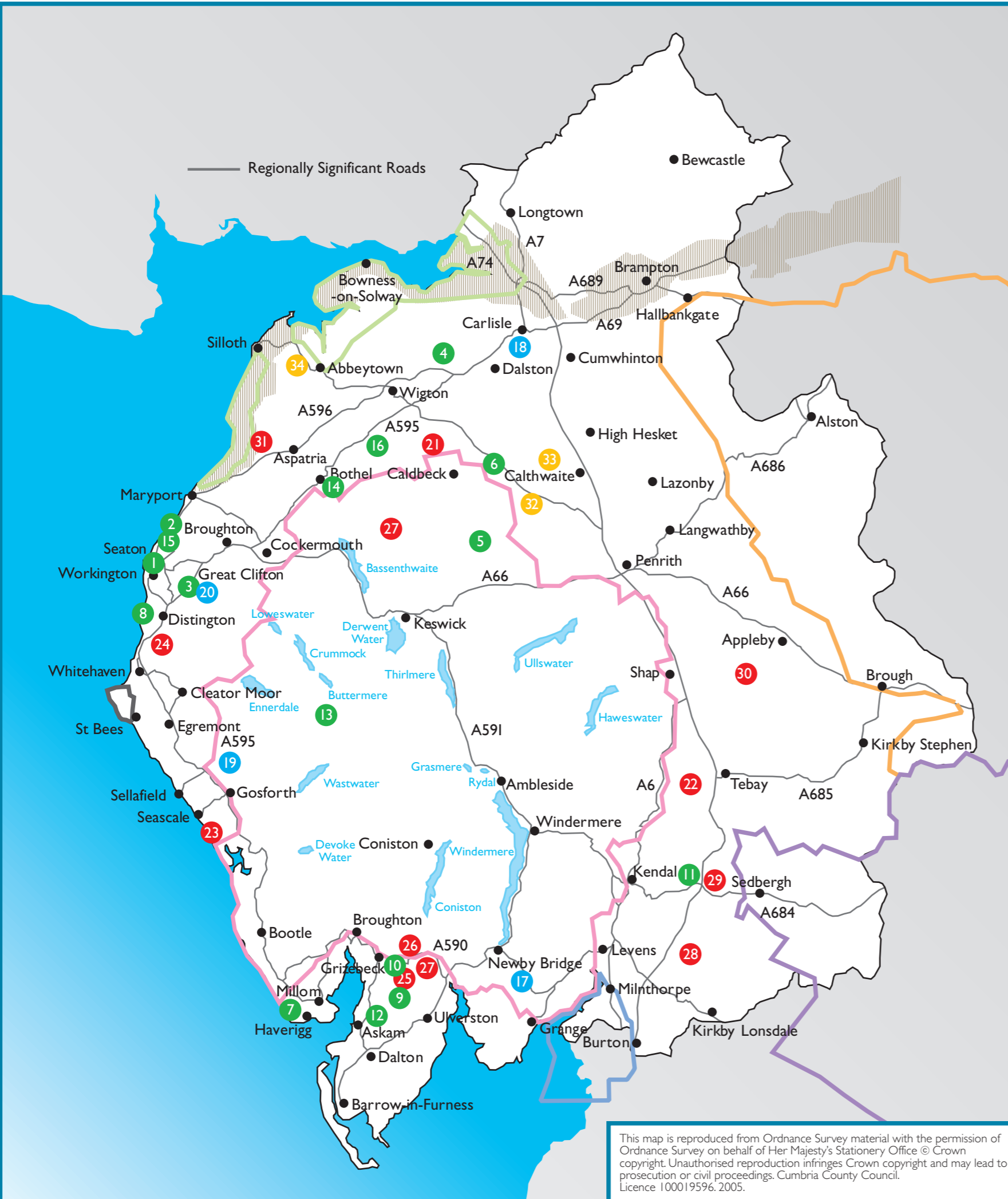
This map should be read in conjunction with the Landscape Capacity Assessment Findings in Part 2. When considering the potential acceptability of a scheme all other planning issues set out in the SPD must be considered. This map is indicative only.

Key

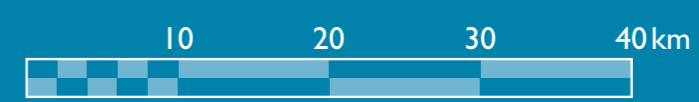
- Lake District National Park
- Yorkshire Dales National Park
- Solway Coast AONB
- North Pennines AONB
- Arnside and Silverdale AONB
- Frontiers of the Roman Empire: Hadrian's Wall - visual envelope
- St Bees Heritage Coastline
- Cumbria County Council Boundary
- Operational
- Approved
- Appeal
- Refused
- Application

- | | |
|---------------------------------------|---------------------------------------|
| Wind Energy Development - Operational | Wind Energy Development - Refused |
| 1 Oldside | 21 Hilltop |
| 2 Siddick | 22 Whinash Wind Farm |
| 3 Winscales | 23 Drigg |
| 4 Great Orton | 24 Fairfield Farm (2) |
| 5 Swineside* | 25 Gunson Height |
| 6 Newlands Mill | 26 Lowick Beacon |
| 7 Haverigg | 27 Lowick Common |
| 8 Lowca | 28 Barkin House |
| 9 Harlock Hill | 29 Firbank Fell |
| 10 Kirkby Moor | 30 Hoff Moor |
| 11 Lambrigg Fell | 31 Brownrigg Hall |
| 12 Far Old Park | |
| 13 Black Sail Hut* | Wind Energy Development - Application |
| 14 Wharrels Hill | 32 Lamony |
| 15 Vordian | 33 Grise |
| 16 High Pow | 34 Hellrigg |
| Wind Energy Development - Approved | |
| 17 Barnscar Fold* | |
| 18 Pirelli | |
| 19 Laverock Howe* | |
| 20 Winscales Moor | |

* schemes within the Lake District national Park are small scale providing power to individual buildings only



This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Cumbria County Council. Licence 100019596. 2005.





