

# SUPPORTING STATEMENT WEST WIGHT PROJECT Isle of Wight

May 2006

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# 1. BACKGROUND TO THE PLANNING APPLICATION

### The need to tackle climate change

- 1.1 It is internationally acknowledged that the global climate is warming and that increases in the levels of greenhouse gases in the earth's atmosphere, such as carbon dioxide ( $CO_2$ ), are a major contributor to climate change. In the past 50 years, most of the increase in greenhouse gas emissions has been due to human activity. According to the Department of Trade and Industry<sup>1</sup>, the United Kingdom (UK) is currently responsible for three per cent of global greenhouse gas emissions even though it has only 1 per cent of the world's population, with power stations providing over a third of the  $CO_2$  produced by the UK.
- 1.2 The UK Climate Impacts Programme 2006 has predicted that by 2080, the UK will have to deal with the environmental, economic and social consequences of the following:
  - annual average temperatures being 2 3.5 degrees centigrade higher than at present
  - temperatures in the south east being up to 5 degrees centigrade higher on average than at present
  - winter precipitation levels being between 10 and 35% higher than at present
  - 50% less rainfall during the summer than we experience now.
- 1.3 Climate change runs counter to the aims of sustainable development because the effects of sea level rise and the increased frequency of extreme weather events will have human, environmental and economic costs which may be very great. It is widely recognised as one of the most serious environmental problems facing the world today, and must be tackled.
- 1.4 Increasing the supply of energy from renewable resources in the UK is one of the measures that will enable the UK Government to deliver its international and domestic commitments on reducing greenhouse gas emissions. *Planning for Renewable Energy A Companion Guide to PPS22* (2004) recognises that the principle of harnessing wind energy by wind turbines is well established, and that the UK is particularly well placed to utilise wind power, having access to something like 40% of the entire European wind resource. It further acknowledges that developments in the technology and the electricity market over recent years now mean that wind power is found to be viable across the UK.
- 1.5 Commercially, wind power is currently the best-placed renewable resource to contribute towards reducing levels of  $CO_2$  in the UK, and the development of additional wind farms in suitable locations is supported by the Government.

<sup>&</sup>lt;sup>1</sup> www.dti.gov.uk

### About the applicant

- 1.6 The West Wight project is proposed by West Wight Wind Farm Limited (the developer), a specific project vehicle established by Your Energy Limited (YEL) to administer this project. YEL is a leading independent UK renewable energy company based in London and established in 2001 by a team of power industry professionals with experience of developing wind farms in the UK and across Europe.
- 1.7 YEL is committed to helping the UK become more energy self-sufficient and is actively developing a wind energy portfolio, which will assist in addressing the UK's renewable energy targets that ultimately contribute to the country's energy self-sufficiency.
- 1.8 YEL has professional experience across all the key disciplines including planning, environmental services, wind turbine technology, contract law and project financing. Through careful attention to design, planning, development and consultation with the local community, the company has the proven ability to plan, build and operate wind farms in the UK. YEL secured planning permission in January 2003 for the four turbine 11MW Spurness wind farm at Sanday on the Orkney Isles, and this wind farm became operational in January 2005. In March 2004, YEL secured planning permission for ten turbines at Burton Wold, near Kettering, Northamptonshire, and this 20MW development became operational in March 2006. More recently, YEL secured planning permission for an 8MW wind farm at Parham Airfield, Suffolk in October 2005. In addition to the West Wight project, YEL is currently seeking to develop nine other wind farms in the UK, which if all are approved will deliver 166MW of wind power capacity connected to the UK grid.

# The planning application for the West Wight Project

- 1.9 Although much of the Isle of Wight is protected in planning terms because of the quality and character of its landscape and environment, its geographical location and its topography provide the Island with an excellent wind resource. The Island's own Renewable Energy Strategy<sup>2</sup> confirms that from both technical and cost benefit analyses, the Island is well placed to achieve significant electricity generation from renewable energy sources. As is set out in this document, the proposed West Wight Project represents an excellent opportunity for the Isle of Wight to take advantage of the wind resource that it possesses and to make a significant contribution to the local, regional and national renewable energy targets that exist.
- 1.10 YEL has submitted a full planning application to the Isle of Wight Council seeking permission to develop a wind farm comprising six turbines on approximately 278 hectares of agricultural land south of Wellow, on the western side of the Island. The application specifically seeks permission for the following components:
  - the erection of six wind turbines, associated crane pads and a self-supporting meteorological mast

<sup>&</sup>lt;sup>2</sup> Powering the Island through Renewable Energy: A Renewable Energy Strategy for the Isle of Wight to 2010 (Intermediate Technology Consultants, 2002)

- the formation of a new access with Broad Lane
- the construction of temporary and permanent internal access tracks, and
- the construction of a switching station and temporary construction compound, and
- underground power cables.
- 1.11 The planning application comprises a completed set of planning application forms and certificates and is accompanied by the following plans and documents:
  - figure 173502/PA1 showing the location of the application site (the red line plan)
  - figure 173502/PA2 (which is the same as Figure 4.1 in the Environmental Statement) detailing the layout of the proposed turbines and other elements on the site;
  - an Environmental Statement and accompanying technical appendices, which set out the findings of a comprehensive and independent Environmental Impact Assessment undertaken on YEL's behalf by specialist consultants;
  - this supporting statement;
  - the following plans showing:
    - the proposed structure of the turbine towers and the Vestas V82 turbine (figure 173502/PA3);
    - the meteorological mast (figure 173502/PA4);
    - the turbine foundations and crane pads (figure 173502/PA5);
    - $\circ$  the layout and elevations of the switching station (figure 1705/001 Rev A);
    - the permanent and temporary access tracks within the site (figure 173502/PA6); and
    - $\circ$  the temporary construction compound (figure 173502/PA7).
- 1.12 The details on figures 173502/PA3 to 173502/PA7 and figure 1705/001 Rev A are indicative because some of the details shown are subject to possible minor changes as a result of, for example:
  - specific ground conditions around the site
  - the selection and availability of the wind turbine model
  - the final technical design and arrangement of the connection to the electricity grid
  - input from the selected civil engineering contractor on detail planning of the construction process.

