DESIGN, ACCESS & PLANNING STATEMENT

PROPOSAL TO INSTALL A SINGLE SMALL SCALE WIND TURBINE AND ASSOCIATED INFRASTRUCTURE

ON LAND AT HIGH VIEW FARM, WEST OF HOLT LANE, KINGSLEY, ST10 2BA

TURBINE COORDINATES:

401766, 346318

URBANWIND

CONTENTS

CONTENTS

CONTENTS

1 INTRODUCTION

This statement supports the planning application lodged with Staffordshire Moorlands District Council for the erection of a wind turbine and associated infrastructure on land west of Holt Lane - part of High View Farm. The candidate turbine for this project is the Northern Power Systems 100. This turbine comprises the following specifications and measurements:

- 22.6m height to hub
- 34.4m height to blade tip
- 23.6m rotor diameter
- 3-bladed rotor
- 100kW generating capacity

In line with standard planning conditions, permission is sought for this development for 25 years from the first generation of electricity on site, after which time the turbine will be removed and the site restored.

1.1 Application Site

The proposed turbine lies in an agricultural field within the Dissected Sandstone Uplands landscape character type. The site is open in the direction of the prevailing wind. The location for the turbine lies just below the crest of a small hillock, which peaks at a height of approximately 210m AOD. To the east, the land elevation falls away into the Churnet Valley. Fields are relatively small and pastoral, and are bordered by hedgerows and hedgerow trees. The villages of Kingsley and Kingsley Holt lie circa 1km to the north-west and 300m to the south-east respectively.

The site lies within the North Staffordshire Green Belt and is covered by a Special Landscape Area (SLA) designation.

1.2 Site Identification

An investigation into the possibility of erecting a wind energy development at the site was instigated at the end of 2012. Feasibility work carried out assessed particular technical, environmental and aesthetic issues relating to the erection of a wind installation.

In technical terms, a number of factors were initially considered which included:

Topography: the steepness of the land determines which parts of the site are most suitable for erecting a turbine;

Existing infrastructure: local roads, rights of way, overhead or underground services etc. which pass in close proximity to or through the proposal site, that require to be protected or safeguarded during construction and in the unlikely event of a structural failure during operation;

Access: the means of accessing the proposal site via the local road network can influence the size of turbine that can be accommodated;

Grid connection capacity and location: the means of carrying the power off-site and the electrical power that can be accommodated by the grid network in the area; and

Proximity to housing: to safeguard the amenity of nearby properties from the potentially intrusive effects of the installation, both visually and noise related.

In environmental terms, the capacity of the proposal site may be further affected by areas of sensitivity, which may limit or even preclude development. Issues considered at the proposal site included:

Ecology and ornithology: a search for valuable habitats and protected species of plants, animals and birds that may be present on site, including the flight path of birds and bats;

Cultural heritage: archaeological features that may be present on site; and

Other features: property boundaries, hedgerows, proximity to buildings.

In landscape and visual terms, the capacity of the proposal site relates to its ability to accommodate a wind energy installation without creating unacceptable effects on the physical fabric of the site itself, on the character of the surrounding landscape and on views from surrounding areas. A number of landscape and visual design objectives were set out to guide the design process, these being:

Turbine positioning within the site should respond to prevailing wind resource;

Turbine positioning within the site should relate to landform features, contours and boundaries in order to provide a landscape basis for a wind energy development;

The development should respond to the scale of the landform and be appropriate for the overall landscape scale;

The development should respond to the local landscape context, so that when seen, it forms a positive image, with a clear rationale for turbine positioning, particularly from key local receptors;

The turbines should be sited as far from local residential properties as is practicable, whilst avoiding topographical constraints and seeking to minimise environmental effects on the wider landscape; and

The overall visual intrusiveness of the development should be minimised.

1.3 The Proposed Development

The feasibility work undertaken resulted in the submission of a Screening Request to Staffordshire Moorlands District Council. The Screening Opinion received stated that formal EIA would not be required to assess the proposal. This full planning application follows receipt of the Screening Opinion.

1.4 Wind Turbine

The applicant has identified the candidate turbine for the project as the Northern Power Systems 100. The blades of this model are manufactured from glassfibre-reinforced plastic and the hub from steel. The nacelle houses the generator. The finish and colour of the turbine is likely to be semi-matt and pale grey. The turbine is estimated to generate in the region of 170,000kWh of CO2-free energy per annum at the estimated mean wind speed of the area of 5m/s.