Campaign to Protect
Rural England

Policy Position Statement

Onshore Wind Turbines

Summary

CPRE believes that climate change caused by greenhouse gas emissions is a major threat to the global environment and to the character and quality of England's countryside. We are therefore campaigning for urgent reductions in energy consumption, especially through improved transport policies and better planning and design of new development. We recognise, too, the need for improved energy efficiency and the need to exploit the potential of a range of renewable energy sources, including wind power, to reduce greenhouse gas emissions.

However, the visual impact of large wind turbines can be a form of pollution which damages the landscape. Decisions on the scale and location of wind power development and other forms of energy generation should therefore avoid damaging valued rural landscapes – not only those that are designated as National Parks or AONBs. Landscape character assessment should be used to identify broad locations which may be appropriate for renewable energy development, and those where unacceptable harm would be done to the landscape.

While CPRE will support renewable energy development in certain cases, such schemes should not come at the expense of the countryside. We believe that each wind power proposal should be

assessed for its potential impact on the landscape. And we will strongly resist those, which damage the beauty, tranquillity and diversity of the English countryside.

Introduction

Wind turbines convert energy from wind into electricity. Unlike conventional power from fossil fuels, they produce no air pollutants or climate-changing carbon dioxide. But while they are a welcome renewable energy source, they can have significant adverse impacts on the landscape and wider countryside.

In the UK, technological advance and Government subsidies have brought down the cost of producing electricity from the wind. This has made it economical for wind turbine development on land, sometimes in the form of small single turbines (usually providing power to individual properties or operations) but mostly as large single or clustered turbines (windfarms) supplying the national grid network.

At present 49 onshore wind farms exist in England. Around 1,230 wind turbines are operating across the UK, almost all in open countryside. But these currently produce just over half of one percent of the nation's total electricity. Because they only work when and where the wind blows, greater reliance on such

For further information
about CPRE's
campaigns and copies
of other policy position
statements visit our
website or contact:

CPRE Publications
128 Southwark Street
London SE1 0SW
Tel:
020 7981 2800
Fax:
020 7981 2899
Email:
info@cpre.org.uk
Website:
www.cpre.org.uk

intermittent energy sources will require substantial and innovative changes to the way in which electricity is distributed and stored if we are to replace conventional fossil fuel electricity generation.

If our consumption of electricity continues to increase, we will need more and more electricity from renewables to keep down carbon emissions and successfully tackle climate change. Even with improved technology, our growing reliance on wind would require vast extra numbers of turbines. To deliver its target of 10% of electricity coming from renewables by 2010, the Department of Trade and Industry estimate another 2,000 onshore wind turbines would be needed across the UK. This would have very significant implications for the countryside.

While wind energy is widely advocated as a solution to delivering the UK's international and domestic commitments to tackle climate change (*Our Energy Future*, 2003), CPRE believes its contribution should not come at the expense of the beauty, character and tranquillity of rural England.

What are the issues for the countryside?

The English countryside will not be immune to the damage done by global climate change caused by excess greenhouse gases such as carbon dioxide in the atmosphere. Its character and beauty could change substantially. Unlike conventional fossil fuel power stations, wind turbines can generate electricity without producing carbon dioxide.

But while the UK has a considerable wind resource compared with other European

countries, our windiest places are often in the most remote and beautiful landscapes. Turbines have become larger with technological advances and could soon exceed 100 metres in height – taller than the clock tower of Big Ben. While some people may find them symbolic and aesthetically pleasing, they stand prominent in any landscape. Some landscapes, especially industrialised areas, may be better able to accommodate such visual impacts. But when insensitively located, onshore wind turbines harm the beauty and unique character of the English countryside.

CPRE believes there is a role for wind energy in providing electricity in the UK, but its intermittency and major visual impact limit the potential contribution of onshore turbines. Their location and extent need to be carefully controlled. The infrastructure associated with onshore wind development – such as power cables and access roads – have further impacts on the countryside. The planning system has an important role to play in promoting wind and other renewables development while protecting sensitive areas of landscape from adverse impacts and minimising the effect on the character of the wider countryside.

Increasing our use of wind energy without harming the English countryside could be achieved by the development of wind farms offshore. These should be sited beyond where they may affect sensitive coastlines and seascapes, and only after their impact on the marine environment and coastal communities has been carefully assessed. At sea, wind turbines can operate at higher efficiency and will have reduced impact on cherished scenery. But we cannot rely on wind power alone

to provide for our energy needs. There needs to be much more investment in harnessing a range of more predictable and reliable sources of renewable energy, such as the tides. As new technologies become cheaper and more advanced, the role of onshore turbines may diminish.

In August 2004, the Government published its planning policy statement, PPS22: *Renewable Energy*. This places much greater emphasis on the planning system actively supporting renewable energy such as wind turbines, and we fear could weaken the protection of the countryside.