However, the essential parameters relating to scale and size will not change.

1.13 This supporting statement has been prepared in support of the planning application. It sets out the context for the submission of the application, identifies the national,

regional and local need for the project and identifies the extent to which it accords with existing and emerging national, regional and local planning policies.

### Consultation with key stakeholders and the public

- 1.14 Prior to the submission of this planning application, YEL has consulted with a wide range of people and organisations about their proposals, and in various instances, has revised its original proposals to take account of issues and concerns that have been raised. Details of these consultation exercises can be found in appendix 1.
- 1.15 Now that the planning application for the West Wight project has been submitted, there will be further opportunities for local residents and organisations to make additional comments on the development proposals, prior to the application being determined by the Isle of Wight Council.

# 2. SUMMARY OF THE PROPOSALS

### The site and its surroundings

- 2.1 The proposed site of the West Wight Project comprises agricultural land located immediately south of the villages of Thorley and Wellow, on the western side of the Isle of Wight. The application site is located in the rural landscape and confined between the B3401 to the north and the B3399 to the south. The turbines lie approximately 3km south-west of Shalfleet, 3km east of Freshwater, 1.5km south-east of Yarmouth and 1km south of the villages of Thorley and Wellow.
- 2.2 The site comprises a north-facing, low, shallow ridge and is mainly in arable agricultural use. Several small streams issue from the site and flow northwards towards Thorley Brook and ultimately the Yar Estuary. The site also comprises four small areas of woodland, which lie within the shallow valleys.
- 2.3 The site is crossed by five public rights of way, which include The Hamstead Trail long distance footpath, another bridleway and three local footpaths. A 33kV overhead electricity line mounted on wooden poles cuts across the north-west corner of the site.
- 2.4 To the east of the site lies Churchills Farm and open farmland between Churchills Farm and Dodpits Lane, a minor road linking the B3401 near Newbridge with the B3401 at Chessell. To the south are Prospect Quarry (a small active stone quarry), the B3401, the B3399 and the hamlets of Chessell and Shalcombe. There are also several farmsteads and individual properties in the immediate environs, but none within the site boundary.
- 2.5 The planning policies governing the potential use of the site are set out in the Isle of Wight Unitary Development Plan (UDP), which was adopted in May 2001. Proposals Map Sheet 1 confirms that the site lies in open countryside, outside of the Isle of Wight Area of Outstanding Natural Beauty (AONB), and that Hummet Copse and part of the Hamstead Trail leading southwards towards Broad Lane has been designated under Policy C11 of the UDP as a Site of Local Importance for Nature Conservation

(SINC) on account of its woodland and the species supported within it. These are the only specific planning policies falling within the application site.

2.6 The application site lies to the north of Prospect Quarry, which according to the adopted UDP has been sporadically used as a limestone quarry since 1950. Land surrounding the quarry (but outside of the application site) is safeguarded in the UDP as a potential future minerals site under Policies M2, M4 and M9 of the UDP. The existing Prospect Quarry, however, is also designated as a Site of Special Scientific Interest under Policy C10 of the UDP, on account of its geological and biological qualities.

### The wind turbine proposals

- 2.7 YEL is seeking planning permission to develop a wind farm comprising six wind turbine generators, each consisting of:
  - a tubular steel tower
  - three turbine blades manufactured from wood/epoxy/GRP composite materials, anda
  - a fibreglass nacelle (which houses the generator, gearbox and yawing mechanisms).
- 2.8 Because technology in the wind energy industry is evolving rapidly, it is in YEL's commercial interests to utilise the optimal wind turbine available at the time of construction. YEL can therefore only specify the exact make and model of wind turbine to be used once the outcome of the planning application is known. However, so that the parameters of the proposed wind farm can be established as part of the Environmental Impact Assessment, YEL is currently proposing that the Vestas V82 two-speed turbine be used.
- 2.9 The Vestas V82 turbine has a three-bladed horizontal axis design with an 82 metre diameter upwind rotor (i.e. each blade is 41 metres long). For landscape impact reasons, YEL is proposing that the tip and hub heights of all six turbines should appear to be level in important views. To achieve this, turbine numbers two, three, four and six have a hub height of 59 metres, giving a tip height of 100 metres, while turbines one and five both of which are sited in localised hollows will have 68.5 metre hub heights above local ground elevation, giving a tip height of 109.5 metres. The finish and colour of the turbines will be agreed with the Isle of Wight Council but the proposed finish is semi-matt light grey.

### The required ancillary infrastructure

2.10 Planning permission is also being sought for a variety of permanent and temporary infrastructure elements, which will be necessary to construct the wind farm and to enable it to generate electricity. These infrastructure elements are:

- six permanent crane pads at the base of each turbine which will be used as a laydown area and as a base for cranes and other vehicles during construction, maintenance and decommissioning. The crane pads will remain in place throughout the life of the project. Each pad will comprise an area of hardstanding approximately 35 metres by 18 metres in area
- the formation of a new permanent access to the site from Broad Lane
- approximately three kilometres of five metre wide permanent access track which will stretch from the site entrance on Broad Lane to each of the wind turbine locations.
- a permanent switching station close to the boundary of the site with Broad Lane. This will house the electrical switchgear, metering equipment and other equipment necessary to connect the windfarm to the local 33kV electricity grid. The switching station will comprise a single storey, pitched roof building approximately 7 metres by 5 metres in area, and four metres in height
- a permanent small roadstone parking bay located adjacent to the substation
- a self-supporting, lattice meteorological mast (approximately 59 metres in height) with associated sensors to collect wind speed and direction data during the wind farm's operation
- approximately 3.5 kilometres of underground electrical and communication cabling between the turbines and the switching station building, routed alongside or under the site access tracks
- a temporary construction compound (unlikely to exceed 1200 m<sup>2</sup> in size) in which to locate contractors' and site engineers' accommodation (offices, toilets, etc), materials, car parking and plant and material laydown facilities.