1.5 Associated Infrastructure

The form of the wind turbine foundations will depend on site geology, turbine location and the manufacturer's ground stiffness foundation criteria. Preliminary site survey work will be undertaken prior to construction to determine the condition of the ground and which type of turbine foundations will be suitable on site. The foundations will take the form of reinforced concrete which will include a steel support plinth to suit the base profile of the tower section. It will take one month after the pouring of the concrete for the base to set. Foundation measurements are typically 9m x 9m x 2m. Underground cabling will be required for approximately 120m within the installation field to transfer power generated from the wind turbine to the National Grid. The Grid connection point is within the installation field, connecting into the overhead power lines that cross the field. An area of hardstanding will be required to provide a stable base on which to lay down the turbine components ready for assembly and erection, and to site the crane necessary to lift the tower sections, the nacelle and rotor components into place.

1.6 Access

As per the submitted plans, access to the site by HGVs during the construction and operation phases (for example for delivery of the turbine components and routine maintenance) will be from Holt Lane, thereafter accessing the installation site by current field access. A temporary access track will be constructed across the farmland to the precise turbine footprint. This track will be constructed from hard core and gravel. Once operational, minimal access to the site will be required for routine maintenance and the proposal will therefore have a minimal impact on traffic levels in the area.

1.7 Development Timeline

Construction

Dependent on weather conditions, the installation could take up to two months to construct. The construction process will consist of the following principal activities:

- Site survey and preparation;
- access track formation;
- Install any temporary storage facilities;
- Excavate turbine foundations and construct the turbine and transformer base;
- Excavate cable trench and lay the power and instrumentation cables;
- Install the grid connection;
- Wind turbine component deliveries and erection of turbine; and
- Site restoration.

Prior to the main construction works commencing on site, enabling works would be required. These would be phased into the pre-construction period, and include site investigation works.

Some of the site preparation work would be included in a site enabling works contract and would be implemented before the main contractor is given access to the site. Most of these operations would be carried out concurrently, although predominantly in the order identified, in order to minimise the overall length of the construction programme. Any site restoration would be programmed and carried out to allow restoration of disturbed areas as early as possible and in a progressive manner.

Operation

The turbine is designed to have an operational life of 25 years. Wind turbine operations would be overseen by suitably qualified local contractors who would visit the site regularly to carry out maintenance. The following turbine maintenance would be carried out along with any other maintenance required by the manufacturer's specifications:

- Initial service;
- Routine maintenance and servicing;
- Blade inspections.

Routine servicing would take place once a year and would include the performance of tasks such as maintaining bolts to the required torque, inspection of blade pitch and braking mechanism, greasing of bearings, inspections of welds and structural integrity of the tower and maintaining all hydraulic and electrical systems.

In the event of any unexpected events on site, such as tripping of safety features, replacement of sensors or failure of a component, appropriate maintenance works would be carried out by the local engineers.

Decommissioning

At the end of the 25-year operational period the development will either be decommissioned or an application submitted to extend its life.

Decommissioning will take account of the environmental legislation and technology available at the time of decommissioning. Notice will be given to the local authority in advance of commencement of the decommissioning works, with all necessary licenses or permits being acquired. Decommissioning will be timed to minimise its environmental impact.

The operator will develop a decommissioning plan and the works will be undertaken in accordance with a statement of operations, covering safety and environmental issues during decommissioning. When dismantling and removing the turbine, the base would be removed to a depth of approximately 1m below ground level and all cable cut and left in the ground. Typically decommissioning will involve the removal of the upstand plinth and the top surface of the foundation base. The area will then be reinstated with a final layer of topsoil over the foundations. This approach is considered to be less environmentally damaging than seeking the

complete removal of all foundations, cable and tracks.

2 PLANNING POLICY FRAMEWORK

Local planning policy against which a proposal of this nature is assessed consists of the saved policies of the Staffordshire Moorlands Local Plan (September 1998) and the Regional Spatial Strategy for the West Midlands (January 2008);

National planning policy relevant to the proposal takes the form of the National Planning Policy Framework (NPPF; adopted March 2012) and Planning for Renewable Energy: A Companion Guide to PPS22.

The following sub-sections review the key policies and other relevant considerations which cover the proposal site as well as thematic policies that relate specifically to a development of this nature.