CPRE's approach

CPRE believes onshore wind development has a role to play in reducing greenhouse gas emissions in the UK, but only as one of a range of renewable energy technologies. We welcome the Government's commitment to increasing electricity generation from renewable sources and its aspirational target for achieving this. To deliver these without detriment to the English countryside renewable energy policy should:

> **be underpinned by with a much greater focus on improving energy conservation and efficiency.** We cannot build our way out of climate change with new non-fossil fuel energy sources alone. The cheapest, cleanest and safest way to reduce the UK's impact on global warming would be to use less energy – and thereby less fossil fuel. We need to make our homes and workplaces more energy-efficient and reduce our need to travel. Reducing greenhouse gas emissions through energy conservation and improved

efficiency now would allow the UK to develop a more sustainable energy supply from renewable sources in the long term. Strategic planning for energy should promote energy conservation, energy efficiency and small-scale renewables technologies before relying on large-scale wind power schemes;

- > **be planned strategically following the 'plan, monitor and manage' approach.** Planning for renewables should not be based purely on the setting of targets to meet a perceived demand and the provision of development to meet them (the 'predict and provide' approach). CPRE advocates the 'plan, monitor and manage' approach which requires consideration of the capacity there is to produce energy locally, not just in terms of different renewable resources, but also according to local environmental, social and economic constraints. The search for appropriate sites for onshore wind turbines should be guided by criteria that ensure the protection of the character of the countryside, its landscape, tranquillity, ecology, heritage and amenity. A sequential approach should be adopted, to steer wind development to the least environmentally sensitive areas and encourage development on brownfield sites where appropriate. Strategic plans for renewables development should benefit from Strategic Environmental Assessment, a process used to identify and resolve conflicting policies, investigate alternative scenarios of development and ensure all relevant environmental issues are properly considered;
- > **not set technology-specific targets for renewables.** Setting targets for the

increased use of specific technologies such as wind turbines could restrict the development of other more efficient, but currently less commercially viable alternatives. This would result in an over-reliance on onshore wind despite its lower efficiency and potentially major impact on the countryside. In recognition of the variety and increasing cost effectiveness of renewables technologies and energy efficiency solutions, official targets for reducing our carbon emissions need to allow flexibility in how we achieve them. The emphasis should be placed on finding the most sustainable ways of reaching those targets and not be constrained by the performance of current technologies;

- > **protect the character of the countryside – its landscape, tranquillity, ecology, heritage and amenity.** Renewable technologies should be sensitively located with regard to their cumulative impact on the countryside, with consideration given to both their simultaneous (within one field of vision) and sequential (as one travels through the landscape) impact and the impact of associated infrastructure. The implications of wind development should be assessed using the Countryside Agency's Countryside Character methodology. The erection of wind turbines which affect nationally designated areas of landscape value are unlikely to be acceptable, save in exceptional circumstances where the scale of development is small and appropriate to the local environment. CPRE will vigorously oppose proposals for major wind turbine development in and adjacent to Areas of Outstanding Natural Beauty and National Parks

where these would have a detrimental effect on the landscape;

- > **require proposals for wind turbines to be assessed on their individual merits.** There should be no presumption in favour of renewable energy development. All development will have impacts on local environments, communities and economies, which need to be taken into account. CPRE will support wind development proposals where they are appropriately located, particularly where they offset or meet local energy needs. CPRE believes that an Environmental Impact Assessment should normally be required and should consider all aspects of development. This should include cumulative impacts on the landscape, potential noise impacts, design, construction and associated development such as access roads, overhead wires, pylons and poles, and issues surrounding decommissioning;
- > **require the removal of wind turbines once they have become redundant.** As better renewable technologies become available, wind turbines should not be allowed to stand dormant in the landscape. Licences for wind turbines should be time-limited and decommissioning requirements set out in planning permissions, with agreements for the removal of works and reinstatement of land established through planning conditions or obligations;
- > **encourage small-scale community and household energy schemes.** Such schemes can incorporate renewables technologies (including single or small wind turbines) that supply electricity

directly to homes and community buildings, sometimes exporting electricity to the national grid when they are generating more power than is required locally. They supply energy efficiently and reduce the demand for fossil fuel, minimising the need for large-scale electricity generation and grid infrastructure that can damage the landscape. Such development needs to be encouraged through the planning system. CPRE supports the objectives of the Countryside Agency's Community Renewables Initiative, which aims to help groups and individuals realise such schemes; and

- > **engage local communities and secure public participation in planning for renewables.** Developers should be encouraged to consult local communities prior to applications for wind turbine development, to help identify and resolve potential conflicts. Engaging the public at earlier stages in planning for renewables could also help spread awareness of the consequences of current decisions and the need for energy efficiency.

CPRE rejects the current process for considering major onshore wind developments. If a project will have an installed capacity of 50 megawatts the decision on the application will not be taken by the local planning authority but by the Department of Trade and Industry which has a vested interest in securing new energy capacity. We believe this represents a serious democratic deficit, and should be addressed through changes to legislation.

Land-use planning policy will be key to securing improved energy efficiency and a

greater proportion of electricity generation from renewable sources while safeguarding the countryside. We are deeply concerned that the Government's planning policy on renewables fails to recognise the role for planning in reducing energy consumption, or in protecting the countryside 'for its own sake'.

What can you do?

You can:

- > scrutinise the policies in the Local Development Framework for your area to ensure they maximise the opportunity for energy conservation and efficiency, including through reducing the need to travel;
- > support policies in your Local Development Framework that promote a broad range of renewables while making sure that the potential implications of wind turbines on the countryside are recognised. Object to the establishment of technology-specific targets;
- > advocate that your local planning authority assesses the potential impacts of wind development on countryside character when they are developing planning policies for renewable energy and assessing proposals for new turbines. This should include the potential cumulative impact from a number of different developments;
- > assess the impact of local proposals for wind development on the countryside. Annex 1 of CPRE's *Renewable Energy* campaign briefing identifies criteria on which you can base your assessment.

