An investigation into which factors most influence the decision at a public inquiry for wind farm development

by

Lucy Muncaster

Thesis presented in part-fulfilment of the degree of Master of Science in accordance with the regulations of the University of East Anglia

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APPENDICIES

Inspectors Report, South Beach, Gt Yarmouth

Weighted Matrix

I

II
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<tr>
<th>Acronym</th>
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<td>AGLV</td>
<td>Area of Great Landscape Value</td>
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<tr>
<td>AHLV</td>
<td>Area of Historic Landscape Value</td>
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<tr>
<td>AONB</td>
<td>Area of Outstanding Natural Beauty</td>
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<td>BNFL</td>
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<td>Conference of the Parties</td>
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<td>Coastal Preservation Area</td>
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ABSTRACT

The abundance of wind energy in the UK makes this natural resource an important source of renewable power. At present, less than 3% of electricity in the UK comes from renewables and it is thought that the development of wind power offers the opportunity to generate up to 20% of the nation’s electricity needs. However, wind energy in the UK is a contentious issue, there have been many applications submitted to date, but only a relative few have been approved.

A public inquiry is a very costly process and it is difficult for developers to know whether proceeding with a PI is worth the extra expenditure and investment.

This report looks at those projects taken to public inquiry with a view to identifying common factors which have most influenced the decision. Inspectors Reports have been the means for analysis.
ACKNOWLEDGEMENTS

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My mum and dad,
E4environment,
Jude Alexander, and
Sandra Dunk.

Many thanks.
1. INTRODUCTION

The abundance of wind energy in the UK makes this natural resource an important source of renewable power. At present, less than 3% of electricity in the UK comes from renewables and it is thought that the development of wind power offers the opportunity to generate up to 20% of the nation's electricity needs (Masons, 2002).

To date, there has been huge inconsistency in England over onshore wind schemes. Devon, Lancashire and Northumberland turned down all applications between 1998 and 2003, Yorkshire allowed 100% of applications and many counties passed between 50% and 80%. Overall, in England the approval rate was 50% and in Scotland the approval rate was 90% (Brown, 2003).

Energy Minister Brian Wilson predicted that 2002 was the year for renewables, facilitated by the adoption of the 'Renewables Obligation', that came into effect on the 1st April 2002. The obligation requires electricity suppliers to purchase a proportion of the electricity they supply to customers from renewable sources. This requirement is a rising scale, increasing annually from 3% in 2002/03 to 10.4% in 2010/11. He also hinted at those who complain about the cost or visual intrusion of wind turbines that this may involve a challenge to the integrity and consistency of some environmentalists who, on the one hand, say the future lies with renewables but, on the other, object to just about every specific project that comes forward (DEFRA, 2002).
Chapter 1: Introduction

Figure 1.1: Map showing the location of operational onshore wind farms in the UK

Source: BWEA, 2003
## Table 1.1: Operational Wind Farms of the UK

<table>
<thead>
<tr>
<th>MAP REF (in operational order)</th>
<th>WIND FARM</th>
<th>LOCATION</th>
<th>NO OF TURBINES (MW)</th>
<th>CAPACITY (MW)</th>
<th>MAP REF (in operational order)</th>
<th>WIND FARM</th>
<th>LOCATION</th>
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Source: BWEA, 2003 / E4etc, 2004

EIA is a systematic process that examines the environmental consequences of development actions, in advance of those actions taking place. The
emphasis, compared with many other mechanisms for environmental protection, is on prevention and can eliminate or offset negative environmental impacts, reduce local opposition and avoid costly public inquiries (Glasson et al., 2001).

Weston (1997) discusses why parties involved in EIA try to avoid public inquiries:

"By the time a project becomes the subject of a public inquiry the sides are drawn and the hearing becomes a focus for adversarial debate between opposing, expensive experts directed and spurred on by advocates schooled in the art of cajoling witnesses into submission and contradictions. Such debates are seldom rational or in any other way related to the systematic, iterative and co-operative characteristics of good practice EIA. By the time inquiry comes around, and all the investment has been made in expert witnesses and smooth talking barristers, it is far too late for all that."

In response to member concerns, BWEA wrote a letter to the Planning Inspectorate to inquire as to the reason for so many wind farm appeals being taken to public inquiry rather than being determined by Written Representations or an Informal Hearing.

In their reply, the Inspectorate revealed that of the 55 appeals decided by the Inspectorate, 1 (2%) was by way of an Informal Hearing, 29 (53%) by Public Inquiry and 25 (45%) by Written Representations. The Inspectorate is always keen to proceed by way of written representations, which is evident when assessing the national average of determinations over the last 2 years since Oct-01: 68.3% by Written Representations, 19.7% by Informal Hearing and 11.9% by Public Inquiry.

Wind farm appeals clearly differ from the national average, in that many more are being determined at Public Inquiry - a much more costly process (BWEA, 2003).
2. JUSTIFICATION AND LITERATURE REVIEW

Wind energy in the UK is a contentious issue, there have been many applications submitted to date, but only a relative few have been approved. Wind farms attract a lot of public attention, both positive, and negative, particularly as schemes are getting larger. A press release by Friends of the Earth Cymru (FoE, 2001) says that opposition groups give the impression that wind energy is not popular and damages the landscape, yet independent public opinion polls consistently show a majority of people in favour of wind energy.

At this stage, if a planning application is turned down it is difficult for developers to know whether proceeding with a public inquiry is worth the extra expenditure and investment. FoE, Cymru (FoE, 2001) state that ‘nearly every wind farm that gets planning approval by a Local Authority gets called in by the assembly, resulting in a lengthy and expensive inquiry procedure for even small wind farm proposals, that often go on to suffer a death by a hundred cuts at inquiry’.

Masons (2002) also support this statement stating that ‘it is difficult for developers of wind farm projects to know whether the application will be called in by the Secretary of State as there has been no consistent pattern in this area. For example, in the 1990’s, developments at Caton Moor and Kirby Moor were called in for determination by the Secretary of State and both received approval. However, an application for a wind farm at Coal Clough was determined by the local planning authority despite local objections.’

It could be that as energy issues rise higher on the government, national and indeed the international agenda, all wind farm applications will be called in by the Secretary of State, as by definition they will be of national importance. Masons (2002) also state that ‘if the government is serious about increasing
renewable energy, and in particular wind farms, it has to ensure that the planning process is not a hindrance to these types of development. In particular, developers have to be sure that there will be some consistency as to how their applications are judged not only at the local planning stage, but also on appeal”.

Wind Prospect (2000) held discussions with local authorities, the Planning Inspectorate, developers and specialist consultants and found that it appears that there is little consistency in the way applications for renewable energy schemes progress through the planning system or in the decisions made by Inspectors following appeal. They also found that while the rate of success is improved if a scheme accords with adopted local policies and has addressed all environmental matters, the eventual decision can never be assumed.

It is this lack of information and consistency with regard to public inquiries that form the basis and justification of this project.
Chapter 3: Aims and Objectives

3. AIMS AND OBJECTIVES

The main aim of this project is to analyse the public inquiry process for wind farm developments, with a view to identifying those factors which have most influenced the decision. The research objectives are to:

I. Analyse Inspectors Reports with a view to identifying individual factors which most influence the decision at public inquiry.

II. Produce a weighted matrix that could be applied to individual projects based on a variety of potentially significant factors that could be used by developers as a tool when considering whether to proceed with a public inquiry.
4. THE POLICY CONTEXT

The focus of this study is largely political, concentrating on the final stages of the planning process for selected wind farm developments, namely, the public inquiry stage. As such it is first necessary to identify the impetus behind the development of wind farms from a political angle, documenting why the interest in renewable energy, particularly wind farms has gained in importance over recent years and to put the planning system into context.

4.1 INTERNATIONAL POLICY

Widespread interest in sustainable development including renewable forms of energy came about initially on an international level in the form of the Brundtland Report in 1987.

4.1.1 Brundtland Report, 1987

In 1987 the Brundtland Report, also known as ‘Our Common Future’ alerted the world to the urgency of making progress toward economic development that could be sustained without depleting natural resources or harming the environment (mmu, a, no date). The Report defines sustainable development as:

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

The Report goes on to say that industrialised countries must recognise that their energy consumption is polluting the biosphere and eating into scarce fossil fuel supplies and that a shift to non-polluting sources and technologies must be encouraged. A safe, environmentally sound, and economically viable energy pathway is clearly imperative that will sustain human progress into the distant future. The report recognised that this is possible but would require new dimensions of political will and institutional co-operation to achieve (WCED, 1987).
4.1.2 Rio Earth Summit, 1992

Five years on from the Brundtland Report, the UN General Assembly asked for a report on progress made towards sustainable development and held the Rio Earth Summit with the objectives being to build upon the hopes and achievements of the Brundtland Report. Five separate agreements were made at the Rio Earth Summit, of which, two are directly relevant to this study (mmu, b, no date):

- The Framework Convention on Climate Change; and
- Agenda 21

The Framework Convention on Climate Change (UNFCCC) placed an obligation on a number of developed countries, including the UK, to reduce by variable amounts above and below 1990 emission levels by 2010. However, the unwillingness of the major emitters to accept any legally binding and similar targets, on the grounds that this would distort their competitive advantage, fail to recognise the differential responsibilities, and ignore the inevitably wide range of costs associated with equal percentages of greenhouse gas emission reductions was noted (O’Riordan, 2000). The Framework Convention may be considered a success for having made people the world over more aware of the problems linked to climate change. However, a number of industrialised countries failed to achieve the objective of stabilising greenhouse gas concentrations to specified levels (Europa, 2002). The UNFCCC Conference of the Parties (CoP) negotiated a protocol containing measures to reduce emissions for the period beyond 2000 in the industrialised countries and through this, The Kyoto Protocol was born. The big breakthrough in Kyoto was to allow different countries to be subject to variable targets, and for the target date to be between 2008-12, rather than a single year. The Protocol set emission level targets for the ‘six pack’ of greenhouse gases, including CO₂. The CO₂ emission level target for the UK by 2010 is a reduction of 12.5%, previous to Kyoto, this figure was set at 10% (O’Riordan, 2000). The Protocol also goes on to suggest various means of attaining the objectives including, *inter alia*, the adoption of national policies.
to reduce emissions (development of renewable energy sources, etc) (Europa, 2002).
Agenda 21 is the blueprint for sustainability in the 21st century and nations that have pledged to take part are encouraged to promote Agenda 21 at the local and regional levels, focusing on the conservation and preservation of our environments and natural resources (mmu, c, no date). It provides a framework for tackling today's social and environmental problems, including, inter alia, air pollution. This provides a clear emphasis on a shift away from polluting forms of non-renewable energy to clean renewable forms.

4.1.3 The White Paper,
The White Paper follows on from the discussion stimulated by the Green Paper published by the Commission in November 1996. The main objective of The White Paper is to attain, by 2010, a minimum penetration of 12% of renewable energy sources in the EU (Europa, 2001). The White Paper also proposes a series of subsidiary targets for individual energy sources, including 40GW of wind within Europe (DTI, 2000).

4.1.4 The European Union' Fifth Environmental Action Programme
The European Union's Fifth Environmental Action Programme, 'Towards Sustainability forms part of the European Union's direct response to Agenda21 and in 1996, the European Union (EU) Parliament called for the contribution from renewable sources to be doubled to provide 12% of European energy by 2010. The 1998 White Paper 'Energy for the Future: Renewable Sources of Energy' was an action plan that identified contributions from the various European renewable energy sectors (West Coast Energy, 2003).

4.1.5 EC Directive for Renewable Energy
The Directive follows up the White Paper on renewable sources of energy, whilst also constituting an essential part of the package of measures needed to comply with the commitments made by the EU under the 1997 Kyoto Protocol on the reduction of greenhouse gas emissions. The primary objective of the EC Directive for Renewable Energy is to create a Community
framework which will facilitate a significant increase in the medium term in renewable generated electricity (Europa, 2001b).