# Connecting the wind farm to the electricity grid

2.11 A new permanent connection to the local electricity distribution network is required, although this does not form part of this planning application. It is likely that this electrical connection will travel underground from the switching station along the east side of Broad Lane. It will terminate at the existing 33kV local distribution network overhead line located to the north of the site,. The necessary consents to facilitate this connection will be obtained by Scottish and Southern Electricity (SSE).

### The construction of the wind farm

2.12 YEL anticipate that it will take up to nine months to construct all the components of the wind farm set out above. Materials and equipment will most likely be brought to the site from Newport along the A3045, and then along Station Road, the B3401 Main Road through Wellow and Broad Lane. A transport management plan will be developed for the construction phase of the development to ensure that all vehicles entering and leaving the site use designated routes that respect the sensitivity of local receptors.

### The operation of the wind farm

- 2.13 Within six months of the wind farm becoming operational, all portacabins, containers, machinery and equipment will be removed from the construction compound and the area will be fully restored to agricultural use.
- 2.14 The rotational speed of the wind turbine rotor in operation is 14.4 revolutions per minute. To facilitate optimal energy capture and keep noise emissions to a minimum, the rotation speed is reduced to 10.8 revolutions per minute in low wind speeds. The turbines will operate in hub-height wind speeds of between (approximately) 2.5 m/s and 20 m/s. The turbines will shut down at hub-height wind speeds greater than 20 m/s, to avoid damage to the turbine.
- 2.15 Wind speed data previously collected on site indicate that the wind farm will generate varying amounts of electricity for approximately 80% of the year. It is predicted that the turbines will shut down due to high winds for less than 1% of the year.
- 2.16 Scheduled maintenance of the wind farm will take place every six months, involving a variety of tasks from grounds and building maintenance to inspection and testing of mechanical and electrical plant.
- 2.17 It is anticipated that the land within the application site surrounding the turbines will remain in agricultural use throughout the construction and subsequent operation of the project.

# The decommissioning of the turbines

2.18 At the end of the 25 year planned life of the wind farm, it will either be decommissioned with the site being reinstated (by agreement with the landowner) or a new planning application may be submitted to retain or modify the existing development. The decommissioning period for the wind farm is estimated at four months, and would involve the removal of all above ground structures and the reinstatement of ground disturbed by the works to agricultural use.

# The environmental benefits of the West Wight Project

- 2.19 Natural renewable energy sources such as wind generation are considered clean, safe, and more importantly, sustainable, creating reduced levels of emissions such as  $CO_2$  (the main greenhouse gas associated with energy generation) per unit of energy supplied. This is achieved through the displacing of conventional fossil fuel generation such as coal and gas. As wind based power generation creates no  $CO_2$  in the generation of energy, it is recognised as having an important and pivotal role in contributing to  $CO_2$  reduction targets.
- 2.20 By displacing fossil fuel-fired power generation, the power produced by the UK's wind farm portfolio will also prevent the emissions of gases that contribute to acid rain such as sulphur dioxide ( $SO_2$ ) and oxides of nitrogen ( $NO_x$ ) therefore contributing positively to national air quality.

- 2.21 Onshore wind generated electricity during 2004 theoretically displaced 1.29 million tonnes of  $CO_2$  and over 24,600 tonnes of associated greenhouse gases (sulphur dioxide and nitrous oxides which can cause acid rain)<sup>3</sup>, in addition to providing enough electricity to power over 271,400 homes per year<sup>4</sup> in a sustainable manner.
- 2.22 The six wind turbines have a predicted installed generating capacity of between 9.9 and 12 megawatts (MW), depending on ultimate turbine selection. The wind farm will therefore have the potential to meet the electricity needs of over 6,500 homes, representing 10% of the dwellings on the Island and approximately 10% of the Island population's electricity requirements. The West Wight Project is predicted to save on average the following annual tonnages:
  - between 19,665 and 29,819 tonnes of CO<sub>2</sub>
  - between 44 and 234 tonnes of SO<sub>2</sub>
  - between 75 and 88 tonnes of  $NO_x$ .
- 2.23 These calculations are based on the current mix of energy sources in the UK, such as coal, gas, nuclear and other renewables. Over the 25-year life-time of the wind farm, the composition of the mix will change, and therefore these are only a guide to likely savings.
- 2.24 The emissions calculations above take into account the entire life-cycle of the renewable technology, to provide a thorough assessment in determining the impact of electricity production by renewable and conventional means. The same applies to the pay-back period, or energy balance: this is an expression of the time that the turbine must operate to generate as much energy as is used in its entire life cycle, from the extraction of raw materials through manufacture to final disposal. The energy balance can be calculated on the basis of a full life cycle assessment (in accordance with the international standard ISO 14040-43).
- 2.25 Several studies have been undertaken by wind energy associations and turbine manufacturers. As with any life-cycle analysis calculations, the findings are dependent on the assumptions made in the calculations, though the results do provide an indication of general timescales. A study by the Sustainable Development Commission undertaken in May 2005<sup>5</sup> suggested 3 to 10 months as being the typical pay-back period for turbines between 600 kW and 2MW (including energy spent during manufacturing, installation, maintaining and finally decommissioning and scrapping of the components that are deemed un-recyclable).

<sup>&</sup>lt;sup>3</sup> Select Committee Briefing: Environmental Aspects of Wind Generation, Parliamentary Office of Science and Technology, 1994

<sup>&</sup>lt;sup>4</sup> Based on an average annual UK household electricity consumption of 4,700 kWh published in the Digest of UK Energy Statistics, DTI, 2002

<sup>&</sup>lt;sup>5</sup> Wind power in the UK, Sustainable Development Commission, May 2005

# 3. THE NEED FOR THE WEST WIGHT PROJECT

# The need to increase the supply of energy from renewable resources to reduce greenhouse gas emissions and meet international and domestic targets