Further reading

Campaigning for Countryside Character: A CPRE Briefing, CPRE, 2003. Available from CPRE Publications.

Landscape Character Assessment: Guidance for England and Scotland, Countryside Agency, 2002.

Our Energy Future – Creating a Low Carbon Economy, Department of Trade and Industry, 2003.

Our Energy Future – Creating a Low Carbon Economy: A CPRE Briefing, CPRE, 2003. Available from CPRE Publications.

Renewable Energy: A CPRE Campaign Briefing, CPRE, 2003. Available from CPRE Publications.

Responding to Planning Applications, CPRE, 2001. Available from CPRE Publications.

Planning Policy Statement 22: Renewable Energy, Office of the Deputy Prime Minister, 2004.

You could also contact your local CPRE branch (see our website www.cpre.org.uk for details or call 020 7981 2800), which may be commenting on wind turbine development in your area. If you think a particular proposal is inappropriate because of its impact on the landscape, object to your local planning authority with your concerns (see CPRE's guide *Responding to Planning Applications*). If you think a development has been promoted sensitively, send a letter of support;

- > demand that, when wind development gets the go ahead, the planning permission includes a legal agreement and conditions to minimise its adverse impacts, and sets out when and how the turbines will be removed; and
- > Ask your local MP for their views on wind energy or on particular schemes. Urge them to write to Ministers calling on them to demonstrate their commitment to safeguarding protected landscapes and the wider countryside. Encourage them to give greater support to community renewables which are less damaging, and to a broad range of renewable technologies.

The Planning Response to Climate Change: Advice on Better Practice, Office of the Deputy Prime Minister, 2004

Planning for Renewable Energy: making the system more democratic: a CPRE briefing, CPRE, 2005. Available from CPRE Publications

For more information about the Community Renewables Initiative, contact the Countryside Agency on 01242 521381 or visit www.countryside.gov.uk

A related CPRE Policy Position Statement on Energy is also available. Available from CPRE Publications.

The Yes 2 Wind website is a site produced by Friends of the Earth, Greenpeace and WWF, with the aim of providing information and resources for the public to support wind farm proposals locally.

It talks of 8 myths about wind power and it gives the following answers:

Myth 1. Wind turbines spoil the landscape

Fact: This is a highly subjective issue. Being visible is not necessarily the same as being intrusive. While some people express concern about the effect wind turbines have on the beauty of our landscape, others see them as elegant and beautiful, or symbols of a better, less polluted future.

The landscape we inhabit is largely human-made and it evolves over time. In comparison to other energy developments like nuclear, coal and gas power stations, or open cast mining, wind farms have relatively little visual impact. Nevertheless sites within Areas of Outstanding Natural Beauty (AONBs) or National Parks are unlikely to be appropriate for large wind farms. The increased utilisation of renewable energy and greater use of wind power will mean that we will have more of these structures visible in our townscape and landscape in the future. But all the organisations supporting this web site believe that wind energy is one of the most environmentally benign ways of producing the electricity we need to power our daily lives. If we don't switch to cleaner forms of energy, climate change will severely and irrevocably alter much of our landscape as well as the animal and plant life it contains.

Myth 2. Wind turbines kill lots of birds

Fact: Monitoring of existing wind farms suggests that with sensitive siting there is no adverse effect on bird populations. Applications for consent for wind farms submitted to the Department for Business, Enterprise and Regulatory Reform (BERR) and local councils must be accompanied by an Environmental Impact Assessment (EIA) that includes details of the likely impact of the project in question on the environment and wildlife, among other things. In considering an application, the Department consults with a range of stakeholders, including the statutory advisers on nature conservation, as well as others with an interest in the project. This ensures that decisions on whether to grant consent for a wind farm are considered in the light of the best available information about its likely impacts.

According to the [Royal Society for the Protection of Birds](#) (RSPB), the available evidence suggests that appropriately positioned wind farms do not pose a significant hazard for birds. The RSPB supports the sustainable development of renewable energy such as wind power because it helps mitigate climate change, which they believe "poses the most significant long-term threat to the environment...The available evidence suggests that appropriately positioned wind farms do not pose a significant hazard for birds." The RSPB's conclusion is supported by a report last year for the Swedish State Energy Authority, which found that only 14 of the total 1.5 million migrating seabirds that each year passes two wind farms at Kalmarsund in south east Sweden are at risk of being killed.

Developers should contact specialists such as the RSPB and conduct a thorough analysis of the risk to birdlife as part of the environmental impact assessment of their wind farm proposal. With rigorous EIAs and thorough monitoring wind power can be deployed without significant detriment to birds (and other wildlife).

For example, the 9 harbour-wall turbines at Blyth are in a busy bird area. Of the bird flights through the wind farm, only 1 in 10,000 have resulted in a collision. This translates to 1-2 collisions per year per turbine. To put the issue into perspective, every year more than 10 million birds are killed by cars in the UK.

Projects like the [Black Law windfarm](#) demonstrate that, if properly sited, such developments not only produce zero emissions, but can also have a positive impact on the environment. The RSPB make clear that the Black Law windfarm, on the site of an abandoned opencast coalmine, represents an exciting opportunity to deliver real biodiversity benefits through habitat management. In any case, the likely impact on wildlife must be kept in context. A paper in Nature, by a large group of scientists including one from the RSPB, indicated that in sample regions covering about 20 per cent of the Earth's land surface - 15 per cent to 37 per cent of species (not just birds) will be committed to extinction as a result of mid-range climate warming scenarios by 2050.