4.2 UK NATIONAL ENERGY POLICY AND PLANNING GUIDANCE
As a direct response to international policies and agreements, the UK developed its own policies and targets in line with international policies.

4.2.1 UK Climate Change Programme (Strategy), 2000
Following Kyoto, the UK's target is to cut its emissions by 12.5% below 1990 levels by 2008-2012. However, the Government and the devolved administrations are convinced that the UK can, and should, go further and are aiming to cut the UK's emissions of carbon dioxide by 20% below 1990 levels by 2010 (DETR, 2000).

Policy actions and objectives within the Climate Change Programme include:

- Electricity generated from renewable sources to be exempt from the Climate Change Levy to encourage investment by industry;
- The development of a regional strategic approach and targets for renewable energy; and
- Changes to the planning system to accord with the aims and objectives of the Climate Change Programme, and in turn favourably influence renewable energy development trends.

4.2.2 New & Renewable Energy Strategy, 2000
During 2000, the UK Government published the document 'New and Renewable Energy: prospects for the 21st century. The document reiterates that within the EC Directive on Renewable Energy, by proposing an obligation on all electricity suppliers to provide an increasing proportion of their supply from renewable sources, with 5% by 2003 and rising to 10% by 2010. The document recognises that to achieve success, inter alia, the need for regional approaches or targets needs to be considered.

4.2.3 The Renewables Obligation, 2000
The Renewables Obligation is the key policy mechanism by which the Government is encouraging the growth necessary to reach the UK's
renewable energy targets. It requires all licensed electricity suppliers in England and Wales to supply a specific proportion of their electricity from renewables in order to provide a stable and long-term market for renewable energy. The Obligation will remain in place until 2027 (DTI, 2003).
5. PLANNING POLICY GUIDANCE NOTES

Government Planning Policy Guidance relevant to onshore wind planning applications is as follows:

5.1 PPG 1, General Policy and Principles 1997

PPG 1 supports the concept of Sustainable Development by defining it as "...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

reiterating the definition within the Bruntland Report (1997). PPG1 also advises that a sustainable planning framework should "provide for the nation’s needs...while respecting environmental objectives".

5.2 PPG9, Nature Conservation, 1994

PPG9 sets out the principles and policies that apply to the integration of nature conservation priorities and landuse planning.

"...make adequate provision for development and economic growth whilst ensuring effective conservation of wildlife and natural features..." (para. 3).

"...protection of wildlife is not an objective which applies only in SSSIs; it depends on the wise use and management of the nation’s land resources as a whole...take account of nature conservation interests wherever relevant to local decisions." (para. 4).

"should not refuse permission if development can be subject to conditions that will prevent damaging impact on wildlife habitats or important physical features, or if other material factors are sufficient to override nature conservation considerations." (para. 27). "the presence of a protected species
is a material consideration when assessing a development proposal which would be likely to result in harm to the species or its habitat.” (para 47).

5.3 PPG11, Regional Planning, 2000

As of February 2000, the Government has begun to take a more proactive role for regional planning. A more strategic approach at regional level was heralded in February 2000, as part of the new approach to renewable energy. The means of strengthening regional planning were set out by Nick Raynsford, the then Planning Minister, in response to a Parliamentary Question in early March 2000.

“A positive, strategic approach to planning for renewable energy is essential to help to deliver the government’s targets and goals for renewable energy and climate change, which are central to achieving sustainable development, whilst continuing to protect the landscape.”

The same Parliamentary Question firmed up the intention that local plans should identify suitable sites for renewable energy. Although this guidance is included in PPG22, many local authorities have not taken it forward (OXERA Environmental, 2002).

This Guidance states that the main purpose of RPG is to provide a regional spatial strategy within which local development plans can be prepared, and advises that RPG has a role to play in promoting renewable forms of energy supply.

"RPG should assist in the delivery of renewable energy generation targets that have been established as part of the Regional Sustainable Development Framework Process...This should be achieved by defining broad locations for renewable energy development and setting criteria to help local planning authorities select suitable sites in their plans.” (para. 14.5).
5.4 PPG16, Archaeology and Planning, 1990

This guidance recognises that archaeological remains are irreplaceable and states

"...care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed." (para. 6).

"...Where nationally important archaeological remains whether scheduled or not, and their settings, are affected by proposed development there should be a presumption in favour of their physical preservation." (para. 8).

"...proposals which would involve significant alteration or cause damage, or would have a significant impact on the setting of visible remains." (para. 27).

5.5 PPG22, Renewable Energy 1993

PPG22 is the only source of government guidance devoted solely to renewable energy and states that it is "Government Policy...to stimulate the exploitation and development of renewable energy sources wherever they have prospects of being economically attractive and environmentally acceptable" (para. 8).

PPG22 also provides guidance on Land-Use Planning Matters, stating that "Planning decisions have to reconcile the interests of development with the importance of conserving the environment...the Governments general aims are ..to ensure that society's needs for energy are satisfied, consistent with protecting the local and global environment; to ensure that any environmental damage or loss of amenity caused by energy supply and ancillary activities is minimised." (para. 20).

The Guidance recognises that Development Plans set the framework for development control decisions and planning applications should be determined in accordance with the development plan unless material considerations indicate otherwise (para. 22).
Chapter 5: Planning Policy Guidance Notes

The Guidance also states that "Renewable energy resources can usually only be developed where they occur, and each authority should consider the contribution their area can make to meeting need on a local, regional and national basis." (para. 23).

The Annex on wind energy that accompanies PPG22 sets out some distinctive features which must be taken into account in planning and development control, which are:

"the need to site the machines in open exposed locations often in rural areas which may also be in attractive landscapes; the nature of noise emissions from the turbines..." (para. 3).

The Annex also provides general guidance on siting requirements and states that:

"it may be advisable to achieve a set-back from roads and railways of at least the height of the turbine proposed...a cautious approach to siting turbines near roads may be justified, especially for example near a busy road which carries tourist traffic and has a bad accident record.." (para. 37).

"...there is unlikely to be a significant noise problem for any residential property situated further than 350-400 metres from the nearest turbine." (para. 47).

"most development of wind turbine generators will be proposed in the uplands, on the coast and other particularly exposed regions...Local planning authorities must always weigh the desirability of exploiting a clean, renewable energy resource against the visual impact on the landscape..." (para. 59).

"wind turbine generators must be assessed with their particular and unusual characteristics clearly in mind. The acceptability of wind turbine generators will be determined to a considerable extent by the form and pattern of the landscape within and adjoining a particular site." (para. 64).
"Applications ...will often be made in areas designated as of ecological importance, and such applications should be rigorously examined. Evidence suggests that the risk of collision between moving turbine blades and birds is minimal..." (para. 70).

"Special care will be needed if proposed sites...should happen to be near listed buildings or conservation areas."

5.6 PPG24, Planning and Noise, 1994

This guidance does not specifically refer to noise generated from wind turbines. However, it does advise that

"...new development involving noisy activities should, if possible, be sited away from noise-sensitive land uses."

(para. 2).
6. PLANNING PROCESS

Modern turbines have distinctive features which must be taken into account in terms of development control. These include the need to site turbines in open areas which are often rural and which may also be attractive landscape areas, the nature of noise emissions from the turbines, the effect of blade movement, considerations relating to the proximity of power lines, airports, roads and railways, and the safety of electromagnetic interference (Wind Prospect, 2000).

Onshore renewable energy developers have to obtain planning permission from the relevant district council in the conventional way. Under the plan-led system, such applications must be determined in accordance with the development plan, unless material considerations indicate otherwise. For those parts of the country covered by a two-tier local government structure, the development plan comprises the county structure plan and the district local plan. Where a unitary structure is in operation, it comprises the Unitary Development Plan (UDP). The development plans referred to during the public inquiries held between 1997 and 2002 may or may not include guidance of relevance to renewable energy projects, but, where this guidance exists, it is unlikely to go beyond general development control criteria. However, the existence of national planning guidance on renewable energy is a material consideration in the determination of planning applications (OXERA Environmental, 2002).

The planning process, up until very recently, has been a system generally reflecting strong development control, with enforcement powers held by local planning authorities.
Figure 6.1: The simplified levels of town and country planning

**Central Government**

ODPM

_Secretary of State_ (politician, MP)

advised by planning professionals (civil servants)

- Approves development plans
- Gives overall policy guidance
- Deals with appeals (assisted by the planning inspectorate)

**Local government**

Decisions are made by the politicians (elected councillors on council planning committee) as advised by the professionals (planners who are employed as local government officers).

**Two-tier system**

*Counties (47)*

- Structure Plans
- Overall policy strategy
- Minerals & waste disposal

*Districts (333)*

- Local plans
- Implementation of planning development control

**Unitary system**

*Metropolitan districts (36) & London Boroughs*

- Unitary Development Plans (combine contents of structure and local plans)
- Policy implementation
- Development control

Source: Greed (1993)
Decisions on specific development proposals are generally taken at a local level and are subject to the normal process of public and statutory consultation before consent is issued or refused. Some schemes which are contrary to the relevant development plan or are of regional significance, can be the subject of a call-in by the Secretary of State (Wind Prospect, 2000).

Reflecting the system within England, appeals can be pursued by applicants against the refusal of consent, non-determination or the imposition of onerous conditions and can be determined by either the Secretary of State, or Independent Planning Inspectors (Wind Prospect, 2000).

Under the Town and Country Planning Acts, applicants who are aggrieved at a planning decision by the Local Planning Authority (LPA) have a right of appeal to the Office of the Deputy Prime Minister (ODPM). The right of appeal applies to (Restormel BC, no date):

- Refusals of planning permission and other consents,
- Conditions applied to planning permission and other consents, and
- Enforcement notices.

There are no rights of appeal against planning decisions by anyone other than the applicant. This prevents local residents or other objectors from challenging a decision by the Council to grant planning permission.
7. METHODOLOGY

The aim of this project is to analyse Inspectors Reports for wind farm developments taken to public inquiry with a view to identifying those factors which have most influenced the decision.

The data analysed in this research came from the literature contained within Inspectors Reports for those planning applications submitted under the Town and Country Planning Act (1990) for wind farm developments that went to public inquiry.

There were 71 public inquiries for wind farm developments spanning between 1985 and August 2003 in the United Kingdom, at the time the data to be analysed was gathered.

In order that the data could be analysed effectively, the sample size had to be reduced to a more manageable number, given the time limitations of the study, whilst remaining broad enough to be scientifically valid.

The sample chosen was restricted to only those planning applications within England, submitted under the Town and Country Planning (1990) Legislation, whose public inquiry was held between 1st January 1997 and the 31st December 2002. The study was restricted to those applications submitted before the 31st December 2002 due to the current changes within the planning system. This would ensure, as far as possible, consistency in the inspectors decisions based on the political regime.

All of the Inspectors Reports used during this study were obtained from COMPASS, the Computerised Planning Appeals Service, within Development Control Services.

It was decided the most appropriate data for analysis would be the Inspectors Reports as this is something that was obtainable for each case and would
provide some consistency to the analysis procedure. It was decided that formulating and distributing questionnaires or undertaking interviews would not be appropriate for this study due to the vast number of people involved in each appeal.

A number of methods were explored with regards to analysing this type of data, including qualitative and quantitative methods.

Qualitative methods that were explored in depth but rejected were 'Content Analysis' and 'Grounded Theory.' It was felt that content analysis was not suited to analysing Inspectors Reports, where the emphasis is not on how many times a particular word is mentioned, but rather the connotations of the report as a whole. Grounded Theory is perhaps a more suitable method as it considers each case to be an autonomous unit with its own structure, boundaries and history, with the emphasis on the development of concepts (Sarantakos, 1998). However, these methods were rejected in favour of a quantitative approach based on criteria assessment where the results for each case could be more readily compared.

A second, broad-brush literature review was undertaken with regard to wind farm developments in general, to try and pinpoint some of the more significant impacts attributable to this type of development to facilitate the development of a weighted matrix. Reviews were concerned mainly with Environmental Impact Assessment guidance, guidance for wind farm developments and submitted Environmental Statements for wind farms.