- 3.1 In 1997, the UK Government committed under the Kyoto Protocol to a binding target of reducing greenhouse gas emissions by 12.5% below 1990 levels by 2008-2012. In addition, the UK Government has chosen to set a more stringent domestic goal of reducing  $CO_2$  emissions by 20% on 1990 levels by 2010.
- 3.2 The UK Government is also obliged to encourage the use of renewable energy through the requirements of the European Union's (EU) Directive on the Promotion of Electricity from Renewable Energy Sources in the Internal Electricity Market<sup>6</sup> (the Renewables Directive). Under this Directive, Member States are required to adopt national targets for renewables that are consistent with reaching the overall European Union target of 12% of energy (including domestic heating, transport, electricity etc.) and 22.1% of electricity from renewables by 2010.
- 3.3 In January 2000, the UK Government set a target to increase the proportion of electricity provided by renewable sources to 10% of electricity supplied by 2010, subject to the cost to the consumer being acceptable. In 2003, the Government's Energy White Paper "*Our Energy Future Creating a Low Carbon Economy*" confirmed the Government's intention to cut carbon emissions by 60% by 2050 and their ambition to supply 20% of electricity from renewable sources by 2020.
- 3.4 Although the UK Climate Change Programme Review published in March 2006 reported that the UK is currently on track to meet its Kyoto commitment, it is only expected to deliver a cut of 15-18% in  $CO_2$  levels by the end of the decade. The report also confirmed that although the Government is making progress towards the 10% renewables target, this level of generation is unlikely to be achieved some time after 2010. More therefore needs to be done if all of the Government's targets are to be met, and the development of additional renewable energy resources has an important role to play in these respects.

# The need to increase the supply of energy from renewable resources to meet shortfalls in the supply from traditional energy sources

- 3.5 The need to increase the generation of energy from renewable sources to meet the UK's greenhouse gas commitments has coincided with growing concerns that the current supplies of fossil fuel upon which the UK relies for most of its electricity are decreasing more quickly than has been previously anticipated, and that alternative sources of energy are located in regions of the world which are less geopolitically stable than our own.
- 3.6 More renewable energy generation can therefore provide greater diversity in our energy mix, which is vital in ensuring security and continuity of supply as fossil fuels

<sup>&</sup>lt;sup>6</sup> The European Union's Renewables Directive came into force in October 2001

continue to deplete and the UK becomes more dependable on overseas sources of fossil fuel.

### The need for additional wind energy development

- 3.7 In 2004, total electricity generation from renewables amounted to 14,171 Giggawatt hours<sup>6</sup> (GWh), equivalent to 3.58 per cent of the electricity generated in the United Kingdom that year. Of this, just 0.18% of the electricity was generated from wind power.
- 3.8 However, the recently completed Renewables Innovation Review (2004) prepared by the DTI and the Carbon Trust provided an assessment of the potential future contributions of various renewable energy technologies. The report concluded that wind, both onshore and offshore, is the only economically viable and scaleable technology under the current Renewables Obligation regime. Wind energy will therefore be key to the Government meeting the above targets for renewable energy and for  $CO_2$  reductions at lowest costs to the consumer and the taxpayer.

### The need to meet regional and indicative sub-regional renewable energy targets

- 3.9 Following a study of the renewable energy potential of the South East region<sup>7</sup>, a study of suitable targets for the region<sup>8</sup> and the subsequent publication of the Government's Energy White Paper in 2003, the South East England Regional Assembly (SEERA) published "*Proposed Alterations to Regional Planning Guidance, South East Energy Efficiency and Renewable Energy Harnessing the Elements*" in May 2003. This document aimed to ensure that the region contributes appropriately to the achievement of national renewable energy targets, including a goal to generate 16% of its electricity from renewable sources by 2026, and thus became the first region in the UK to translate the vision and targets in the Energy White Paper into a strategy and targets for the region.
- 3.10 Following public consultation on this document, SEERA published amended Regional Planning Guidance for the South East (RPG9) in November 2004 which incorporated this document and which set out a number of policies to guide local planning authorities towards a more proactive approach to the development of renewable energy schemes in local areas. This strategy is applicable to the Isle of Wight.
- 3.11 Chapter 10 of revised RPG9 deals with the issues of energy efficiency and renewable energy. Policy INF6 confirms that onshore wind is one of the renewable energy resources with the greatest potential for electricity generation in the region, and identifies minimum regional targets for electricity generation from renewable resources for the region. These are reproduced in table 3.1.

<sup>&</sup>lt;sup>6</sup> Renewable energy statistics for the UK, DTI (www.restats.org.uk/statistics\_national.html)

<sup>&</sup>lt;sup>7</sup> Development of a Renewable Energy Assessment and Targets for the South East - Final Report (ETSU/ AEA Technology plc and Terence O'Rourke plc, 2001)

<sup>&</sup>lt;sup>8</sup> South East Regional Renewable Energy Targets – Consultation Revisions (Future Energy Solutions / FPD Savills, February 2003)

Year / Timescale	Installed Capacity (MW)	% Electricity Generation Capacity		
2010	620	5.5		
2016	895	8.0		
2026	1,750	16.0		
Table 3.1: Minimum regional targets for renewable electricity generation set out in				
revised RPG9				

3.12 In addition, Policy INF7 of amended RPG9 sets indicative sub-regional targets for land-based renewable energy schemes, as set out in table 3.2.

Sub-region	2010 Renewable Energy	2016 Renewable Energy	
Sub-region	Target (MW)	Target (MW)	
Hampshire & Isle of Wight	115	122	
Thames Valley & Surrey	140	209	
East Sussex & West Sussex	57	68	
Kent	111	154	
Table 3.2: Indicative sub-regional targets for renewable electricity generation as set out			
in revised RPG9			

3.13 Whilst the contribution that the Isle of Wight is specifically making to the sub-regional targets in revised RPG9 is currently unknown, statistics published by TV Energy<sup>9</sup> in March 2006 suggest that the Hampshire & Isle of Wight sub-region will be generating 0.93 MW of electricity from renewable sources (excluding landfill gas) in June 2006. However, as the West Wight project would be capable of generating up to 9.9MW of electricity, this project could potentially provide around 8.6% of the Hampshire and Isle of Wight indicative sub-regional target for renewable electricity generation by 2010.