Myth 3. Tourists hate wind farms

Fact: There is no evidence to suggest that wind farms deter tourists, indeed many wind farms are themselves tourist attractions.

For example, in Swaffham, Norfolk, over 50,000 tourists have climbed the wind turbine tower to see the spectacular views from the top of its the 65m high viewing platform.

In August 2003 20 Greenpeace volunteers interviewed over 650 tourists about the proposed Scarweather Sands wind farm in Swansea Bay. The response was emphatic - 96 percent said that they would be 'more likely' or 'just as likely' to return for a beach holiday after the wind farm was built.

In Scotland, a MORI poll was undertaken in 2002 regarding wind farms in the Argyll area. 80 percent of tourists said they would be interested in visiting a wind farm if it were open to the public with a visitor centre., while 91 percent of respondents said they would not be put off from visiting an area because of the presence of wind farms.

In Denmark, many tour agencies run boat trips to take visitors to see the offshore wind farm at Middelgrunden, near Copenhagen.

Myth 4. Wind turbines are noisy

Fact: Modern turbines are actually very quiet! Thanks to advances in wind turbine technology, well designed, well sited turbines can be quiet enough to cause no disturbance to people living just a few hundred metres away.

At these distances, any noise they do make is usually drowned out by the natural noise of the wind itself in the trees and vegetation. To protect nearby residents from any undue disturbance, proposals to install wind turbines are required to meet strict noise standards.

Having read exaggerated claims in the press, people visiting wind farms are often surprised at how quiet they actually are. The Scottish Executive public opinion survey is one of several demonstrating that concerns about noise are often unfounded.

Before construction of the Scottish wind farms studied, 12% of people living near the sites thought that the turbines would cause a noise nuisance, but after construction, when people had experience of the wind farm operating, only 1% thought they were noisy.

Myth 5. Wind power isn't reliable

Fact: Yes it is. There is actually a lot of confusion about the reliability of different sources of electricity. No power stations are able to operate all the time without stopping. Many so-called reliable sources such as nuclear plants suffer from unexpected 'outages' when reactors must be shut down, often at short notice, for essential safety maintenance.

Unreliability of this kind is far harder to deal with than the intermittency of wind power, as the amounts of electricity involved are generally much higher. By comparison the variation in output from wind farms distributed around the country is scarcely noticeable.

A great advantage of wind power is that the available wind resource is much greater during the colder months of the year, when energy demand is at its highest. And the wind will never stop blowing everywhere in the UK at once! At present the National Grid can be operated effectively and economically with up to 20 per cent of the electricity capacity being provided by variable energy sources such as wind. At the levels being considered over the next few decades for wind energy production, such variability can easily be accommodated by the grid system.

It is true that we could never rely on wind turbines alone to provide for all our electricity needs. But there are storage technologies we can use, such as pumped storage hydro power schemes (where water is pumped up-hill, thus acting like large batteries for the electricity system).

In future, hydrogen offers a potential way of storing electricity from wind power. Excess wind power can be used to produce hydrogen through electrolysis, and then hydrogen can be turned back into electricity using a fuel cell, as and when it is needed.

The UK is the windiest country in Europe, so we have a massive resource waiting to be used. And in the future, all our electricity could come from a mix of complementary renewable sources - balancing wind power with wave, tidal, solar and biomass.

Myth 6. Wind turbines are taking over the countryside

Fact: There are now some 1,769 turbines in 137 locations across the UK.¹ Generating 10 per cent of our electricity from renewables by 2010 could mean an increase by around another one and half times the current number.² Less than 1/20,000th of the UK (800–1,200 hectares) would be used for foundations and access roads³, while land between turbines can still be used for farming or natural habitat.

A typical wind farm of about 20 turbines extends over an area of about one to two square kilometres. But only a small fraction of this land, about 1-2 per cent, is actually occupied by the turbines and access tracks. The bulk of the land is unaffected and can continue to be used for agriculture, grazing, etc. To produce 10 per cent of the UK's current electricity from the wind would use about 1 per cent of the total UK land area, with the turbines occupying only about 0.02 per cent of this. When the wind farm has finished generating, the turbines can be dismantled, and the land returned completely to its previous use.

Myth 7. Wind produces little power

Fact: A single 1.8-megawatt turbine can produce enough power for 1,000 homes. Wind power already provides enough electricity to supply 1.2 million British homes every year. Offshore wind farms like the London Array (1,000MW) are planned on a scale that will generate enough power to supply the electricity needs for 750,000 homes (equivalent to a quarter of Greater London's households or every home in Kent and East Sussex). And in 30 years of monitoring there have been no days when the wind has not blown throughout the UK, meaning that our wind farms generate power for approximately 85 per cent of the time.

According to the DTI, renewable energy technologies could cost effectively provide one third of UK electricity requirements by 2025. The UK is the windiest country in Europe, but in 2001 only 0.3 per cent of our electricity supply came from wind power – less than 500 megawatts (MW). According to the Low Carbon Buildings Programme, the UK has 40 per cent of Europe's total wind energy. But we are not taking full advantage of this potential, unlike Germany for example, which already had more than ten times our current wind farm capacity - despite the fact that our winds are stronger and more constant than theirs. Germany added 2,650MW of wind power capacity during 2001, giving a total of 8,750MW (equivalent to 3.5 per cent of their electricity consumption). Germany also plans a massive increase over the next 25 years, with a target of one quarter of present electricity needs coming from wind power. Spain is another rapidly growing wind energy market (second fastest in 2001), with a total of over 3,340 MW of installed capacity and has built over five times more than we have in just a few years. In Denmark 18 per cent of electricity already comes from wind and this is set to increase.