2.1 Renewable Energy Policy

Regional Spatial Strategy policy CC1: Change

THE JOINT CORE STRATEGY, THE AREA ACTION PLAN FOR BRIERLEY HILL AND OTHER LDDS FOR THE BLACK COUNTRY SHOULD:

A. EXPLOIT OPPORTUNITIES TO BOTH MITIGATE AND ADAPT TO THE WORST IMPACTS OF CLIMATE CHANGE BY:

(I) DEVELOPING AND USING RENEWABLE ENERGY;

(II) REDUCING THE NEED TO TRAVEL; AND

(III) REDUCING THE AMOUNT OF BIODEGRADABLE WASTE GOING TO LANDFILL;

B. ENHANCE AND EXTEND NATURAL HABITATS SO THAT THE OPPORTUNITIES FOR SPECIES MIGRATION ARE NOT PRECLUDED AND BIODIVERSITY CAN ADAPT TO CLIMATE CHANGE AND HENCE HELP TO MITIGATE ITS AFFECTS BY REDUCING 'HEAT ISLANDS', ACTING AS CARBON 'SINKS', ABSORBING FLOOD WATER AND PROVIDING RENEWABLE ENERGY; AND

C. REQUIRE ALL NEW DEVELOPMENT TO:

(I) MINIMISE RESOURCE DEMAND AND ENCOURAGE THE EFFICIENT USE OF RESOURCES, ESPECIALLY WATER, ENERGY AND MATERIALS;

(II) ENCOURAGE THE CONSTRUCTION OF CLIMATE-PROOFED DEVELOPMENTS AND SUSTAINABLE BUILDINGS TO HELP ENSURE THEIR LONG-TERM VIABILITY IN ADAPTING TO CLIMATE CHANGE;

(III) AVOID DEVELOPMENT IN AREAS AT RISK OF FLOODING AND DIRECT DEVELOPMENT AWAY FROM AREAS AT HIGHEST RISK;

(IV) PROMOTE THE USE OF SUSTAINABLE DRAINAGE TECHNIQUES;

(V) FACILITATE WALKING, CYCLING AND PUBLIC TRANSPORT;

(VI) FACILITATE EFFECTIVE WASTE MANAGEMENT; AND

(VII) PROTECT, CONSERVE, MANAGE AND ENHANCE ENVIRONMENTAL AND NATURAL, BUILT AND HISTORIC ASSETS;

D. REGULARLY MONITOR PROGRESS AND REVIEW POLICIES ACCORDINGLY.

Regional Spatial Strategy policy EN1:

POLICY EN1: ENERGY GENERATION

LOCAL AUTHORITIES IN THEIR DEVELOPMENT PLANS SHOULD:

I) ENCOURAGE PROPOSALS FOR THE USE OF RENEWABLE ENERGY RESOURCES, INCLUDING BIOMASS, ONSHORE WIND POWER, ACTIVE SOLAR SYSTEMS, SMALL SCALE HYDRO-ELECTRICITY SCHEMES AND ENERGY FROM WASTE COMBUSTION AND LANDFILL GAS, SUBJECT TO AN ASSESSMENT OF THEIR IMPACT USING THE CRITERIA IN III) BELOW. SPECIFIC POLICIES SHOULD BE INCLUDED FOR TECHNOLOGIES MOST APPROPRIATE TO THE PARTICULAR AREA;

II) PROVIDE LOCATIONAL GUIDANCE THROUGH SUPPLEMENTARY GUIDANCE AS NECESSARY ON THE MOST APPROPRIATE LOCATIONS FOR EACH RENEWABLE ENERGY TECHNOLOGY, HAVING REGARD TO RESOURCE POTENTIAL, THE DESIRABILITY OF LOCATING GENERATION SITES CLOSE TO OR WITHIN AREAS OF DEMAND, AND LANDSCAPE CHARACTER ASSESSMENT WHERE APPROPRIATE;

III) IDENTIFY THE ENVIRONMENTAL AND OTHER CRITERIA THAT WILL BE APPLIED TO DETERMINING THE ACCEPTABILITY OF SUCH PROPOSALS INCLUDING:

A) IMPACT ON THE LANDSCAPE, VISUAL AMENITY AND AREAS OF ECOLOGICAL OR HISTORIC IMPORTANCE;

B) IMPACT ON SURROUNDING RESIDENTS AND OTHER OCCUPIERS;

C) TRAFFIC IMPLICATIONS, AND PROXIMITY TO TRANSPORT INFRASTRUCTURE;

D) THE ENVIRONMENTAL IMPACT OF ANY ADDITIONAL TRANSMISSION REQUIREMENTS;