Initially, it was important to gather baseline data for each of the proposals that included:

- The date the application was submitted;
- The date of the Public Inquiry;
- The location of the proposed development;
- The inspector;
- The project manager;
- The number of proposed turbines; and
- The height to tip of the proposed turbines;
As a result of the literature review, areas of exploration and potential significance when determining the outcome indicated a number of key issues including:

- Whether the site is in local, national, or international designations\(^1\)\(^2\)\(^3\)\(^4\)\(^5\)\(^6\);
- Whether the study area is in local, national, or international designations \(^1\)\(^2\)\(^3\)\(^4\)\(^5\)\(^6\);
- Whether there will be significant archaeological impacts \(^5\)\(^6\);
- Whether there will be significant cultural heritage impacts \(^1\)\(^2\)\(^4\);
- The proximity to housing, particularly in relation to the size of the proposed turbines \(^1\)\(^3\);
- Whether shadow flicker will be a nuisance for residents \(^1\);
- Whether there will be significant noise impacts \(^2\)\(^5\);
- Whether there would be significant adverse effects on protected species \(^1\)\(^2\)\(^3\)\(^4\)\(^5\)\(^6\);
- Whether there would be significant adverse effects on migratory / breeding birds \(^3\)\(^5\)\(^6\);
- Whether visitor facilities are proposed \(^3\);
- Whether the study area is generally visually man-modified or rather rural in character \(^1\)\(^2\)\(^3\)\(^4\)\(^5\)\(^6\);
- Whether the site itself is on greenfield or brownfield land \(^5\)\(^6\); and
- Whether the development would give rise to significant adverse landscape and / or visual effects \(^1\)\(^2\)\(^3\)\(^4\)\(^5\)\(^6\).

These initial questions formed the starting blocks for the criteria based assessment and, whilst reviewing the text within the Inspectors Reports, a number of other, potentially significant factors were apparent such as:

- Whether the development had support under the NFFO regime;
- Whether the proposed development is in accordance with the relevant development plans \(^1\)\(^6\);
- What were the main reasons for refusal at planning;
- Whether there had been previous applications of a similar nature either on the site or within the study area; and
- Whether there was an organised opposition body to the development.

\(^1\) BWEA (1994)
\(^2\) FoE (1997)
\(^3\) SNH (2001)
\(^4\) SNH (no date)
\(^5\) DoE (1995)
\(^6\) CCW (no date)
A weighted matrix was developed based on the above findings. Weightings were assigned based on the importance of each environmental component and this was, in turn, based loosely on the literature review. For example, those components mentioned in the majority of the reviewed guidance were assigned a higher weighting than those components mentioned in only one of the guidance documents. Each environmental component is assigned an importance weighting (a), based on percentage, relative to the other environmental components. The magnitude (c) of the impact of the development on each environmental component is then assessed on a scale of 1-10, with a lower score indicating a lower environmental impact and a higher score indicating a higher environmental impact. This is then multiplied by (a) to obtain a weighted impact (axc). For each site, the weighted impacts are then added up to give a project total, with the sites with the lower totals having the least environmental impact, and being most suitable for development (Glasson et al, 2001).


8. RESULTS AND ANALYSIS

This chapter presents the results of the data analysis using the criteria based approach.

In total, seventeen Inspectors Reports were analysed, for each of the planning appeals studied between the 1st January 1997 and the 31st December 2002.

Table 8.1: Wind Farm Public Inquiries 1997 – 2002, England

<table>
<thead>
<tr>
<th>MAP REF NUMBER</th>
<th>DATE</th>
<th>PROJECT</th>
<th>LOCATION</th>
<th>OUTCOME</th>
<th>MANAGER / DEVELOPER</th>
<th>NO OF TURBINES TO TIP</th>
<th>TIP HEIGHT (M)</th>
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<tr>
<td>17</td>
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<td>Ness Point</td>
<td>Lowestoft</td>
<td>A</td>
<td>Next Generation Ltd</td>
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<td>Cumbria</td>
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<td>Devon</td>
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</tr>
</tbody>
</table>

8.1 INDIVIDUAL FACTORS

- Location;
- Year;
- Inspectors;
- Project Managers;
Chapter 8: Results and Analysis

- Number of Turbines;
- Height of Turbines;
- Designations;
- NFFO
- Opposition Bodies; and
- Planning Policies.
8.1.1 Location

Figure 8.1: Wind Farm Public Inquiries

Key:  Upheld – Blue
      Dismissed – Orange

The above map displays the location of each of the wind farm developments taken to public inquiry between 1997 and 2002, in England. Of the seventeen, seven of these cases are based in Cumbria, where two cases were approved (Wharrels Hill and Lowca) and the remaining five were dismissed.
Two cases were based in Humberside, Eastfield Farm and Out Newton, with one being dismissed, and one being approved respectively.

Two of the proposed wind farm developments taken to public inquiry were based in Devon, The Old Racecourse, and Hore Down. Both of these developments were dismissed at appeal, indicating a consistent trend within Devon County Council, albeit, based on a sample size of only two.

Two of the proposed wind farm developments taken to public inquiry were based in Norfolk and both gained approval, which is again consistent, albeit a small sample size.

The remaining four cases were proposed in separate jurisdictions.

8.1.2 Year

Figure 8.2: Decisions at Appeal by year of public inquiry

At a basic level, these results show no trend in appeal decision, by year. Therefore, it would seem unlikely that the results of the appeal were influenced by the year the public inquiry was held. The results show that of the seventeen cases taken to appeal between 1997 and 2002, eight were upheld and permission granted, and nine were dismissed.
The results showing individual inspectors' decisions and their recommended outcome at public inquiry to see whether a personal preference was apparent toward wind farm developments was inconclusive. Each inspector had, at most, been involved with only two appeals, with the exception of D.L. Burrows, who had been involved with three. It was felt that for the results to be more meaningful, in this instance, inspectors needed to be involved with a larger number of cases, and demonstrate consistency for the majority of their appeal decisions. Burrows determined three cases, of which, two were based in Devon (Hore Down, and The Old Racecourse), where to date, no wind farm has yet been built, and both were dismissed. The third case determined by Burrows was for Somerton wind farm, based in Norfolk, where a previous application for a wind farm development had been approved by another inspector at public inquiry the year before.
8.1.4 Project Managers

Figure 8.4: Success at appeal of project managers

The above results are inconclusive with regards to the success rate of project managers at appeal for wind farm developments. There are two project managers that have had a consistent outcome at appeal. TXU Europe Power Ltd who have submitted two proposals, both based in Devon, and having both projects dismissed. In contrast, Western Windpower have also taken two wind farm proposals to public inquiry. Both proposals were located in Norfolk where both projects have been upheld and given approval for development. Powergen Renewables have also taken two developments to public inquiry in two different jurisdictions where both developments have been given approval.
The remaining eight project managers have had varying success, or submitted only one application for appeal within the time period under study.

The results at appeal are inconclusive as each project manager has taken too few applications to appeal within the time period under study. The three project managers that have had a consistent outcome at appeal, TXU Europe Power Ltd, Western Windpower and Powergen Renewables have only submitted two applications each and it is felt the sample size was too small in this instance to draw any significant conclusions based on the project manager. However, an interesting point is to note the locations of those applications submitted by TXU Europe Power Ltd and Western Windpower where both appeals by TXU Europe Power Ltd were based in Devon and were rejected, and, in contrast, both appeals by Western Windpower were based in Norfolk and were approved.

8.1.5 Number of Turbines

Figure 8.5: Likelihood of success at appeal based on number of turbines proposed

The above results indicate that smaller schemes (in terms of the number of turbines) are more likely to be approved than larger schemes, particularly those in excess of ten turbines. Based on these results, a scheme with
between six and ten proposed turbines is twice as likely to be upheld than dismissed, as are schemes comprising a single wind turbine generator.

These results are useful and it could be concluded that smaller scale developments are preferable to larger scale developments in terms of number of turbines. However, without undertaking a statistical test it is difficult to ascertain a confidence level of these findings that may be down to chance.

8.1.6 Height of Turbines

Figure 8.6: Likelihood of success at appeal based on height of turbines

The above results graphically represent the relationship between the height to tip of the proposed turbines and the outcome. It is felt that this is not a particularly significant factor attributing to the outcome at appeal for wind farm developments and the height proposed is largely attributed to developments in technology. Turbines tended to hover around the 60m height mark between 1997 and late 1999 when technological developments dictated that taller, more efficient turbines could be utilised. However, at a local level, the height of the proposed turbines may be dictated by the surrounding landscape and the capacity to absorb such a development.
8.1.7 Designations

Figure 8.7: Appeal sites with approval and the relationship between whether these are located on land within a local designation or are outwith any local designation

![Chart showing applications approved in relation to local designations]

Figure 8.8: Appeal sites that were dismissed and the relationship between whether these are located on land within a local designation or are outwith any local designation

![Chart showing applications dismissed in relation to local designations]

The above two graphs represent applications that were both approved and dismissed in relation to the presence or absence of local designations within the site boundaries. The results for those appeals approved show that approximately two-thirds were not located on land (within the site boundary) with a local designation, and one-third were located on land with a local designation. The results for those appeals dismissed also show that approximately two-thirds were not located on land with a local designation, and one-third were located on land with a local designation. The similarity of
these results would lead to the conclusion that local designations on the appeal site hold little weight when determining the outcome at appeal.

None of the applications taken to public inquiry were located on a site with a national, or international designation.

Figure 8.9: Appeal sites that were approved and the relationship between whether the study area is within or outwith a local or national designation

![Bar Chart](image)

The above results show that of the eight cases where permission was granted, three of the sites have national and local designations within the study area boundary, two of the sites have national designations within the study area boundary, and one has a local designation within the study area boundary. The study areas for two of the sites are not within any national or local designations. None of the applications taken to public inquiry and approved were located within a study area containing any international designations.

Figure 8.10: Appeal sites that were dismissed and the relationship between whether the study area is within or outwith a local or national designation
The above results show that of the nine cases where permission was refused, three of the sites have national and local designations within the study area boundary, and six of the sites have national designations within the study area boundary. None of the applications taken to public inquiry and refused were located within a study area containing any international designation.

The results of the above two graphs show that an appeal is more likely to be refused if the development and its associated study area are likely to affect national designations.
8.1.8 NFFO

Table 8.2: NFFO Contracts

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>OUTCOME</th>
<th>NFFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ness Point</td>
<td>A</td>
<td>N</td>
</tr>
<tr>
<td>Wharrels Hill</td>
<td>A</td>
<td>N</td>
</tr>
<tr>
<td>Hore Down</td>
<td>D</td>
<td>5</td>
</tr>
<tr>
<td>The Old Racecourse</td>
<td>D</td>
<td>5</td>
</tr>
<tr>
<td>Lowick Common</td>
<td>D</td>
<td>3</td>
</tr>
<tr>
<td>Hilltop Farm</td>
<td>D</td>
<td>Y</td>
</tr>
<tr>
<td>Eastfield Farm</td>
<td>D</td>
<td>4</td>
</tr>
<tr>
<td>Out Newton</td>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>Somerton</td>
<td>A</td>
<td>5</td>
</tr>
<tr>
<td>Blood Hill</td>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>Lowca</td>
<td>A</td>
<td>Y</td>
</tr>
<tr>
<td>Kirkheaton</td>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>Cockers Hill</td>
<td>D</td>
<td>Y</td>
</tr>
<tr>
<td>Drigg</td>
<td>D</td>
<td>?</td>
</tr>
<tr>
<td>Gunson Height</td>
<td>D</td>
<td>3</td>
</tr>
<tr>
<td>Seaforth Dock</td>
<td>A</td>
<td>?</td>
</tr>
<tr>
<td>Fairfield Farm</td>
<td>D</td>
<td>?</td>
</tr>
</tbody>
</table>

The above results show that in terms of whether an application is granted permission or dismissed at appeal has little bearing on whether the proposal has been awarded a NFFO contract.