Myth 8. Wind power is expensive and heavily subsidised

Fact: The cost of generating electricity from wind has fallen dramatically over the past few years. Between 1990 and 2002, world wind energy capacity doubled every three years and with every doubling prices fell by 15%⁷. Power generation costs are determined by the installed costs of the plant (including interest during construction), operation and maintenance costs, fuel costs, energy productivity, cost of capital and the capital repayment period. In the case of wind energy, the fuel – the wind itself – is free.

Wind energy is competitive with new coal and new nuclear capacity, even before any environmental costs of fossil fuel and nuclear generation⁸ are taken into account. The average cost of generating electricity from onshore wind is now around 3-4p per kilowatt hour, cheaper than new nuclear (4-7p)⁹. As gas prices increase and wind power costs fall – both of which are very likely – wind becomes even more competitive, so much so that some time after 2010 wind should challenge gas as the lowest cost power source. Furthermore, the wind is a free and widely available fuel source, therefore once the wind farm is in place, there are no fuel or waste related costs.

When the full costs of the environmental damage caused by fossil fuels and nuclear power are taken into account, wind power is an even better buy. For example, it has been estimated that if the cost of environmental damage were included, the price of electricity from coal would be three times higher than electricity from the wind. The full costs of nuclear power, including dealing with highly-radioactive waste and decommissioning of old plants, are still not included in the price of electricity after decades of operating stations in the UK, and the nuclear industry is still dependent on massive Government subsidy.

There is no Government subsidy for building wind farms. As much as £2 billion of private investment has been made in the UK wind industry. The support mechanism – Renewable Obligations Certificates (ROC) - is only available for electricity that wind farms have already produced and supplied to utilities. The cost to the consumer of supporting the initial development of wind power in the UK has been very small. The Non-Fossil Fuel Levy, set up at the time of electricity privatisation, supported all non-fossil fuel sources of electricity: nuclear power and renewable energy. However, almost 90 per cent of that subsidy went to the nuclear industry. The Government has replaced this arrangement with the Renewable Energy Obligation, which encourages electricity suppliers to provide up to 10 per cent of their electricity from renewable sources by 2010.

9 Environment, Minerals, Waste and Energy

Policy EM 17

Renewable Energy

In line with the North West Sustainable Energy Strategy, by 2010 at least 10% (rising to at least 15% by 2015 and at least 20% by 2020) of the electricity which is supplied within the Region should be provided from renewable energy sources. To achieve this new renewable energy capacity should be developed which will contribute towards the delivery of the indicative capacity targets set out in Tables 9.6 and 9.7a-c. In accordance with PPS22, meeting these targets is not a reason to refuse otherwise acceptable development proposals.

Local authorities should work with stakeholders in the preparation of sub regional studies of renewable energy resources so as to gain a thorough understanding of the supplies available and network improvements, and how they can best be used to meet national, regional and local targets. These studies should form the basis for:

- informing a future review of RSS to identify broad locations where development of particular types of renewable energy may be considered appropriate ⁽¹¹⁹⁾; and
- establishing local strategies for dealing with renewable resources, setting targets for their use which can replace existing sub regional targets for the relevant authorities.

Plans and strategies should seek to promote and encourage, rather than restrict, the use of renewable energy resources. Local planning authorities should give significant weight to the wider environmental, community and economic benefits of proposals for renewable energy schemes to:

- contribute towards the capacities set out in tables 9.6 and 9.7 a-c; and
- mitigate the causes of climate change and minimise the need to consume finite natural resources.

Opportunities should be sought to identify proposals and schemes for renewable energy. The following criteria should be taken into account but should not be used to rule out or place constraints on the development of all, or specific types of, renewable energy technologies:

- anticipated effects on local amenity resulting from development, construction and operation of schemes (e.g. air quality, atmospheric emissions, noise, odour, water pollution and disposal of waste). Measures to mitigate these impacts should be employed where possible and necessary to make them acceptable;
- acceptability of the location/scale of the proposal and its visual impact in relation to the character and sensitivity of the surrounding landscape, including cumulative impact. Stringent requirements for minimising impact on landscape and townscape would not be appropriate if these effectively preclude the supply of certain types of renewable energy, other than in the most exceptional circumstances such as within nationally recognised designations as set out in PPS22 paragraph 11;
- effect on the region's World Heritage Sites and other national and internationally designated sites or areas, and their settings but avoiding the creation of buffer zones

Environment, Minerals, Waste and Energy 9

and noting that small scale developments may be permitted in such areas provided there is no significant environmental detriment;

- effect of development on nature conservation features, biodiversity and geodiversity, including sites, habitats and species, and which avoid significant adverse effects on sites of international nature conservation importance by assessment under the Habitats Regulations;
- maintenance of the openness of the Region's Green Belt;
- potential benefits of development to the local economy and the local community;
- accessibility (where necessary) by the local transport network;
- effect on agriculture and other land based industries;
- ability to make connections to the electricity distribution network which takes account of visual impact (as qualified above);
- integration of the proposal with existing or new development where appropriate;
- proximity to the renewable fuel source where relevant – e.g. wood-fuel biomass processing plants within or in close proximity to the region's major woodlands and forests;
- encourage the integration of combined heat and power (CHP), including micro CHP into development.