# The need to meet local renewable energy targets

Local Agenda 21 Strategy

- 3.14 In November 2000, the Isle of Wight Council adopted its Local Agenda 21 Strategy. It was developed and written in partnership with the people of the Isle of Wight and reflects their vision for the future of the island.
- 3.15 The Strategy reports that to achieve the overall vision for the Island, action must be focused on a number of areas, including creating a sustainable economy which brings maximum environmental gain to local people, and making the best use of the Island's natural resources. In particular, the Strategy identifies the urgent need to fully utilise the Island's capacity for the generation of renewable energy and where possible to use the Island's renewable resources to generate electricity.

<sup>&</sup>lt;sup>9</sup> TV Energy, March 2006 (www.see-stats.org/stats-hampshire-iow.htm#stats)

# The Isle of Wight Renewable Energy Strategy

- 3.16 Policy INF7 of revised RPG9 encourages local authorities to collaborate and engage with communities, the renewable energy industry and other stakeholders on a sub-regional basis to assist in the achievement of these targets through:
  - undertaking more detailed assessments of local potential
  - encouraging small scale community-based schemes
  - encouraging development of local supply chains, especially for biomass.
  - raising awareness, ownership and understanding of renewable energy.
- 3.17 Paragraph 10.67 of revised RPG9 specifically refers to the progress being made in this respect by the Isle of Wight Council, who in September 2002 published *Powering the Island through Renewable Energy Background Analysis for a Renewable Energy Strategy for the Isle of Wight to 2010.* This report presents the results of a project to prepare a renewable energy strategy for the Isle of Wight in terms of renewable energy potential. It also gave the technical potential for various options and stated the possible lower and upper bounds for the contribution renewable energy could make to the Island by the year 2010.
- 3.18 Based on economic and near economic options, the lower bound of estimates is that the Island could meet 10% of its own electricity requirements by 2010, with half of this demand being met by on-shore wind developments. The report considers that onshore wind power is the main option for a new renewable energy development on the Island that is commercially viable in the near term, with the range of achievable contribution to electricity demand by 2010 estimated to be between five and eight per cent. The report notes that this demand could be achieved through the development of up to three small wind clusters, each comprising four to six turbines.
- 3.19 Of importance to this planning application are the Renewable Energy Strategy's conclusions that:
  - the Council has committed to playing its part in achieving the government's target of 10% electricity generation from renewables by 2010 and is eager to ensure that in doing so the Island economy gains maximum benefit from the development and use of its renewable energy sources
  - it is very clear that the Isle of Wight is well placed to achieve significant electricity generation from renewable energy sources, although the protection of the beauty and character of the Island's unique environment and landscape is of major importance in determining policies governing the extent and nature of renewable energy development
  - wind energy is identified as the major potential contributor to the generation of renewable energy, contributing between 5.1% and 34.9% of the Island's potential.

### Conclusions

- 3.20 There is a clear need to increase the supply of energy from renewable resources across the UK to meet international and domestic commitments and to assist with the diversification of energy supply away from traditional fossil-fuel sources. There is a clear need for each region and sub-region within the UK to permit the development of renewable energy schemes to enable the overall UK target to be achieved by 2010, and there is recognition on the Isle of Wight that the development of onshore wind turbines in suitable locations represents the best commercial option for renewable energy schemes on the Island in the near term.
- 3.21 The West Wight Project is of a scale envisaged in the Isle of Wight Renewable Energy Strategy and lies outside of the Isle of Wight Area of Outstanding Natural Beauty. It therefore represents an excellent opportunity for the Island to make a significant contribution towards the national, regional, sub-regional and local need to increase the supply of energy from renewable sources.

# 4. PLANNING POLICY CONSIDERATIONS

# Introduction

4.1 The planning application for the West Wight project accords with existing and emerging national and regional planning policy guidance, and existing and emerging planning policies governing the development of renewable energy schemes on the Isle of Wight. This section of the supporting statement therefore identifies the planning policies of direct relevance that will need to be considered by the Isle of Wight Council in determining the planning application.

# National planning policy guidance

# Planning Policy Statement 1 – Delivering sustainable development

- 4.2 The concept of sustainable development is the core principle underpinning the UK's planning system. At the heart of the concept is the fundamental principle of ensuring a better quality of life for everyone, both now and for future generations.
- 4.3 The Government published its initial Sustainable Development Strategy in 1999<sup>10</sup> and subsequently updated it in 2005<sup>11</sup>. The latter document sets the following five guiding principles for achieving sustainable development:
  - LIVING WITHIN ENVIRONMENTAL LIMITS Respecting the limits of the planet's environment, resources and biodiversity to improve our environment and ensure that the natural resources needed for life are unimpaired and remain

<sup>&</sup>lt;sup>10</sup> A better quality of life - Strategy for sustainable development for the United Kingdom (HMSO, March 1999)

<sup>&</sup>lt;sup>11</sup> Securing the future – Delivering UK sustainable development strategy (HMSO, March 2005)

so for future generations

- ENSURING A STRONG, HEALTHY AND JUST SOCIETY Meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social cohesion and inclusion, and creating equal opportunity for all
- ACHIEVING A SUSTAINABLE ECONOMY Building a strong, stable and sustainable economy which provides prosperity and opportunities for all, and in which environmental and social costs fall on those who impose them (polluter pays), and efficient resource use is incentivised
- USING SOUND SCIENCE RESPONSIBLY Ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainty (through the precautionary principle) as well as public attitudes and values
- PROMOTING GOOD GOVERNANCE Actively promoting effective, participative systems of governance in all levels of society engaging people's creativity, energy, and diversity.
- 4.4 PPS1 was published in January 2005 and sets out the Government's planning policies on the delivery of sustainable development through the planning system. PPS1 recognises that the development of renewable sources of energy can contribute to meeting the aims of the Government's sustainable development strategy and consequently, local authorities are actively encouraged to adopt planning policies in their development plans that seek to promote and encourage the development of such resources.