8.1.9 Opposition Bodies

Figure 8.11: Applications approved at appeal in relation to organised opposition bodies to the proposed development
The above graphs show that for those applications approved at public inquiry, an opposition body was organised for approximately one quarter of cases and for three-quarters of those applications approved there was no organised opposition body. For those applications rejected at public inquiry, an opposition body was organised for approximately one-third of cases and for two-thirds of those applications rejected there was no organised opposition body. These results demonstrate that organised opposition bodies have limited success in influencing the decision at public inquiry. However, without undertaking a statistical analysis it is not possible to give a weighting to the success, or not, of opposition bodies.
8.1.10 Planning Policies

Figure 8.13: Projects that were granted permission at public inquiry and whether those projects were in accordance with the relevant development plans as interpreted by the Inspector

The above graphs are intended to represent each of the cases taken to appeal, the outcome of each case, and whether or not the application accords with the relevant development plans. The results unanimously show that in every instance where the Inspector decides that the proposal is in accordance with the relevant development plans, permission is granted, and, when the
Inspector decides that the proposal is not in accordance with the relevant development plans, permission is refused.

The relevant development plans for each of the cases studied were investigated further as to what specific policies the Inspector deemed the proposal was not in accordance with. The text in the reports was then re-analysed to see if this supported the Inspectors decision.

8.2 CASES DISMISSED

HORE DOWN and THE OLD RACECOURSE, Devon


North Devon Local Plan, adopted December 2000

The Inspector concludes that whilst the development is in accordance with some development plan policies “both proposals would have an adverse impact on the character and appearance of their surroundings which would be contrary to the objectives of development plan policy.”

Structure Plan Policies

S4 – control development in the open countryside;

C2 – seeks to ensure that the quality of the landscape and its distinctive local characteristics are maintained/enhanced;

C3, C4, C6 and C7 – respectively contain similar provisions for National Parks (NP’s), Areas of Outstanding Natural Beauty (AONB’s), Areas of Great Landscape Value (AGLV’s) and the Coastal Preservation Area (CPA); and

C23 – is supportive of renewable energy projects subject to their impact on the landscape..., specifically precluding wind farm developments which would adversely affect the NP, AONB, CPA and AGLV and states that priority should be given to sites outside the designated areas.
Local Plan Policies

DST1 – primary objective in the countryside as the conservation of its character, landscape, wildlife, recreational and natural resource value... any harm to the primary objective must be outweighed by economic and/or social benefits;

DST2 – restrictive of development which would have an unacceptable adverse effect on the amenities of ... the surrounding area;

DL1 – seeks to restrict development which would not conserve/enhance the natural beauty of the landscape unless it provides an overriding contribution to the economic or social wellbeing of the locality and cannot be located elsewhere;

DL3 – refers to the countryside outside the designated areas and seeks to preclude development which would adversely affect character, landform, historic features and the like;

DCR1 – deals specifically with wind farms and is permissive of such developments, if amongst other things, there is no detrimental impact on the landscape or on the amenity of an area in terms of noise, going on to say that particular care will be taken in assessing proposals in or affecting AONB, HC or NP;

* Whilst Devon County Council did not object to the adoption of the LP, in May 2001 it issued a statement of non-conformity with the Structure Plan. It specified a number of policies it found to be non-conforming including policies DST1 and DL1, the reason being that these policies are permissive of development where it is considered that economic/social benefits outweigh harm to the primary conservation objectives of the policies. There is therefore conflict with policies C2, C4 and C3 of the Structure Plan. The District Council accept that the relevant provisions of the Structure Plan will
prevail over the corresponding provisions of the Local Plan until such a time as the Local Plan is altered or replaced.

During the course of the Inquiry the First Deposit of the North Devon Local Plan was issued for consultation purposes and is a material consideration to be taken into account. Policies include:

**ENV1** – acceptable development should provide both economic/social benefits to the local community and protect the countryside;

**ENV2** – restrictive of development which conflicts with conservation and enhancement of the AONB;

**ENV4** – similarly prohibitive of development affecting the Exmoor National Park; and

**ECN15** – deals with all types of renewable energy and in considering such proposals the advantages of the development will be balanced against the impact on the local environment and will be permitted where, amongst other things, there is no harm to the surrounding area...

*Inspectors Reasoning*

"North Devon is a largely rural area of attractive landscapes, much of it afforded protection by national designations, whilst other land is subject to county/local designations. Much of the coastline of the District is a CPA and a significant part of this is also part of the North Devon AONB, this and other stretches of coastline are also defined as a HC”.

To the east is the Exmoor NP and there are three AGLVs within the locality.

*The Old Racecourse, Inspectors Reasoning*

The site lies within the Exmoor Fringe landscape character zone where the key characteristics are considered to include small fields of semi-improved
grassland, enclosed by high beech hedges, visually dominated by a backdrop of open grass moorland and high broad ridgelines.

Apart from the turbines themselves, the development would be relatively small in scale, having only very localised impacts causing no significant change or harm to the landscape fabric of the area or to peoples perceptions of the character of the locality.

The proposed turbines themselves however would be tall metal structures with a strong vertical emphasis and moving parts, erected on a prominent site. Despite other masts, poles and transmission lines in the surrounding area the Inspector feels that both the appearance and scale of the proposed structures would make them far more conspicuous and out of keeping than these other developments. Moreover in an upland landscape, which has been described as undulating plateau with hidden valleys, and where the rolling moorland and hillsides lend an overall horizontal emphasis to the scenery the proposal would result in harm to both the character and appearance of this area.

Topography and intervening vegetation would mean that from relatively close quarters there would be times when views of the development would be obscured. Also, the characteristic high hedges and wooded valleys which screen views from much of the wider countryside would also preclude views of the turbines when driving along the country lanes. However, in spite of this, the development would have a significant impact on the appearance of the area and perception of its character.

It is the opinion of the Inspector that the lack of open views from much of the area means that when the wider countryside is seen either from a field gate, an unfenced road or an elevated position, that view becomes more important and peoples’ impressions of an area are focussed into smaller snap shots of scenery.
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The land to the east, west and south of the appeal site is designated an AGLV in the Local Plan and in the First Deposit Local Plan it is intended the site should be included within the protected area and it is difficult to see any significantly different landscape characteristics which distinguish the appeal site from the designated area. Similarly the National Park is only about 3km to the east and there is clear visibility between the site and the National Park with a gradual transition between the two.

The proximity of and visibility between the proposed development and both the AGLV and the NP would result in harm to the character and appearance of these two areas and be contrary to development plan policies in this respect and contrary to the primary purposes of the NP.

Hore Down, Inspectors Reasoning

The site lies within the North Devon Downs landscape character zone with field pattern tending to be larger than the Exmoor Fringe to the east and the character of the area somewhat bland apart from the valleys with their wooded flanks. There are in general few vertical elements to interrupt the skyline.

Apart from the turbines themselves, the development would be relatively small in scale, having only very localised impacts causing no significant change or harm to the landscape fabric of the area or to peoples perceptions of the character of the locality.

The appeal site is open and exposed and because of the rolling nature of the land visible over a significant part of the surrounding countryside. Whilst there is more development in the locality than at the Old Racecourse site the proposed wind turbines, bearing in mind their appearance and scale would be uncharacteristic and conspicuous in what is essentially a rural area. There are other masts in the vicinity, but these are lower than the wind turbines and do not have moving parts and are not comparable.
Topography and intervening vegetation would mean that from relatively close quarters there would be times when views of the development would be obscured. Also, the characteristic high hedges and wooded valleys which screen views from much of the wider countryside would also preclude views of the turbines when driving along the country lanes. However, in spite of this, the development would have a significant impact on the appearance of the area and perception of its character.

It is the opinion of the Inspector that the lack of open views from much of the area means that when the wider countryside is seen either from a field gate, an unfenced road or an elevated position, that view becomes more important and peoples' impressions of an area are focussed into smaller snap shots of scenery.

The inspector accepts that by their nature wind turbines have to be in open, exposed locations and that this is often in areas which are predominantly rural in character. However, the Inspector further acknowledges that the development would have a significant impact on, and cause material harm to the character and appearance of the locality.

In this case the inspector does not believe that the quality of the landscape to the south is comparable with that around the Old Racecourse site, to the north of the A3132 is the North Devon AONB and the CPA. However, the ridge is an important buffer zone for the AONB which is vulnerable to prominent development and to add to the development already in this area would, in the view of the Inspector further urbanise the nature of the A3132 and detract from the character and appearance of the locality.

Analysis

The reason for refusal, in my opinion lies in the nature of the policies that are geared toward protection of the countryside. These applications have, within their locality, a high level of local and national landscape designations. However, it seems that the effect of views between gaps in hedges etc has
been slightly over-emphasised for both proposals. For the Hore Down proposal there are more detractors within the locality and the development may be more acceptable than The Old Racecourse. However, it is perfectly feasible that a development with these characteristics would result in harm to the character and appearance of this very rural and protected landscape and is, therefore, contrary to the development plans in this respect.

LOWICK COMMON, Cumbria

Cumbria and Lake District Joint Structure Plan (1991)

South Lakeland Local Plan (1997)

The Inspector found significant adverse impacts on the landscape and visual impacts that weigh heavily against the proposal. The scheme therefore fails to meet the requirements of Structure Plan Policy 12. The scheme also fails to meet the requirements of Structure Plan Policies 56 and 2, and Local Plan Policies C25 and C26.

Structure Plan Policies

56 – deals specifically with renewable energy proposals. It requires an assessment to be made of whether there would be significant adverse impact on the environment, landscape or local communities. If there would, it identifies the need for a balancing exercise to be carried out against energy and other benefits. It also indicates that large scale proposals will be considered against Policy 54, but provides no clear and comprehensive definition of such proposals. However, the appeal scheme is not big enough to be a major project in its own right;

54 – whether or not there are significant environmental effects;

2 – recognises that some countryside warrants greater protection; and

10 – affords protection to designated landscapes.
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Local Plan

C25 – generally supportive of renewable energy proposals;

C26 – sets out criteria against which to assess the appeal proposal.

Inspectors Reasoning

The site lies within the Upland Fringes, sub-type 11A – Foothills landscape character area. The locality generally comprises improved pasture in fields bounded by hedgerows and stone walls. There are isolated trees, copses and occasional plantations, but by and large none of these break the smooth rolling skyline of the foothills.

There is an intimate feel to the immediate area around Lowick Beacon. As the Common is not particularly high, from distant locations one turbine would tend to be subsumed and its impact on the wider landscape would be negligible.

A turbine at the appeal site would be unlikely to be materially harmful to the landscape grandeur of major peaks in the Lake District National Park, or the approach to them. However, some very distant landmarks are visible from the Beacon and the Inspector regards Lowick Beacon as just the sort of locally prominent viewpoint that the 1997 supplementary planning guidance on wind energy development in Cumbria (as adopted by the County Council) warns against as a location for wind energy development.

Most of the tower and all of the blades would be apparent above the summit of this comparatively small but locally prominent hillock. This would make the turbine a completely incongruous feature unacceptably out of scale with the local landscape.

With regards to visual impact, the Inspector concludes that there would be no material visual impact on distant views and whilst the turbine would be evident in some medium distant views, the landscape is often sufficiently wide
and open to accommodate the feature without unduly harmful visual effect. However, in the more immediate environs of the Common, most local activity would be at an appreciably lower elevation than the base of the turbine. The height of the Beacon would be sufficient to accentuate the apparent visual impact of the turbine to the extent that it would unacceptably dominate.

Analysis

I feel the Inspector’s decision is fully justified in this instance, and, whilst the impact of the turbine on the wider landscape would be negligible, it seems that locally, the landscape is rather contained and intimate and the presence of one wind turbine may be unacceptably adverse.

HILLTOP FARM, Cumbria


Allerdale Local Plan (1999)

The Inspector concluded that harm must be balanced against the renewable energy need and benefit put forward and in this particular case harm to the landscape and character of the area would outweigh the benefits for renewable energy and the proposal would therefore be contrary to Structure Plan policies 54 and 56, and Local Plan policies EN23 and RE2.