Developers must engage with local communities at an early stage of the development process prior to submission of any proposals and schemes for approval under the appropriate legislation.

9.55 In the short to medium term, the majority of the power generated in the North West will continue to come from the large-scale nuclear, coal and gas-fired power stations that supplied around 80% of the region's electricity in 2001 ⁽¹²⁰⁾. However, as fossil fuel resources are in serious decline and nuclear stations are scheduled to close, the UK is likely to become a major importer of energy during the next two decades. Much of the Region's existing capacity for generating power is from long term unsustainable non renewable sources, although there may still be a role for cleaner coal production. Renewable energy technologies must now be developed to support an increasing proportion of the Region's capacity for generating electricity. Tables 9.6 and 9.7 a-c provide indicative regional and sub regional targets. These are flexible and will change. However they provide an important indication of the way in which regional and sub regional targets might be met and new renewable energy capacity should be developed with the aim of meeting or exceeding these targets. It is proposed that the targets should be subject to bi-annual review, allowing them to be revised periodically through an active process of monitoring of renewable energy deployment against proposed targets and regional energy consumption. The replacement of non-renewable capacity by improved energy efficiency and Combined Heat & Power (CHP) will bring new economic opportunities to the region, as part of a strategic and sustainable approach to energy.

9.56 The Energy and Greenhouse Gas Emissions Study published by NWRA in 2007 ⁽¹²¹⁾ examined the potential for installation of renewable heat technologies, and proposed regional targets for their uptake. Work to agree such targets for renewable heat will be considered in a future review of the RSS.

9 Environment, Minerals, Waste and Energy

9.57 Each renewable technology has its own locational characteristics and requirements and different areas will be better suited to different technologies. The international importance of much of the coastline and all of the major estuaries of the Region for nature conservation is likely to inform choice of location for marine schemes.

9.58 In line with PPS22, developers must consult and engage with local communities at an early stage of the development process prior to submission of any proposals and schemes for approval under the appropriate legislation.

Policy EM 18

Decentralised Energy Supply

Plans and strategies should encourage the use of decentralised and renewable or low-carbon energy in new development in order to contribute to the achievement of the targets set out in Table 9.6 and 9.7a-c. In particular, local authorities should, in their Development Plan Documents, set out:

- targets for the energy to be used in new development to come from decentralised and renewable or low-carbon energy sources, based on appropriate evidence and viability assessments; and
- the type and size of development to which the target will be applied.

In advance of local targets being set, new non residential developments above a threshold of 1,000m² and all residential developments comprising 10 or more units should secure at least 10% of their predicted energy requirements from decentralised and renewable or low-carbon sources, unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable.

9.59 PPS1 supplement on Climate Change expects local planning authorities to provide a framework that promotes and encourages renewable and low carbon energy development. Local planning authorities should have an evidence-based understanding of the local feasibility and potential for renewable and low-carbon technologies, including microgeneration, to supply new development in their area. Targets for the percentage of energy to be use in new development to come from decentralised and renewable or low-carbon energy sources should be set out and tested in Development Plan Documents to ensure they are evidence-based, viable and consistent with ensuring housing and affordable housing supply is not inhibited.

9.60 Microgeneration has the potential to play a significant role in moving towards the Government's objective of sustainable, reliable and affordable energy for all, delivered through competitive markets. The Microgeneration Strategy, published in 2006, aims to create conditions in which microgeneration is a realistic alternative, or supplementary energy generation source, for individual householders, the wider community and small businesses⁽¹²²⁾.

9.2 RENEWABLE ENERGY POLICIES

- 9.2.1 The Council recognises the benefits that both standalone and integrated renewable energy schemes can bring from a local to global scale. In land-use policy terms the important thing is to seek a balance between encouraging the development of renewable energy resources, taking into consideration the wider environmental, economic and social benefits of proposals, and appropriate safeguards against any adverse impact, in line with the provisions of PPS 22 on Renewable Energy, Policy ER15 of RSS and Policy R44 of the JSP. The Council will therefore support development for renewable energy generation so long as the overall criteria of Policy EGY 1 are met along with any of the additional safeguards in Policies EGY 2 – 6 which relate to specific types of energy proposal. The following paragraphs 9.2.2 – 9.2.7 set out how the criteria in Policy EGY 1 are to be applied.
- 9.2.2 The landscape and visual effects of renewable energy proposals will vary according to the type of development, its location and the landscape or townscape setting. Adverse impacts can be minimized by attention to siting, design, scale, colour schemes and landscaping and the Council will expect developers to take such matters into account (including the effects of any associated infrastructure such as network connections, sub stations, security fencing and access tracks and foundations) at an early stage in project development. They should ensure that their proposals do not adversely affect the special qualities of designated landscapes, particularly the St Bees Head Heritage Coast or those of the built heritage – in terms of Scheduled Ancient Monuments, Conservation Areas and Listed Buildings. In addition, sensitive handling will be required in the siting, design and scale of development in Landscapes of County Importance. The Council will take into account the likely cumulative effects of existing and proposed renewable energy schemes including linked apparatus and distribution lines and other utility infrastructure in its assessment of all proposals.
- 9.2.3 Effects on biodiversity are also important. Where development for renewable energy could have an adverse effect on a site of international importance such as a Special Protection Area, a Special Area for Conservation or a RAMSAR site (see 6.1.4 – 6.1.11 and Policy ENV 1) the Council will only consider granting planning permission a) if an assessment of the site has shown that its integrity would not be adversely affected or b) where adverse effect could be expected and with no alternative solution apparent, that there are imperative reasons of overriding public interest identified by the developer, including those of a social or economic nature. In cases of national designations like SSSIs, proposals will need to demonstrate that they would not compromise the objectives of the designation or that any adverse effects are clearly outweighed by the environmental, social or economic benefits. Elsewhere the Council will expect developers to explore all potential effects on wildlife habitat or species and make provision for mitigation, compensatory or enhancement measures.