# Planning Policy Statement 7 – Sustainable development in rural areas

- 4.5 PPS7 was published in August 2004 and sets out the ways in which development in rural areas can be brought forward in a sustainable manner. Whilst local planning authorities are encouraged to adopt a positive planning policy framework for facilitating sustainable development in the countryside, they are also encouraged to continue to ensure that the quality and character of the wider countryside is protected and, where possible enhanced, having particular regard to any areas that have been statutorily designated for their landscape, wildlife or historic qualities where greater priority should be given to restraint of potentially damaging development.
- 4.6 Paragraph 16 of PPS7 encourages local planning authorities to provide for the sensitive exploitation of renewable energy sources in accordance with the policies set out in PPS22.

### Planning Policy Guidance Note 15 - Planning and the historic environment

- 4.7 PPG15 was published in September 1994 and provides comprehensive advice on controls for the protection of historic buildings, conservation areas and other elements of the historic environment.
- 4.8 Paragraph 1.1 confirms that it is fundamental to the Government's policies for environmental stewardship that there should be effective protection for all aspects of the historic environment. Paragraph 2.11 confirms that in determining planning

applications for development which may affect a listed building, planning authorities will need to pay special regard to certain matters, including the desirability of preserving the setting of the building, as the setting is often an essential part of the building's character, especially if a garden or grounds have been laid out to complement its design or function.

4.9 Paragraph 2.24 confirms that the effect of proposed development on a registered park or garden or its setting is a material consideration in the determination of a planning application. Paragraph 4.14 confirms that planning authorities should pay special attention to the desirability of preserving or enhancing the character or appearance of a conservation area when considering proposals which are located outside of a conservation area but which might affect its setting, or views into or out of the area.

# Planning Policy Statement 22 – Renewable energy

- 4.10 National planning policy guidance on how local planning authorities should determine planning applications for wind farms and other renewable energy schemes is set out in Planning Policy Statement 22, published by the Government in August 2004. This document acknowledges that:
  - increased development of renewable energy resources is vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy (page 6)
  - positive planning which facilitates renewable energy developments can contribute to all four elements of the Government's sustainable development strategy, outlined above (page 6)
  - 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 (page 7)
  - development proposals should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through careful consideration of location, scale, design and other measures (page 8).
- 4.11 Approving the planning application for the West Wight Project will therefore:
  - assist with the delivery of the Government's climate change commitments and domestic renewable energy targets
  - assist with the dual aims of increasing the supply of renewable energy and diversifying the UK's energy supply
  - contribute towards the delivery of the aims of the UK's sustainable development strategy, and
  - assist with the delivery of the Isle of Wight Council's commitment to playing its part towards achieving 10% of electricity on the Island from renewables by 2010.

### Planning for Renewable Energy: A Companion Guide to PPS22

- 4.12 In December 2004, the Government published *Planning for Renewable Energy: A Companion Guide to PPS22*, to assist planners, regional and local decision-makers and other stakeholders in England in understanding the issues associated with the different renewable energy technologies and their application in different environments. In the context of the current planning application, this guide states that:
  - the development of renewable energy resources on a commercial scale is a crucial element in meeting the Government's commitments on reducing emissions and combating climate change (paragraph 2.2), and
  - the Government expects each local authority to contribute to meeting the targets and reducing overall demand for energy (paragraph 2.5).
- 4.13 The Guide contains a technical annex setting out information about wind turbines and the issues that both developers and planning authorities should consider when devising and bringing forward wind farm proposals. The West Wight Project accords with the technical annex in the following ways:
  - the distance between two neighbouring turbines ranges from 260 to 380 metres, which complies with the advice in paragraph 17 of the Wind Technical Annex that indicates that turbines should be located between three and ten rotor diameters apart
  - the ancillary infrastructure required as part of the West Wight Project is similar to the infrastructure identified in paragraphs 18, 19 and 20
  - in line with paragraph 21 of the technical annex, the amendments to existing roads required to gain access to site are identified in the planning application
  - paragraph 26 confirms that the responsibility for the routing of electrical cabling onwards from the sub-station to the nearest suitable point of the local electricity distribution network (usually an existing substation or line) is the responsibility of the Distribution Network Operator, who on the Isle of Wight is Scottish and Southern Electricity
  - in line with the guidance in paragraph 37, the size of the site is 278 hectares and so is more than sufficient to accommodate a development of six turbines.
  - the wind speed data obtained from the anemometer erected on site in 2001 and 2002 has confirmed that there is a sufficient wind resource for a viable project to be developed (paragraph 37)
  - additionally, the point of grid connection falls within the application site, the nearest residential dwelling to a turbine is 550 metres away and the application site is devoid of landscape designations (paragraph 37)
  - an Environmental Impact Assessment has been undertaken in line with the guidance set out in paragraph 40
  - as recommended in paragraph 44 of the technical annex, the noise impacts of the wind farm set out in the Environmental Assessment have been assessed against *The Assessment and Rating of Noise from Wind Farms* (ETSU-R-97)

- the minimum distance between a turbine and an occupied building is 550 metres while the fall over distance of turbine six is 110 metres. The location of turbine six therefore accords with the recommendations of paragraph 51, which states that the minimum distance between a turbine and an occupied building should be greater than the fall-over distance
- the minimum distance between turbine number 1 and Broad Lane is 200 metres, which complies with the recommendation set out in paragraph 53 of the technical annex that the distance should be at least fall-over distance.

# **Regional Planning Guidance**

- 4.14 In addition to the regional and indicative sub-regional renewable energy targets set out in RPG9 and referred to above, section 10 of RPG9 contains the following statements that are of relevance to the proposed West Wight Project:
  - the assessments of renewable energy potential identify offshore wind, onshore wind, and biomass as presenting the greatest opportunities for the generation of electricity and heat in the region over the short to medium terms (paragraph 10.58)
  - overall, Kent, Hampshire and the Isle of Wight, and the Thames Valley and Surrey sub-regions appear to have the greatest potential for onshore wind development (paragraph 10.64)
  - the region's renewable energy potential will most likely be realised through a mixture of developments of different types and scales and integration of technologies into buildings. This could translate into a total of around 140 individual schemes (plus photovoltaic installations) by 2010, increasing to around 250 schemes (plus photovoltaics) by 2016 and 2026. This implies development of up to three wind energy clusters and four single large turbines per county area over the next 20 years plus at least one larger scale wind farm (paragraph 10.70)
  - it is expected that all local authorities in the region will accommodate at least one wind energy development over the next two decades (paragraph 10.75).
- 4.15 The proposed West Wight Project therefore fits well with these regional expectations.
- 4.16 Policy INF8 of RPG9 concerns the location of renewable energy developments. It states that wind energy developments in particular "should be located and designed to minimise adverse impacts on landscape, wildlife and amenity" and that "outside of urban areas, priority should be given to development in less sensitive parts of countryside and coast". This policy also encourages proposals within or close to the boundaries of designated areas to demonstrate that development will not undermine the objectives that underpin the purposes of designation.
- 4.17 The proposed West Wight Project is located outside of the Isle of Wight Area of Outstanding Natural Beauty in an area of countryside that is largely unconstrained in landscape, nature conservation and planning policy terms. As the Environmental Statement indicates that the development would have no significant adverse impacts