Structure Plan

54 – sets out criteria for major development which are more national than local in character, including large scale proposals within or affecting National Parks. These include that the sum of benefits is shown to clearly outweigh any harm or risks to the local or wider environment;

56 – deals with renewable energy proposals, stating that those which have no significant adverse impact on the environment, landscape or local communities will normally be permitted. Those which do have such adverse
impact will only be permitted if this impact is outweighed by the energy contribution and other benefits.

**Local Plan**

EN23 – sets out considerations for the protection of Locally Important Landscape Areas (LILAs), (upon which the site is located). Development that would have an unacceptable adverse effect upon the distinctive character of the area, or on the character and setting of the LDNP, or be unduly prominent in local or distant views, will be refused permission unless an overriding need for the development can be demonstrated;

RE2 – sets out specific criteria for wind energy development which is not considered to be large scale. These aim, among other matters, that the character and appearance of the landscape does not suffer unacceptable adverse effects and that residential amenities are protected.

**Inspectors Reasoning**

SP policy 54 states that scale needs to be assessed in relation to the scale of the landscape. In this instance, the proposal would have a substantial impact upon the local landscape character, and should, in the Inspectors view, be considered large-scale. Additionally, the County is a net exporter of electricity, and the power generated would not be directly meeting a local need and so the balancing consideration of need and benefit is based upon national rather than local considerations. Therefore, the proposal should be considered in terms of the criteria of Policy 54, rather than those of the generally more permissive Policy 56.

The contribution of this proposal toward Government targets, whilst relatively small, is a tangible benefit which should be taken into account in any balancing exercise.
It is clear that the proposal would have a substantial landscape impact across a large part of the designated LILA and in small parts of the nearby Lake District NP. There would also be substantial visual impact in the immediate area, and potential for moderate to high visual intrusion in some more distant locations to the south. The Inspector is in no doubt, therefore, that such harm does amount to significant adverse effects as outlined in the SP policies, or unacceptable adverse effects as outlined in the LP policies.

This is the harm that must be balanced against the renewable energy need and benefit put forward and a key consideration in this balance rests with the sensitivity of the area around the appeal site where the impact would be substantial. In terms of landscape impact, not only is part of this area within the LDNP, which is agreed to be the highest level of landscape designation requiring the highest level of protection, but there would be a substantial impact across a large part of the designated LILA, with one of its most important characteristics being part of the setting of the LDNP. Taken together with the level of visual intrusion, the Inspector concludes in this case that harm would outweigh benefits for renewable energy.

**Analysis**

The factors with the most weight in this case are landscape and visual effects balanced against the need for the development. Given the local and national landscape designations within the study area coupled with the fact that Cumbria is a net exporter of electricity, the need for the development is not an overriding factor in this locality and could, potentially, be located elsewhere.

**EASTFIELD FARM, Humberside**

Humberside Structure Plan (1988) and Alteration No.1 (1991)

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The Inspector concludes that the proposal would be visually dominant and contrary to U19(5) in the Local Plan. In the overall balance required by U19 there would be significant visual harm to the character and appearance of the landscape which would not be outweighed by the environmental benefits of the proposed development. In addition, the damage to the character and appearance of the landscape would conflict with AIMS 1 and 2. The effect and the landscape would be at odds with Policy G3 and the Council’s aim in Policy G5 to protect the landscape of Holderness would be compromised.

Structure Plan

The SP does not contain any policies on renewable energy

Local Plan

U19 – relates specifically to wind turbines and calls for a balance to be made between the benefits of the development and its environmental and visual impact;

AIM 1 – The Council will seek to identify, retain, preserve and enhance those features of the environment that make a positive contribution to the character and appearance of Holderness, and will give weight to protecting environmental resources that are in effect irreplaceable;

AIM 2 – The Council will encourage new development that enhances the existing fabric of the areas towns and villages and safeguards its rural nature and will oppose development that conflicts unreasonably with the environment;

G3 – All development must take full account of the need to protect the environment; and

G5 – The Council will seek to protect the landscape of Holderness

Inspectors Reasoning
The landscape of Eastfield Farm is almost flat, belonging to an extensive agricultural landscape, emphasised by its large fields, limited presence of hedgerows and a lack of vertical elements. Overall the landscape is lowland arable farmland with an unpretentious rural ambience.

The proposed wind farm would stand alone in the midst of agricultural land, where the change to the character of the open landscape would be substantial and dramatic due to the number and scale of the proposed turbines, having an imposing and damaging presence over a wide area.

The Inspector considers that the proposed wind farm would bring significant change to the landscape within 2km of the site which would also extend to several, more distant vantages. The degree of change and general lack of mitigation and the manner in which the wind farm would become a prominent and often dominant feature, would erode the simplicity and openness of this part of the open farmland landscape type.

The wind farm would become a dominant feature of the daily lives of many residents as they move around the locality. The Inspector also concludes that the turbines would compete in scale and extent, and contrast in form, in many cases becoming the new centre of attention, and destroy the singularity and grace of the church spire in the landscape, having a very damaging effect on this component.

**Analysis**

The proposal at Eastfield Farm would introduce a tall, vertical, moving feature to a flat, rural landscape and would have a significant visual impact over a relatively wide area.

The proposal conflicts with policies in the LP as the development would not enhance, or preserve the setting and character of Holderness, as in this particular locality the environment does not possess the ability to absorb the proposed development.
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COCKER HILL, Teesdale

Durham County Structure Plan (1989)

No adopted Local Plan

According to the Inspector, the proposal would conflict with the aims of approved Structure Plan policies 97 and 106 and with emerging Structure Plan policies 4, 64, 66 and 80

Structure Plan

97 – In the Area of Great Landscape Value in the west of the County, special care will be taken in the siting and design of new development in the countryside to ensure it does not detract from the high landscape quality. The only new developments which will normally be allowed will be those which meet the needs of its residents or contribute to the economy of this area.

106 – New development in the countryside will normally only be approved in unobtrusive locations and, wherever possible, should be related to existing buildings.

4 – The character and appearance of the countryside should be conserved and enhanced, accordingly – new development should be located within the existing physical framework of town and villages, development on the fringes of built up areas should have regard to the needs of agricultural and countryside activities, the countryside should be protected from development which does not need to be located there and development which needs to be located in the countryside should respect the character and appearance of the countryside, maintain the physical and visual separation between towns and villages and avoid ribbon development.

64 – The quality of the county’s landscape should be maintained and enhanced by ensuring that where development can be justified in a AHLV it
does not detract from the areas special character, attractive landscape characteristics are maintained and landscape distinctiveness is enhanced.

66 – SAMs and other archaeological remains of national or lesser importance, including their settings, should be preserved in situ, where sites are affected by a proposed development an archaeological evaluation should be required.

80 – When considering proposals for development associated with energy generation, account should be taken of a number of factors and, where there are conflicts with policies to protect areas designated nationally for their environmental importance it must be demonstrated that there is an overriding national need that cannot be met on alternative sites in less sensitive areas.

*Inspectors Reasoning*

The Inspector concludes that demonstrable harm would be caused to the appearance of the landscape and to the enjoyment of users of the National Park. The site is located on an elevated position in an AHLV in an area with a broad transition between the AHLV, AONB and NP and would be seen over a wide area. The wind farm would represent a very extensive grouping of tall, man-made structures in a moorland landscape, devoid of upstanding vegetation and free of any significant built development, dramatically changing the present ambience of the area. The wind farm would be visible from within the National Park and would be intrusive and harmful to the interests of being protected for its scenic beauty and recreational value. The proposed turbines would also have a significant direct and discordant visual impact on the setting of two bronze-age cairns within the site and the individual contribution to energy generation needs would be insignificant and unreliable.

*Analysis*
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The Inspector's decision is fully justified in this instance, and the close proximity to national designations weighs heavily against this proposal, in addition to the potential effects on the archaeological remains.

DRIGG, Cumbria

Cumbria and Lake District Joint Structure Plan

Copeland Local Plan

According to the Inspector, the proposal is contrary to Policy 13 of the SP and criterion 1 of Policy EGY1 of the LP

Structure Plan

13 – States there is a need to protect vulnerable areas of countryside between towns and villages to preserve their distinct and separate characters.

Local Plan

EGY1 – Smaller installations will normally be permitted provided, amongst other things, that landscape character is safeguarded and significant cumulative harm would not arise from too many in a locality.

Inspectors Reasoning

The site is located within a strip of semi-improved grazing land which lies between the beach and BNFL low level radioactive waste depot which is substantially screened by belts of mature coniferous woodland. Four km to the northwest on the coast lies the massive structures of Sellafield power station, also in the locality is a firing range and overhead pylons. The coastal stretch is not regarded as having a sufficiently distinctive character. However, the Inspector feels that the area has a distinctly open and exposed landscape with an unusual and interesting character and the turbines would appear as strident alien features in an otherwise area of flat, exposed, interesting landscape. Whilst the Sellafield complex is the largest single visual
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detractor, it does not feature with any significance in many views. However, the proposed turbines would seriously prejudice the outstanding landscape views across the estuary from Ravenglass and Muncaster Fell, and, from certain areas, residents would find the presence of the turbines intrusive features which would impinge unacceptably on the enjoyment of the level of amenity they would expect.

Analysis

The Inspectors decision is fully justified in this instance, the immediate area is very flat, and areas known for their visual beauty would be compromised.

GUNSON HEIGHT, Cumbria

Cumbria and Lake District Structure Plan

South Lakeland District Local Plan

The Inspector concludes that the project would be unacceptable having regard to the objectives of SP Policies 1, 2, 11 and 12, and would conflict with the objectives of Policy C24 and C28 of the emerging LP.

Structure Plan

1 – Places utmost importance on the protection of nationally designated areas with fine landscapes and areas of valuable natural and built heritage;

2 – recognises that some countryside warrants greater protection; and

11 – affords protection to development outside the National Park boundary which would impinge on landscape unity, character and quality

12 – affords protection to County designated landscapes.

Local Plan
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C24 (now C25) – a) benefits should outweigh significant adverse effects on: the character and appearance of the landscape, nature conservation, archaeological or geographical interests; nationally important landscape designations, including their visual amenity and settings; and any cumulative effects should not have a significant adverse impact on the character and appearance of the area.

C28 (now C31) – The cumulative effect of the development should be taken into account.

Inspectors Reasoning

The essential components of the landscape appear to be an elevated, rugged landform with smooth rounded tops and steep sides. The turbines would not be absorbed by the landscape but would transform it, in effect ‘industrialising’ the unspoilt open ridge. The cumulative impact would also be harmful to the wider countryside and the National Park.

Analysis

The turbines would form prominent features on the open, elevated ridge where there is a lack of mitigating features and would introduce an unacceptable cumulative impact, contradicting the afore mentioned policies.

FAIRFIELD FARM, Cumbria

Cumbria and Lake District Structure Plan (1991)

Copeland Local Plan

The Inspector concludes that the proposed development would undermine government guidance and local policies designed to conserve open countryside and the National Park setting.

Structure Plan
56 – deals specifically with renewable energy proposals. It requires an assessment to be made of whether there would be significant adverse impact on the environment, landscape or local communities. If there would, it identifies the need for a balancing exercise to be carried out against energy and other benefits.

**Local Plan**

EGY1 – Smaller installations will normally be permitted provided, amongst other things, that landscape character is safeguarded and significant cumulative harm would not arise from too many in a locality. The text also suggests that areas designated as County Landscapes would not normally be suitable even for small scale wind farms.

**Inspectors Reasoning**

The site lies within a transitional plateau of undulating countryside of moorland character between the developed coastal plain to the west and the Lake District mountains to the east, with panoramic views to the south. The inspector states that while the site itself is not a designated County Landscape, the plateau does follow the ridge to the east and the National Park. The Inspector also states that the turbines would intrude in middle distance views of the imposing backdrop of the National Park mountains. In addition, views of these proposed turbines, and two other built wind farms would be available from several vantage points and a coastal landscape dominated by fairly closely spaced wind farms would not preserve, let alone enhance, the character and appearance of this diverse countryside.