E) THE EXTENT TO WHICH THE PROPOSAL HELPS TO ACHIEVE WIDER ENVIRONMENTAL BENEFITS SUCH AS REDUCING HARMFUL EMISSIONS TO THE ATMOSPHERE;

F) THE WAY IN WHICH THE PROPOSAL ASSISTS IN ACHIEVING NATIONAL TARGETS OF NEW ELECTRICITY GENERATING CAPACITY FROM RENEWABLE ENERGY SOURCES;

G) THE EXTENT TO WHICH THERE HAS BEEN COMMUNITY INVOLVEMENT IN DEVELOPING THE PROPOSAL; AND

H) THE EXTENT TO WHICH THE PROPOSAL SUPPORTS OTHER POLICIES IN THE DEVELOPMENT PLAN; AND

IV) FACILITATE, WHERE PROPOSALS COME FORWARD, THE CONSTRUCTION AND UPGRADING OF FOSSIL FUEL POWER STATIONS THAT INCORPORATE CLEAN COAL TECHNOLOGY, THE DUAL USE OF FOSSIL AND RENEWABLE RESOURCES, GOOD QUALITY COMBINED HEAT AND POWER OR SIGNIFICANT EMISSIONS ABATEMENT TECHNOLOGIES IN LINE WITH NATIONAL POLICIES FOR ABATEMENT AT SOURCE.

The above demonstrates the wealth of planning policy at the local level which is designed to establish renewable energy infrastructure within the Staffordshire Moorlands, as long as a number of conditions are met.

The NPPF is the principal national guidance document and a material consideration in determining planning applications. It replaces all previous national policy statements, which were superseded on its adoption. Its essence is a presumption in favour of sustainable development, which encompasses the concepts of sustainable economic, social and environmental development which run concurrent with the spatial approach to planning.

Despite the majority of the Planning Policy Statements (PPSs), including PPS22, and Planning Policy Guidance Notes being superseded by the NPPF, the companion guide to PPS22 remains in force until such time as a suitable replacement is adopted. The guide encourages the appropriate development of further renewable energy schemes in England. This will include schemes in urban as well as rural locations, ranging in size from domestic to commercial scale.

Throughout this document, the impacts of the proposal are assessed against the areas identified by the policies and policy documents above.

2.2 New Development

Local Plan policy E3:

APPLICATIONS FOR ALTERNATIVE USES FOR AGRICULTURAL LAND OR BUILDINGS MAY BE APPROVED PROVIDED THAT THEY WILL DIVERSIFY THE RURAL ECONOMY BY PROVIDING WIDE AND VARIED OPPORTUNITIES FOR RURAL PEOPLE. AS WELL AS BEING EVALUATED AGAINST NORMAL PLANNING CRITERIA AND ANY SPECIAL DESIGNATIONS WHICH APPLY THE FOLLOWING FACTORS WILL ALSO NEED TO BE CONSIDERED:-

THE NEED TO ENCOURAGE RURAL ENTERPRISE;

• THE NEED TO PROTECT LANDSCAPE, WILDLIFE HABITATS AND HISTORIC FEATURES;

• THE QUALITY AND VERSATILITY OF LAND FOR USE IN AGRICULTURE, FORESTRY AND OTHER RURAL ENTERPRISES;

• THE NEED TO PROTECT OTHER NON-RENEWABLE RESOURCES.

Local Plan policy E4:

PROPOSALS FOR AGRICULTURAL DEVELOPMENT REQUIRING PLANNING PERMISSION WILL BE ASSESSED AGAINST THE AGRICULTURAL NEED FOR THE DEVELOPMENT IN THAT LOCATION AND THE EXTENT TO WHICH THE DEVELOPMENT WOULD HARMONISE WITH ITS SURROUNDINGS.

Regional Spatial Strategy policy QE6:

THE CONSERVATION, ENHANCEMENT AND RESTORATION OF THE REGION'S LANDSCAPECONSERVATION, LOCAL AUTHORITIES AND OTHER AGENCIES, IN THEIR PLANS, POLICIES AND PROPOSALS SHOULD CONSERVE, ENHANCE AND, WHERE NECESSARY, RESTORE THE QUALITY, DIVERSITY AND DISTINCTIVENESS OF LANDSCAPE CHARACTER THROUGHOUT THE REGION'S URBAN AND RURAL AREAS BY:

I) ENSURING THAT A CONSISTENT APPROACH IS TAKEN TO LANDSCAPE AND CHARACTER ISSUES, PARTICULARLY WHERE THEY CROSS LOCAL PLANNING AUTHORITY BOUNDARIES;