upon residential amenity, the landscape (including the adjoining AONB) or wildlife, it is considered that the West Wight Project meets the requirements of Policy INF8 of RPG9.

### The Draft South East Plan

- 4.18 Under the requirements of the Planning and Compulsory Purchase Act 2004, RPG9 is being replaced by a Regional Spatial Strategy (RSS) for the South East, which will set out the spatial development strategy for the region over the period to 2026. The draft South East Plan, as this RSS is known, was submitted to the Office of the Deputy Prime Minister on 31<sup>st</sup> March 2006 and is currently the subject of a public consultation exercise.
- 4.19 The text of the draft South East Plan dealing with renewable energy is largely the same as that in RPG9, albeit supplemented by the following additional statements:
  - Policy CC2 encourages the development and use of renewable energy as part of a series of measures to mitigate against climate change
  - deployment of renewable energy technologies is essential to maintain the reliability and security of supply by diversifying the mix of energy technologies and reducing future reliance on imported energy (paragraph 11.4)
  - Policy EN3 identifies minimum regional targets for electricity generation from renewable resources, to be achieved by the development and use of all appropriate resources and technologies. It acknowledges that the renewable energy resources with the greatest potential for electricity generation are onshore and offshore wind, biomass, and solar
  - Policy EN4 requires Local Development Documents to include policies and development proposals as far as practicable, that seek to contribute to the achievement of the regional and indicative sub-regional targets for land-based renewable energy. This policy confirms that the sub-regional target for Hampshire and the Isle of Wight is 115MW by 2010 and 122MW by 2016.
  - Policy EN5 requires Local Development Frameworks to encourage the development of renewable energy in order to achieve the regional and sub-regional targets, and encourages renewable energy developments, particularly wind and biomass, to be located and designed to minimise adverse impacts on landscape, wildlife and amenity. Outside urban areas, priority should be given to development in less sensitive parts of countryside and coast.
- 4.20 Although little weight can be given to the policies of the draft South East Plan as they have yet to withstand close public scrutiny at a regional examination, the emerging regional planning policies are clearly based on the policies in adopted regional planning guidance and are clearly supportive of renewable energy developments. It is therefore clear that the West Wight Project will contribute to the achievement of the regional and sub-regional renewable energy targets identified in the emerging RSS and greatly assist diversify the energy supply available on the Isle of Wight.

### **Local Planning Policies**

The Isle of Wight Unitary Development Plan

- 4.21 Planning policies governing the acceptability of development proposals on the Isle of Wight are set out in the Unitary Development Plan (UDP), which was adopted in May 2001. This Plan acknowledges that:
  - the Government's stated policy is to stimulate the exploitation and the development of renewable energy resources wherever they have prospect of being economically attractive and environmentally acceptable (paragraph 16.29)
  - a study of the range of renewable energy resources in the southern region undertaken in 1993/94 identified wind as representing the renewable energy source of greatest potential, but that the available resource was reduced by environmental constraints (paragraph 16.30)
  - the Council's view is that the UDP should reflect a positive approach to harnessing the generating potential from renewable energy sources in an environmentally acceptable way. Of particular concern is the total effect of a number of different proposals on the intimate scale and nature of the Island's landscape, which perhaps makes it unsuitable for extensive schemes (paragraph 16.31).
- 4.22 Policy U18 of the UDP is the only policy within the plan dealing with renewable energy, and it states that:

"Proposals for the production of energy from renewable sources will be approved, provided that:

- a) the total effect of all such development is at a scale sympathetic to the intimate character and landform of the Island
- b) they avoid and do not have an unacceptable adverse impact on the most sensitive areas of designated landscape, coastal, nature conservation or archaeological importance
- c) they minimise any detrimental effect from noise, electromagnetic, visual or similar interference
- d) they do not have a detrimental effect on water requirements or quality.
- 4.23 With regard to the proposed development, the Environmental Impact Assessment has assessed the potential impact of the wind farm on the sensitive landscape of the Isle of Wight. It confirms that the proposal is not located within the Island's finest landscapes, which have been designated as AONB and Heritage Coast. The assessment has determined that whilst parts of these nationally important landscapes will be indirectly affected by the wind farm, potential effects are limited when considered in the context of the AONB and Heritage Coast landscape as a whole. Indeed, for large parts of the AONB and Heritage Coast the wind farm will not be visible. It has therefore been concluded that although the proposals will result in significant impacts to specific parts of the designated landscape, overall they will not result in an unacceptable

adverse impact or undermine the special qualities and primary purpose of the AONB and Heritage Coast.

- 4.24 The assessment has also determined that for a substantial part of the Island the landscape character and landform will not be significantly affected, either because the wind farm will not be visible or, where it is visible, it will not become a defining feature in the landscape or significantly change its intrinsic character. In the locality of the wind farm, the scale of the proposal is such it will become a defining feature resulting in some moderate to substantial adverse impacts to several local character types. However, when considered in the wider context, it is considered that the scale and form of the proposal is appropriate and sympathetic to landscape character and the landform of the Island.
- 4.25 In addition, the Environmental Statement demonstrates that the wind farm does not have an unacceptable adverse impact on the most sensitive areas of designated nature conservation or archaeological importance, that it has been designed to minimise any detrimental effects from noise, electromagnetic, visual or similar interference and that it does not have a detrimental effect on water requirements or quality.
- 4.26 It is therefore considered that the proposed West Wight Project complies with the requirements of Policy U18 of the adopted UDP.