**Analysis**

It seems the main factors for this particular development is not the effect on landscape character and visibility alone, rather the effects of this development, in addition to the two other wind farms in the locality, and the resultant combined effect on the local landscape and views. I feel the
Inspectors comments are justified, however, there has potentially been too much emphasis placed on the effects on the National Park, as the development were to be located on the fringe. Also, it seems that the proposal has been refused in order to avoid setting a precedent for small-scale wind energy developments in the locality, which, in light of one development gaining permission does not automatically mean that others will be approved.

8.3 POLICY ANALYSIS

As a result of investigating the Inspectors Reports in greater detail with regards to development policy accordance, it is clear that in every instance the Inspector has justified his / her decision. This conclusion has been drawn based upon the evidence presented within the Inspectors Reports. However, it would be beneficial to visit the sites to confirm the opinion of the Inspector. This has not been possible, due to time constraints, and the limitations of the project.

In every case that was refused planning permission, a significant weighting has been placed on landscape and visual issues. This issue is relatively subjective and it is entirely possible that in the majority of cases refused, the granting of permission could be justified also, depending on individual perspectives. However, having said that, for each of the Inspectors that were involved with more than one case, there has not been a consistent outcome so it would seem that the Inspectors take an unbiased view to each case and make a decision based as far as possible, on fact and rely heavily on the policies contained within the relevant development plans.

8.4 WEIGHTED MATRIX

The results above have shown that the single most important factor determining the outcome at public inquiry is whether the development is in accordance with the relevant development plan policies. A weighted matrix has been developed to analyse the results of the more significant
environmental components in a format that is more easily comparable. See Appendix 2 for the Weighted Matrix.

Table 8.3: Weighted Matrix Summary Results

<table>
<thead>
<tr>
<th>DATE</th>
<th>PROJECT</th>
<th>OUTCOME</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>Ness Point</td>
<td>A</td>
<td>70</td>
</tr>
<tr>
<td>2002</td>
<td>Whtarles Hill</td>
<td>A</td>
<td>397</td>
</tr>
<tr>
<td>2001</td>
<td>Here Down</td>
<td>D</td>
<td>449</td>
</tr>
<tr>
<td>2001</td>
<td>The Old Racacourse</td>
<td>D</td>
<td>517</td>
</tr>
<tr>
<td>2001</td>
<td>Lowick Common</td>
<td>D</td>
<td>574</td>
</tr>
<tr>
<td>2000</td>
<td>Hilltop Farm</td>
<td>D</td>
<td>577</td>
</tr>
<tr>
<td>2000</td>
<td>Eastfield Farm</td>
<td>D</td>
<td>472</td>
</tr>
<tr>
<td>2000</td>
<td>Out Newton</td>
<td>A</td>
<td>294</td>
</tr>
<tr>
<td>2000</td>
<td>Somerton</td>
<td>A</td>
<td>74</td>
</tr>
<tr>
<td>1999</td>
<td>Blood Hill</td>
<td>A</td>
<td>290</td>
</tr>
<tr>
<td>1999</td>
<td>Lowca</td>
<td>A</td>
<td>213</td>
</tr>
<tr>
<td>1998</td>
<td>Kirkheaton</td>
<td>A</td>
<td>364</td>
</tr>
<tr>
<td>1998</td>
<td>Cooker Hill</td>
<td>D</td>
<td>661</td>
</tr>
<tr>
<td>1997</td>
<td>Drigg</td>
<td>D</td>
<td>565</td>
</tr>
<tr>
<td>1997</td>
<td>Gunson Height</td>
<td>D</td>
<td>486</td>
</tr>
<tr>
<td>1997</td>
<td>Setforth Dock</td>
<td>A</td>
<td>183</td>
</tr>
<tr>
<td>1997</td>
<td>Fairfield Farm</td>
<td>D</td>
<td>408</td>
</tr>
</tbody>
</table>

The weighted matrix score shows the results for each proposed development. Those with a lower score are the sites most suitable for development and those with a higher score are those least suitable for development. The results show that for all the projects refused permission at a public inquiry the score was greater than 400 and for all those approved the score was lower than 400.
9. DISCUSSION

The results of this study show that the single factor with any weight when determining an outcome at appeal is whether the development is in accordance with the relevant Local, Structure, and Unitary Development Plans.

However, the planning system has recently undergone huge changes that will, in theory, result in more projects being approved at the planning stage.

Recent planning guidance from the government to local authorities, insists they must "promote and encourage" renewables rather than restrict them as many do at present and targets for renewable energy will have to be introduced into regional plans as a minimum requirement, and increased as soon as they are achieved (Brown, 2003).

The Government is currently inviting comments on the Consultation Paper for a draft new Planning Policy Statement, PPS22, Renewable Energy. The intention is that this PPS (and accompanying Companion Guide to be drafted) should, in due course, replace Planning Policy Guidance note 22 (PPG22): Renewable Energy (February 1993).

Following consultation on the Green Paper, the Government announced (on 18 July 2002) that it intended to proceed with the proposals for review and reform of national planning policy guidance. The Government believes that there remains a strong requirement for a distinct set of national planning policies that address the particular circumstances of renewable energy. It is also the Government’s view that the broad planning policy framework provided by PPG22 remains appropriate. However, it has concluded that a considerable amount of the material in PPG22, particularly in its annexes, is out of date and/or inappropriate for a shorter, focused statement of national planning policies. These policies are firmly based on the principles set out in the Government’s recent Energy White Paper (ODPM, 2003).
Many of the policies in draft PPS22 are based on existing policies in PPG22, updated as appropriate. However, there is a clearer focus on assisting the UK to meet national and international targets for the reduction of emissions of greenhouse gases, including the goal to cut the UK's carbon dioxide emissions by some 60% by 2050, with real progress by 2020. There are also new policies proposed on the use of regional targets for renewable energy. However, the statement does not cover those technologies which are not within the remit of the land use planning system - such as offshore technologies (ODPM, 2003).

Planning Policy Statements (PPS) set out the Government's national policies for different aspects of land use planning in England. This PPS replaces Planning Policy Guidance Note 22 (PPG22) issued in 1993, (annexes issued in 1994) and the photovoltaics annex issued in 2002. Its scope is limited to consideration of planning issues relating to renewable energy projects (ODPM, 2003).

The policies set out in the statement will need to be taken into account by regional planning bodies in the preparation of policies for Regional Planning Guidance (or any successor) and by local planning authorities in their development plan policies (or their successors); they may also be material to decisions on individual planning applications. The Government's energy policy, including its policy on renewable energy, is set out in the Energy White Paper, "Our Energy Future, creating a low carbon economy". This aims to put the UK on a path to cut its carbon dioxide emissions by some 60% by 2050, with real progress by 2020, and to maintain reliable and competitive energy supplies (ODPM, 2003).

Renewable energy is likely to make a considerable contribution to these aims. The Government has already set a target to generate 10% of UK electricity from renewable energy sources by 2010. The White Paper set out the Government's aspiration to double that figure to 20% by 2020. Increased development of renewable energy resources is vital to facilitating the delivery
of the Government's commitments on both climate change and renewable energy (ODPM, 2003).

Regional planning bodies and local planning authorities should adhere to the following key principles in their approach to planning for renewable energy:

- Renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental and other impacts can be addressed satisfactorily.
- Regional planning guidance and development plans should contain policies designed to promote and encourage, rather than restrict, the development of renewable energy resources. Regional Planning Bodies and local planning authorities should recognise the full range of renewable energy sources, their differing characteristics, locational requirements and the potential for exploiting them subject to appropriate environmental safeguards.
- At the local level, planning authorities should set out the criteria that will be applied in assessing applications for planning permission for renewable energy projects. Planning policies that rule out or place constraints on the development of all, or specific types of, renewable energy technologies should not be included in regional planning guidance or development plans without sufficient reasoned justification. The Government may intervene in the plan making process where it considers that the constraints being proposed by local authorities are too great or have been poorly justified.
- The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.
- Regional planning bodies and local planning authorities should not make assumptions about the technical feasibility of renewable energy projects (e.g. identifying generalised locations for development based on mean
wind speeds). Technological change can mean that sites currently excluded as locations for particular types of renewable energy development may in future be suitable.

- Local planning authorities, regional stakeholders and Local Strategic Partnerships should foster community involvement in renewable energy projects and seek to promote knowledge of and greater acceptance by the public of prospective renewable energy developments that are appropriately located. Developers of renewable energy projects should engage in active consultation and discussion with local communities at an early stage in the planning process (ODPM, 2003).

In sites of international importance for nature conservation (Special Protection Areas, Special Areas of Conservation, and RAMSAR Sites) planning permission should only be granted for renewable energy developments once an assessment has shown that the integrity of the site will not be adversely affected. In sites with national designations (such as Sites of Special Scientific Interest, National Nature Reserves, National Parks, Areas of Outstanding Natural Beauty, and Heritage Coasts) planning permission for renewable energy projects should only be granted where it can be demonstrated that the objectives of the designation of that particular area will not be compromised by the development, 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. Small-scale developments should be permitted within areas such as National Parks, Areas of Outstanding Natural Beauty and Heritage Coasts provided that there is no serious environmental detriment to the area concerned (ODPM, 2003).

Policy on development in the green belt is set out in PPG2. Regional planning bodies and local planning authorities should not create "buffer zones" around international or nationally designated areas and apply policies to these zones that prevent the development of renewable energy projects (ODPM, 2003).
This study has identified that the main limiting factor on projects being approved at a Public Inquiry is whether the development is in accordance with the relevant Local, Structure, and Unitary Development Plans. Further analysis has shown that the particular policies that the development has not been in accordance with, are those relating to landscape and / or visual impact of a development. Clearly there is a need, therefore, to ensure that those policies within Development Plans relating to landscape and visual effects can be consistently interpreted.

PPS22 (ODPM, 2003) has included a section of draft guidance for assessing visual effects for proposed developments:

Visual effect will vary on a case by case basis according to the location or landscape setting of the proposed development, but the impact may be minimised through appropriate siting, design and landscaping schemes, depending on the size and type of development proposed. Potential developments should be assessed using objective descriptive material and analysis wherever possible even though the final decision on the visual impact will be, to some extent, subjective. Policies in plans should concentrate on the mitigation of visual effects (e.g. on the siting, layout, landscaping, design and colour of schemes), rather than trying to provide specific criteria against which potential harm is assessed (ODPM, 2003).

Of all renewable technologies, wind turbines are likely to have the greatest visual impact. However, in assessing planning applications, local authorities should recognise that the impact of turbines on the landscape will vary according to the size and number of turbines and the type of landscape involved (ODPM, 2003).

Planning authorities should also take into account the cumulative impact of wind generation projects in particular areas. Such impacts should be assessed at the planning application stage and authorities should not set
arbitrary limits in development plans on the numbers of turbines that will be acceptable in particular locations (ODPM, 2003).

As a direct response to the perceived difficulties in the planning system for onshore wind farm developments, developers have turned to offshore wind farms as a potential solution. Offshore wind farm developments are largely devoid of the planning barriers associated with onshore developments and the Crown Estate (which manages Britain’s seabed) has recently released three ‘strategic areas’ for potential offshore developments, as part of its ‘Round Two’ feasibility study.