- 9.2.4 Effects on general amenities will be taken into account. As noted in PPS 22, renewable technologies may generate small increases in noise levels and the Council will expect the location and design of renewable energy developments to minimize increases in ambient noise levels. Objectionable odours can be significant issue in handling some proposals e.g. for anaerobic digestion. The Council will not allow such plants to be located in close proximity to existing residential areas or those with planning permission or allocated for development in this Plan. Any other potential nuisance e.g. emissions and pollutants must be identified by the developer and appropriate mitigation measures designed into the scheme to minimize their effects on neighbouring uses. Waste arisings can also be a source of potential nuisance and care will be required to in the first instance minimize the amounts of material involved and then to ensure that the most efficient, least harmful means of disposal is used, including attention issues involved in transportation from the site (e.g. type of vehicle and need for containment). Developers will also need to demonstrate that neither the operations or waste arisings will have an adverse effect on the hydrology of the site and surrounding area.
- 9.2.5 Traffic impacts must be borne in mind, particularly the match between the standard and condition of highway(s) serving the site and the size of vehicles and frequency of trips generated by the particular type of development. The site access, traffic management and parking arrangements must be designed in accordance with Policy TSP 6 requirements.
- 9.2.6 Care must be taken in or adjoining areas designated for community recreation purposes (by virtue of Policy SVC 13) and routes serving them. Developers must ensure that no safety or security risks are created by the form, siting or type of development proposed.
- 9.2.7 Most large scale renewable energy proposals are likely to require a full Environmental Impact Assessment which will assist all parties in meeting the Policy EGY 1 criteria or in establishing the need to consider alternative sites (Policy DEV 8 will also apply). In all cases, however, the Council will expect developers to actively consult local communities at an early stage in the development process and will expect significant benefits to be delivered to the community where a scheme is to be sited, where possible. The Council will also expect that such issues as effects from electro-magnetic interference, effects on radar and aviation and separation distances from powerlines, roads and railways will have been addressed before it considers applications for planning permission. Additional guidance is being compiled by the County Council in partnership with the Cumbrian District Authorities. This will be incorporated in Supplementary Planning Documents to be published shortly on Wind Energy Development and Landscape Character and both will assist in the handling of new development proposals.”

POLICY EGY 1: Renewable Energy

Proposals for any form of renewable energy development must satisfy the following criteria:

- 1. That there would be no significant adverse visual effects**
- 2. That there would be no significant adverse effects on landscape or townscape character and distinctiveness**
- 3. That there would be no adverse impact on biodiversity**
- 4. That proposals would not cause unacceptable harm to features of local, national and international importance for nature or heritage conservation**
- 5. That measures are taken to mitigate any noise, smell, dust, fumes or other nuisance likely to affect nearby residents or other adjoining land users**
- 6. That adequate provision can be made for access, parking and any potentially adverse impacts on the highway network**
- 7. That any waste arising as a result of the development would be minimized and dealt with using a suitable means of disposal**
- 8. There would be no adverse unacceptable conflict with any existing recreational facilities and their access routes**
- 9. That they would not give rise to any unacceptable cumulative effects when considered against any previous extant planning approvals for renewable energy development or other existing/approved utility infrastructure in the vicinity.**

Developers are expected to actively consult with local communities in developing their proposals and to deliver significant benefits to the community where the scheme is to be sited wherever possible.

Wind Energy

- 9.2.8 The best wind energy sites are open to constant high speed winds usually on the coast or on exposed hillsides and usually, therefore, in wild and unspoilt landscapes open to views from a wide area. These are sensitive locations where the application of Policy EGY 1 will be implemented with care and the proposed new SPDs on wind energy and landscape character will be especially useful in this regard. The St Bees Head Heritage Coast is particularly sensitive area and planning permission for wind energy development within or in close proximity to the Heritage Coast will only be given where it can be demonstrated that the objectives of its designation

will not be compromised, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits. Elsewhere in Landscapes of County Importance, schemes will need to demonstrate sensitivity to the distinctive character of the area. The impact upon other sensitive sites such as SSSIs, sites of wildlife interest, RIGS, Scheduled Ancient Monuments and sites of local archaeological or historic importance must also be borne in mind along with affects on wildlife and the potential impact on residential amenity. The Council will have regard to the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and where relevant proposals will be subject to Policy DEV 8: Major Development. The Council will also take into account the cumulative effects of wind turbine developments in any locality so as to avoid significant adverse affects. As required by JSP Policy 44 (4) measures will also be required to secure the removal of structures and related infrastructure from the development site once their operation ceases with appropriate remediation works to the site.

- 9.2.9 The Council also intends to adopt SPD to supply further guidance on achieving positive onshore wind energy development schemes as part of the Local Development Framework.

POLICY EGY 2: Wind Energy

Proposals for wind energy developments will be considered against the criteria of Policy EGY 1 with the additional requirement that:

There would be a scheme for the removal of turbines and associated structures and the restoration of the site to agriculture when the turbines become redundant.