### Isle of Wight Local Development Framework Core Strategy

4.27 Under the requirements of the Planning and Compulsory Purchase Act 2004, the Isle of Wight Council is required to replace the adopted UDP with a Local Development Framework, which accords with the policies set out in the draft South East Plan. A draft of the Island Plan Core Strategy was published by the Council in February 2006 for public consultation, Policy ENV2 of which deals with the use and protection of natural resources, and states that:

"The use and protection of natural resources is essential to the overall quality of life of the Island and to support wider social and economic sustainability objectives. This will be achieved by:

- 1. Promoting the greater use of renewable energy sources through a Local Energy Strategy which supports energy generation from biomass, marine, waste, solar and wind sources where available and acceptable in terms of impact on quality of life, amenity and viability."
- 4.28 The proposed West Wight Project clearly accords with this emerging local planning policy objective.

Isle of Wight Council Supplementary Planning Guidance - Wind Turbines and Wind Farms

4.29 In September 2004, the Isle of Wight Council adopted Supplementary Planning Guidance (SPG) to Policy U18 of the UDP relating to the development of onshore

wind turbines and wind farms. It consolidates the criteria-based approach in the policy and sets out the basis on which the Council will both expect applications to be submitted and the approach that it will take in determining those applications. In addition to specifying a list of issues which proponents of wind farm developments should assess and satisfy, the SPG acknowledges that:

- there is a long-term commitment, through both national and local policy, to protect the landscape beauty and character of the Island's countryside and coasts (paragraph 4.2), and
- in general, appropriately designed and located wind turbines will be more acceptable where they either avoid or can be demonstrated not to have an unacceptable impact on the AONB or Heritage Coast, which generally, will have equal importance in the determination of applications (paragraph 4.11).
- 4.30 The Environmental Statement confirms that the wind farm is not located within the AONB and Heritage Coast. It also confirms that whilst parts of these nationally important landscapes will be indirectly affected by the wind farm, potential effects are limited when considered in the context of the AONB and Heritage Coast landscape as a whole. Therefore, overall, although the proposals will result in significant impacts to specific parts of the designated landscape, overall they will not result in an unacceptable adverse impact or undermine the special qualities and primary purpose of the AONB and Heritage Coast. It is therefore considered that the West Wight Project accords with the Isle of Wight Council's adopted SPG on wind turbines and wind farms.

# 5. CONCLUSIONS

- 5.1 The UK Government regards climate change as probably the greatest long term challenge facing the human race, and has made it a top political priority. Increasing the supply of energy from renewable resources in the UK is one of the measures that will enable the Government to deliver its short and long term international and domestic commitments on reducing greenhouse gas emissions, as well as its short term and long term international and domestic targets for increasing the supply of energy from such sources.
- 5.2 National planning policies on the development of renewable sources of energy clearly acknowledge that the UK is particularly well placed to utilise wind power and that advances in technology have meant that wind farms are now viable across England, Scotland, Wales and Northern Ireland. In commercial terms, it is widely accepted that wind power is currently the best-placed renewable energy resource to contribute towards reducing levels of  $CO_2$  in the UK in the short term, and consequently, national planning policy supports the development of wind farms in suitable locations.
- 5.3 The proposed West Wight Project comprises the development of six wind turbines on 278 hectares of agricultural land on the west of the Isle of Wight. If approved, the wind farm would have the potential to provide an estimated 30 GWh per annum of energy from a renewable resource, which is equivalent to meeting the electricity needs of 6500 homes on the Island. Approval of the scheme would also potentially offset the emission of up to 753,000 tonnes of  $CO_2$  over its lifetime, as well as up to 5900

tonnes of  $SO_2$  and up to 2218 tonnes of NOx, which would otherwise have been generated from burning traditional fossil fuels.

- 5.4 The West Wight Project is proposed on a site that lies outside of the Isle of Wight Area of Outstanding Natural Beauty and on land that is largely devoid of other planning or environmental constraints. Its layout has been designed to comply as far as possible with national planning policy considerations, and specifically to minimise its impact on the landscape and on residential amenity.
- 5.5 An Environmental Impact Assessment of the proposed development has been undertaken, within which the primary issues of visual impact and cumulative visual impact have been assessed in detail. The impacts of the development on the character of the landscape, upon wildlife and residential amenity have also been assessed in detail. The overall conclusion reached is that the proposal is acceptable when judged against planning, environmental, economic and social criteria set down in national, regional and local policy statements.
- 5.6 The Isle of Wight Council's own Renewable Energy Strategy identifies the development of onshore wind turbines in suitable locations as representing the best commercial option for renewable energy schemes on the Island in the near term. Whilst the West Wight Project will make a valuable but modest contribution towards the Government's national renewable energy targets for 2010 and 2020, it will make a more significant contribution towards the regional target for the South East, the indicative sub-regional target for Hampshire & Isle of Wight and the Isle of Wight's own 2010 target for renewable energy. It is also important to note that the scale of the West Wight Project is similar to the scale of projects envisaged within the previous independent renewable energy resource studies that have been undertaken in these areas.
- 5.7 In planning policy terms, the scheme accords with the requirements of national planning policies on renewable energy, sustainable development (particularly in rural areas) and the historic environment, and with the objectives of existing and emerging regional planning policies. At the local level, the West Wight Project is also considered to meet the specific requirements of Policy U18 of the adopted Isle of Wight Unitary Development Plan and Supplementary Planning Guidance on the development of wind turbines and wind farms.
- 5.8 The planning application is also considered to accord with the principles of sustainable resource management, which is a key priority of the Island Agenda 21 Strategy.
- 5.9 As demonstrated above, the planning and environmental arguments for the proposed West Wight Project are strong, and approval of the application represents a significant opportunity for the Island to contribute towards national, regional, sub-regional and local climate change and renewable energy objectives.

Terence O'Rourke On behalf of Your Energy Ltd

May 2006