**Table 9.1: Proposed Offshore Sites**

<table>
<thead>
<tr>
<th>MAP REF NUMBER</th>
<th>SITE</th>
<th>COMPANY</th>
<th>NO OF TURBINES</th>
<th>CONSENTED SHORE</th>
<th>LIKELY NEAREST TURBINE TO SHORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Scroby Sands</td>
<td>Powergen Renewables</td>
<td>38</td>
<td>July 2002</td>
<td>2.3km</td>
</tr>
<tr>
<td>2</td>
<td>North Hoyle</td>
<td>NWP Offshore</td>
<td>30</td>
<td>July 2002</td>
<td>7.5km</td>
</tr>
<tr>
<td>3</td>
<td>Rhyll Flats</td>
<td>NWP Offshore</td>
<td>30</td>
<td>Dec 2002</td>
<td>7.8km</td>
</tr>
<tr>
<td>4</td>
<td>Barrow</td>
<td>Warwick Energy</td>
<td>30</td>
<td>March 2003</td>
<td>7.5km</td>
</tr>
<tr>
<td>5</td>
<td>Solway Firth</td>
<td>OERL</td>
<td>60</td>
<td>May 2003</td>
<td>9.5km (Eng)</td>
</tr>
<tr>
<td>6</td>
<td>Kentish Flats</td>
<td>GREP</td>
<td>30</td>
<td>May 2003</td>
<td>8.5km</td>
</tr>
<tr>
<td>7</td>
<td>Burbo</td>
<td>SeaScape Energy</td>
<td>30</td>
<td>July 2003</td>
<td>6.0km</td>
</tr>
<tr>
<td>8</td>
<td>Lynn</td>
<td>AMEC</td>
<td>30</td>
<td></td>
<td>5.0km</td>
</tr>
<tr>
<td>9</td>
<td>Inner Dowsing</td>
<td>Offshore Wind Power</td>
<td>30</td>
<td></td>
<td>5.0km</td>
</tr>
<tr>
<td>10</td>
<td>Cromer</td>
<td>Norfolk Offshore Wind</td>
<td>30</td>
<td></td>
<td>6.0km</td>
</tr>
<tr>
<td>11</td>
<td>Gunfleet Sands</td>
<td>GE Wind</td>
<td>30</td>
<td></td>
<td>6.5km</td>
</tr>
<tr>
<td>12</td>
<td>Scarweather Sands</td>
<td>United Utilities</td>
<td>30</td>
<td></td>
<td>5.8km</td>
</tr>
<tr>
<td>13</td>
<td>Shell Flat</td>
<td>Shell, Elsam, CellPower</td>
<td>80</td>
<td></td>
<td>7km</td>
</tr>
<tr>
<td>14</td>
<td>Teeside</td>
<td>Northern Offshore Wind</td>
<td>30</td>
<td></td>
<td>1.5km</td>
</tr>
<tr>
<td>14</td>
<td>Southport</td>
<td>EnergieKontor</td>
<td>30</td>
<td></td>
<td>10km</td>
</tr>
</tbody>
</table>

Source: E4Etc, 2004
Britain is pushing ahead with a huge expansion of offshore wind farms, with developers wanting to build much larger offshore wind farms, with potentially up to 300 turbines per wind farm (Defra, 2003).

In the first round, two years ago, the Crown Estate gave the go-ahead to 17 sites with a capacity of 1,500 megawatts. Most of the new schemes will come on stream in around 2008 in a push the Government hopes will help it meet its 2010 target of obtaining 10% of its electricity from renewable sources (Defra, 2003).
Recently, the Government assisted the development of the offshore wind industry by giving the go-ahead for bigger projects to be built outside territorial waters and promising speedier planning inquiries (Gow, 2003). The energy bill will enable developers to build second generation wind farms, producing much greater output, beyond Britain's 12-mile limits. As a result, developments can be on a larger scale, fully exploiting the potential of future offshore wind farms (Gow, 2003).

Figures at the end of 2003 showed producers/suppliers falling far short in 2002 of the target of 3% of electricity demand being met by renewables and both investors and developers blame a cumbersome planning process for shortfalls (Gow, 2003). However, the bill promises to streamline the planning process by enabling several inspectors to share the work and for issues to be considered at the same time rather than one after the other (Gow, 2003).
10. CONCLUSIONS

The results show that when considering the importance of individual factors in determining the outcome at a public inquiry, whether the development accords with the relevant development plan policies is the single most important factor. Whilst this may seem an obvious conclusion to draw, in many instances, the factors that determine whether or not the development accords with the relevant plans is entirely subjective, and based on landscape and/or visual issues. Therefore, the question is, 'how does the assessor determine whether or not the landscape and visual issues for a proposed wind farm are acceptable in a particular location?'; and, 'will these views be accepted and agreed upon by the LPA/Inspector?'

A multitude of guidance exists for landscape and visual assessment specifically for wind farm/renewable energy developments, and if the appropriate methodology is adhered to, shouldn’t this maximise the likelihood of developers, the LPA and Inspector all forming the same opinion?

It is possible that developers 'try their luck' when submitting a wind farm planning application, and, subsequently taking the application to public inquiry, knowing that the proposed development does not accord fully with the requirements of the relevant development plans. If this is the case, as a result of the above findings, developers would be wise to consider the requirements of the relevant development plans and adhere to them accordingly.

The weighted matrix quantifies the more significant results and enables each component to be considered concurrently for each site. This then enables a score to be generated that is easily comparable for each proposed development. The results show that those with the least environmental impact have the lowest score and have been approved at public inquiry, and those with the higher scores have a greater environmental impact and have
been refused at public inquiry. The weighted matrix provides an initial starting block for developers when considering whether to take their project to public inquiry, indeed it may also be a useful exercise to introduce in the early stages of project development.

The weighted matrix would benefit from further development with regards to the possible introduction of more environmental components and the refining of those in use, providing a basis for further study.
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www.doc.mmu.ac.uk/aric/ea/sustainability/older/brundtland_report.html

Mmu, b, Manchester Metropolitan University. No date.
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Mmu, c, Manchester Metropolitan University. No date.


Restormel BC (no date) Planning and Enforcement Appeals. www.restormel.gov.uk/planning/enforcementappeals.htm


INSPECTORS REPORTS

All available from COMPASS at:
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www.dcservices.co.uk,
01452 835820
Development Control Services Ltd,
Suite 1,
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40 Lower Quay Street,
Gloucester,
GL1 2LW.
- Fairfield Farm (January 1997) T/APP/Z0923/A/96/270976/P7.
- Seaforth Dock (August 1997) T/APP/M4320/A/96/269607/P2
- Gunson Height (October 1996) APP/M0933/A/96/266863 & CYD/1077/992
- Drigg (December 1997) T/APP/Z0923/A/97/280457/P4
- Cocker Hill (November 1998) APP/W1335/A/97/285005 & CYD 1077/1014
- Kirkheaton (January 1999) T/APP/T2920/A/98/297418/P7
- Lowca (March 1999) T/APP/Z0923/A/98/301037/P2
- South Beach (April 2000) T/APP/U2615/A/99/1035073/P5
- Hilltop Farm (September 2000) T/APPG0908/A/99/1030901/P7
- Lowick Common (March 2001) APP/M0933/A/00/1054561
- Hore Down & The Old Racecourse (October 2001) APP/X1118/A/00/1056022 & APP/X1118/A/00/1056023
- Wharrels Hill (June 2002) APP/G0908/A/01/1075972
- Ness Point (December 2002) APP/T3535/A/02/1091677
Appendix I
Appeal Decision

site visit held on 27 March 2000

by D L BURROWS DipTP MRTPI

an Inspector appointed by the Secretary of State for the Environment, Transport and the Regions

28 APR 2000

Appeal : T/APP/U2615/A/99/1035073/PS

- The appeal is made under Section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is brought by Western Windpower Ltd against Great Yarmouth Borough Council.
- The site is located at South Denes Industrial Area, South Beach Parade, Great Yarmouth.
- The application (ref:06/99/0431/F), dated 17 May 1999, was refused on 19 November 1999.
- The development proposed is the erection of a wind park consisting of 4 x ENERCON E-66/1.5MW wind energy converters. Tower height 67m to hub with blade length 35m (70m diameter).

Decision: The appeal is allowed and planning permission granted subject to conditions set out in the attached schedule.

PROCEDURAL MATTERS

1. The application was accompanied by an environmental statement in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and supported by separate reports dealing with visual and landscape impact, shadow flicker and impact on bird populations. I have had regard to those documents and comments from consultees about the likely environmental effects of the proposed wind farm. Additional information submitted as part of the appeal papers, including the review of air quality assessment, has also been taken into account.

2. Although it was the original intention to include a viewing platform on at least one of the proposed turbines, subsequent correspondence from the appellant indicates that this is not now the case. I shall proceed on the basis that the proposal does not include a viewing platform.

3. Post decision correspondence from the appellant company indicates that in order to avoid conflict with the proposed port development, turbine No.1 would need to be located 75m to the east of where originally intended. The amended siting means that the proposed turbine would be further away from residential and commercial properties in the Gorleston area. In my opinion this alteration does not prejudice any party nor does it significantly change the application in either principle or detail. I shall therefore determine the appeal in the light of the amended location for turbine No.1.

THE DEVELOPMENT PLAN

4. Policy RC.9 of the Norfolk Structure Plan 1999 is permissive of renewable energy developments where their scale, siting or cumulative effect would not have a significant adverse environmental impact.

5. The Great Yarmouth Borough-wide Local Plan is nearing adoption therefore weight can be given to its policies in accordance with para 48 of PPG1: General Policy and Principles. Policies INF2 and 3 of the modified deposit version of the local plan (Spring 1999) are permissive of individual wind turbines and wind farms respectively if certain criteria are
met. These require no significant adverse impact on the local environment/landscape, nature conservation interests, the operation of power transmission lines, the Port of Great Yarmouth, aviation, local amenities or the amenities of the occupiers or users of nearby properties and lands.

THE MAIN ISSUES

6. In this case I consider the main issues to be firstly the visual impact of the wind turbines, particularly because of their scale and position, on the outlook of residents of Gorleston and on the appearance of the locality, including the wider setting of Great Yarmouth and the views from the Broads; secondly the impact of shadow flicker and electromagnetic interference on the occupants and users of nearby properties, especially those in Gorleston; and thirdly the impact of the proposal on air pollution.

INSPECTOR'S REASONS

The proposal, the site and the surroundings

7. The ENERCON-66 is a three blade variable speed, direct drive turbine with the rotor and nacelle on a steel tower. The turbine is 67m to hub height and the blades are 35m long giving a maximum height swept by the blades of 102m. The blades revolve in relation to the wind speed at between 10 and 22 rpm. Each turbine has a rated capacity of 1.5MW. The finish of the blades, nacelle and other turbine parts would be in non-reflecting light grey. Each turbine would have foundations of about 14m x 14m.

8. Turbines 1 and 3 have NFFO (Non Fossil Fuel Obligation) 5 contracts and are financially secure as all the electricity generated by them for the first 15 years will be purchased by Eastern Electric. Bids will be made for Nos. 2 and 4 through the next round of the NFFO contracts, or if this fails, it is anticipated that they will be supported through the emerging green market.

9. The appellant calculates each turbine will produce about 4.3M kWh/yr, totalling 17.2kWh of electricity per year for the four units. Using figures from Planning Policy Guidance PPG22 the turbines would generate sufficient electricity for 18% of the domestic needs of Great Yarmouth. In addition figures from the 1994 briefing note from the Parliamentary Office of Science and Technology to the Welsh Affairs Select Committee indicates that each kWh of electricity produced from fossil fuels results directly in 860g of carbon dioxide, 10g of sulphur dioxide and 3g of nitrogen oxide. From these figures the appellant estimates that the wind park would directly prevent the annual generation of 14,826 tonnes of carbon dioxide, 172 tonnes of sulphur dioxide, 52 tonnes of nitrogen oxide, plus ash and slag.

10. All four turbines would be erected on the South Denes Peninsula which lies between the River Yare to the west and the sea to the east. The area is generally industrial in nature with the port straddling both sides of the Yare. Whilst there is new investment in the area, most notably the power station just to the north of Hartmann Road, I saw that there is a significant amount of vacant land and buildings, lending an air of decay and neglect, particularly at the southern end of the peninsula where the large cold store is unused and extensive tracts of land between South Beach Parade and the sea, which I understand were formerly used as a caravan park, are empty.

11. However a notice on site indicates that the Birds Eye cold store has been sold and the letter of the 9 March 2000 from the Great Yarmouth Port Authority says that new designs for the
proposed outer harbour have been adopted by the Great Yarmouth Outer Harbour Company. The outer harbour site is to the east of and contiguous with the vacant former holiday park land. There is therefore the potential for the area to be revitalised in the future. Although turbines 3 and 4 are within the area of the proposed outer harbour as identified in the local plan, the correspondence from the port authority further indicates that the siting of turbines 2, 3 and 4 are unaffected by the harbour plans. The necessity to relocate turbine No.1 is referred to in paragraph 3 above.

12. The siting of turbine 1 as originally submitted for approval by the appellant is at the southern tip of the peninsula just to the south of the perimeter road, where the road is flanked by dunes and a roughly surfaced area close to the harbour's mouth. The land is generally vacant. Moving the turbine 75m east to accommodate the harbour development plans would mean the tower was commensurately further away from dwellings and commercial premises in Gorleston.

13. Turbine 2 is about 500m to the north and to the west of South Beach Parade on a vacant industrial site. No.3 is a further 350m or thereabouts to the north on the eastern side of South Beach Parade on the former caravan site whilst No.4 is about 250m further north again in a similar location. Apart from industrial and office buildings in the South Denes area the closest residential and commercial properties to the turbines would be residents in Cliff Road, Pavilion Road, Riverside Road and Quay Road. The council estimate that the Pier Hotel and flats above the shops in Quay Road would be about 300 to 320m from turbine No.1's original location, with residential properties in Pavilion Road about 350m from turbine 1 and people living in Riverside Road about the same distance from No.2.

Visual impact of the turbines

14. The turbines by their height and because of the movement associated with them would be prominent features in the South Denes area and visible at some distance over the low lying areas near the coast. I saw at my visit that the wind turbines at Somerton can be seen over a wide area, although intervening landscape at times makes the impact fleeting. The proposed turbines however would be in an urban setting where vertical structures such as Nelson's Monument and the proposed towers for the power station, one of which I understand will be in the region of 70m high (replacing the former 114m stack), provide features which draw the eye. Moreover the port with its cranes and the masts of ships generate movement, as does the funfair with its roller coaster on the promenade to the north. Within the urban setting there is therefore a tradition of large structures and movement.

15. Given these circumstances, although the wind farm would be prominent from the River Yare which is designated a Landscape Important to the Coastal Scene in the local plan, I do not believe that the proposals would harm the landscape character of the area or have a significant adverse impact on the River Yare waterfront.

16. I appreciate that to blade tip the turbines would be at 102m, far higher than any other structure in the vicinity, but this does not to my mind make them unacceptable, particularly when the slender dimensions of the towers are taken into account. Moreover a non-reflective finish and a subdued colour of materials on the external surfaces of the structures would to my mind mitigate against the visual impact of the structures which for the most part would be seen against a backdrop of sea and sky.

17. It seems to me that from close up, that is from viewpoints around Gorleston, the turbines would be seen as additional features within the active area of the port and the industrial
area. To my mind there would be sufficient separation between residential/commercial establishments to ensure that the turbines did not appear oppressive because of their size. This would be especially true if No. 1 were to be relocated 75m to the east of where originally proposed.

18. From further afield, within the town itself, views of the turbines would be intermittent because of the built up nature of the surroundings. From the tourist point of view I do not believe that the presence of the wind farm would actively deter visitors to Great Yarmouth. The information submitted by the appellant indicates that wind farms can be tourist attractions in their own right and I have seen no substantive evidence to indicate that the situation would be any different in Great Yarmouth.

19. Because of the flat topography, the proposed towers would be seen from numerous places within the surrounding countryside. Both the County Council and the Broads Authority were consulted on the application. It was their opinion that in views from the Broads and the surrounding countryside the turbines would be seen as part of an urban skyline and consequently would not materially harm the landscape character of the area. From my visit to Great Yarmouth and from looking at the location of the proposed wind farm from various vantage points within the surrounding area I see no reason to disagree with their conclusions on this matter.

20. The Council in its evidence refers to wind farms in remote upland and coastal areas, but these are by no means the only locations. A report on off and on-shore wind power development produced by the Council in December 1998 refers to the South Denes area as a possible location for such a development. Moreover wind farms have been established in similar locations at Blyth Harbour and the Royal Seaforth Docks in Merseyside.

21. Overall I conclude on this issue that because of the urban setting of the turbines within an industrial and port area of Great Yarmouth and because of the separation of the sites from residential and commercial concerns, the development despite its scale would not materially harm either the appearance of the locality or appear oppressive for residents.

Other impacts on occupants and users of nearby properties

22. Shadow flicker is a recognised potential problem with wind turbine developments. Wind turbines cast long shadows when the sun is low in the sky and a rotating turbine casts moving shadows which when they fall on individuals or properties can cause a strobing or flickering effect. The effects of shadow flicker range from a nuisance to disorientation or convulsions.

23. The representations indicate that the E-66 turbine because it revolves at 10 – 22 rpm (revolutions per minute) produces a flicker frequency of between 0.5 and 1.1 Hz whereas the flicker frequencies producing disorientation/convulsions are between 2.5 and 40 Hz. The proposed turbines therefore operate at a frequency outside the range where disorientation and the like may occur.

24. An assessment undertaken by the appellant calculates that shadow flicker may occur on 9.58 complete days. The Council point out that if only day light hours where to be taken into account this period would be longer. I note however on the other side of the equation that this figure does not include allowances for wind direction, turbines not operating at times of projected flicker, the orientation of property windows or intervening vegetation which would deflect shadows. The actual hours when properties would be affected could therefore be somewhat less.
25. As shadow flicker is a recognised problem mitigation measures exist to deal with such situations. The appellant refers to retrofitting a building with blinds, if it is a localised occurrence, and to shutting a turbine down for flicker periods, if a more widespread number of properties are affected. The representations make it clear that the second option is a practical solution. Special software and a photocell and timer have been fitted to a similar turbine at Swaffham to ensure that the turbine is shut down for the duration of the shadow flicker if the sun is shining and the wind is blowing from the appropriate direction. I see no reason why a similar solution could not be applied to the present proposal. The appellant company has indicated that it is content for this matter to be dealt with by an appropriate condition.

26. Electromagnetic interference can also be associated with wind farms. The appellant consulted widely with organisations with an interest in this field who are generally satisfied with the proposal. The Council however still has residual doubts about potential interference to television reception following correspondence with the Independent Television Commission (ITC) and National Transcommunications Ltd (ntl) who make comments on behalf of the BBC. Their concern is that if an aerial is within about 500m of the wind farm, it can be very difficult to reject reflections from the turbines, irrespective of the direction it may be pointing. Therefore whilst in this particular case the main interference zones would be out to sea there remains the potential for reception problems at residential properties to the west of the quay.

27. Whilst the appellant has indicated a willingness to enter into a unilateral undertaking to remedy any problems of this nature that may occur, no signed undertaking has been received. Nevertheless it seems to me that a suitable condition could be imposed to ensure that complaints of this nature would be investigated and if justified, rectified by the appellant. The representations indicate that when problems occurred after the erection of a similar turbine at Swaffham the complaints were rectified to the claimants’ satisfaction.

Air pollution

28. I now turn to the third issue. The appellant has produced a report related to matters raised by Great Yarmouth Power Ltd about the proximity of turbine No.4 to two proposed stacks (150m from main stack and 110m from auxiliary stack) at the power station currently under construction. Their main concern is that the turbine could affect the dispersion of emissions resulting in increases in ground level concentrations close to the stack thus causing adverse effects on local air quality.

29. Wind tunnel modelling was not considered necessary by the appellant company. However the study that was undertaken takes into account the design of the turbine, the behaviour of structures and their effect on emission dispersion at speeds and the frequency of meteorological conditions occurring when the turbine is down wind of the stack. These matters cover conditions when any adverse impact on emission dispersion would be likely to be most significant. The study starts with the basic factual premise that the existing air quality in Great Yarmouth is within the current and proposed air quality objectives and air quality standards. In the case of the current National Air Quality Strategy criteria, existing concentrations are below the annual and hourly average by 52% and 43% respectively and in the case of the proposed criteria below by 52% and 18% respectively.

30. The study is based on the power station operating at 100% load with a 70m main stack and 45m auxiliary stack. Only data for NOx was considered as other emissions from the power station contribute only very small quantities to background pollution levels. The finding of
the study is that the existing background concentration of NO₂ is low and the predicted effect of the power station is a very small percentage of the total. With this situation it is unlikely that circumstances could occur when the turbine would result in changes in dispersion characteristics leading to an exceedance of the assessment criteria and a consequent risk to public health. The turbine would therefore not significantly affect emission dispersion from the gas fired power station. I have seen no substantive evidence from any party to challenge this view.

Other material considerations

31. Whilst residents have raised matters such as the impact of the development on the bird populations and nature conservation, consultations with English Nature, the RSPB and Norfolk Wildlife Trust have indicated that the appeal site is not of any special nature conservation or major bird importance. Moreover this is also the joint view of these bodies in relation to the effect of the wind park on Breydon Water SSSI/SPA and Great Yarmouth North Dene SSSI/SPA which are between 4 and 6km from the appeal site.

32. Similar responses from official bodies in respect of aviation confirm there are no overriding objections on this ground. Matters of noise have been investigated by the environmental health department of the Council who consider that mechanical noise would be low because the proposed turbines do not have a gear box and are directly driven. Although it is acknowledged that aerodynamic noise would increase with wind strength, any increase in sound would be masked by a concomitant increase in ambient noise levels. I have seen no evidence which leads me to disagree with these findings. I note that approval of the development would not necessitate the erection of any overhead cables and that vehicular access to the site is satisfactory.

33. I now turn to the benefits of renewable energy and the commitment the government has to meet targets for reducing emissions of greenhouse gases to the atmosphere and producing an increasing amount of power from renewable resources, targets which are well documented both nationally and in the context of this appeal. Two of the turbines which form a part of the present proposal have the benefit of a NFFO 5 contract and altogether the turbines are capable of producing 18% of the domestic electricity needs of the town, with consequent reductions in emissions. Whilst this amount is negligible in terms of its contribution to national figures it is nevertheless more significant in local terms and a factor which weighs in favour of the proposal.

CONDITIONS

34. The Council has suggested conditions should I be minded to allow the appeal which I have looked at in the light of the advice in Circular 11/95. I consider it necessary to impose them all. Only outline information has been given about the finish materials of the turbines, I shall therefore require full details by condition. Because of the reasons given above I shall also require details of measures proposed to alleviate problems of shadow flicker and electromagnetic interference from the turbines. In addition because the turbines have a limited life span I shall require their removal at the end of their useful life.

CONCLUSIONS

35. I have taken account of all the other matters raised but find none which are sufficient to alter my conclusions that the proposal would not materially harm the visual amenity of Great Yarmouth, its residents or its surroundings and that the impact of the development in all
other regards would, subject to suitable conditions, be acceptable. The proposal therefore complies with the objectives of development plan policy.

Informatives

36. An applicant for any consent, agreement or approval required by a condition of this permission has a statutory right of appeal to the Secretary of State if consent, agreement or approval is refused or is granted conditionally or if the local planning authority fails to give notice of their decision within the prescribed period.

37. This decision does not convey any approval or consent that may be required under any enactment, bylaw or regulation other than Section 57 of the Town and Country Planning Act 1990.
Appendix II
## Appendix II
### Weighted Matrix

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a - Importance weighting relative to other components  
c - Magnitude of the project impact on each environmental component  
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### Appendix II
Weighted Matrix

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**yes** = high number  
**no** = low number  
**a** = Importance weighting relative to other components  
**c** = Magnitude of the project impact on each environmental component  
**avc** = Weighted Impact
## Appendix II
### Weighted Matrix

**WEIGHTED MATRIX**

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<tr>
<th>CRITERIA</th>
<th>a</th>
<th>c</th>
<th>exc</th>
<th>b</th>
<th>c</th>
<th>exc</th>
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</table>

| Total-score                  | 100 | 574 | 517 | 449 | 397 |

**Legend:**
- **yes** - high number
- **no** - low number
- **a** - Importance weighting relative to other components
- **c** - Magnitude of the project impact on each environmental component
- **exc** - Weighted impact