II) ESTABLISHING A POSITIVE AND INTEGRATED APPROACH TO THE USE, MANAGEMENT AND ENHANCEMENT OF THE URBAN FRINGE;

III) SUPPORTING THE COMMUNITY FOREST AND NATIONAL FOREST PROGRAMMES;

IV) PROTECTING AND, WHERE POSSIBLE, ENHANCING NATURAL, MAN-MADE AND HISTORIC FEATURES THAT CONTRIBUTE TO THE CHARACTER OF THE LANDSCAPE AND TOWNSCAPE, AND LOCAL DISTINCTIVENESS;

V) CONSIDERING OTHER FACTORS THAT CONTRIBUTE TO LANDSCAPE CHARACTER INCLUDING TRANQUILLITY AND THE MINIMISATION OF NOISE AND LIGHT POLLUTION; AND

VI) IDENTIFYING OPPORTUNITIES FOR THE RESTORATION OF DEGRADED LANDSCAPES INCLUDING CURRENT AND PROPOSED MINERALS WORKINGS AND WASTE DISPOSAL SITES.

2.3 Green Belt

Local Plan policy N2:

THE GREEN BELT

EXCEPT IN VERY SPECIAL CIRCUMSTANCES, THERE WILL BE A PRESUMPTION AGAINST INAPPROPRIATE DEVELOPMENT IN THE GREEN BELT, INCLUDING THE CONSTRUCTION OF NEW BUILDINGS FOR PURPOSES OTHER THAN:-

A) AGRICULTURE AND FORESTRY;

B) ESSENTIAL FACILITIES FOR OUTDOOR SPORT AND OUTDOOR RECREATION PROVIDED THAT THE ASSOCIATED BUILT DEVELOPMENT IS OF A SCALE APPROPRIATE TO THE GREEN BELT; CEMETERIES AND OTHER USES OF LAND WHICH PRESERVE THE OPENNESS OF THE GREEN BELT AND WHICH DO NOT CONFLICT WITH THE PURPOSES OF INCLUDING LAND IN IT;

C) THE CONVERSION OF RURAL BUILDINGS OF PERMANENT AND SUBSTANTIAL CONSTRUCTION TO SUITABLE ALTERNATIVE USES IN ACCORDANCE WITH POLICY B21;

D) LIMITED EXTENSION, ALTERATION OR REPLACEMENT OF EXISTING DWELLINGS IN ACCORDANCE WITH POLICIES H11, H12 & H13;

E) LIMITED INFILLING IN VILLAGES LISTED IN POLICY N3;

F) LIMITED INFILLING OR REDEVELOPMENT OF THE MAJOR EXISTING DEVELOPED SITE LISTED IN POLICY N5 AND IN ACCORDANCE WITH POLICY N4;

G) LIMITED AFFORDABLE HOUSING IN ACCORDANCE WITHPOLICY H15.

Local Plan policy N7:

DEVELOPMENT WHICH WOULD INJURE THE VISUAL AMENITY OF THE GREEN BELT BY VIRTUE OF ITS SITING, MATERIALS OR DESIGN WILL NOT BE PERMITTED IN LOCATIONS WHICH ARE WITHIN OR VISUALLY CONSPICUOUS FROM THE GREEN BELT.

The proposed wind turbine installation is not an infilling development as it is distinct in nature from the buildings of the surrounding settlements. In this way the proposal will not encourage urban sprawl for which the green belt designation is designed to prevent. The benefit of the wind turbine in terms of the fuel-free electricity it will produce is estimated at approximately 170,000kWh per annum, assuming a 5m/s average wind speed for the area at a height above ground level of 25m. This benefit will more than offset the cost of the project to the green belt, which is considered to be relatively low in landscape and visual impact terms (see section 6: Landscape and Visual Impact).

2.4 Special Landscape Area

Local Plan policy N8:

THE SPECIAL LANDSCAPE AREA

IN THE SPECIAL LANDSCAPE AREA PERMISSION WILL NOT BE GIVEN FOR DEVELOPMENT WHICH WOULD MATERIALLY DETRACT FROM THE HIGH QUALITY OF THE LANDSCAPE BECAUSE OF ITS SITING, SCALE, DESIGN AND MATERIALS, AND ASSOCIATED TRAFFIC GENERATION. IN AREAS WHERE THE SPECIAL LANDSCAPE

OVERLAPS THE GREEN BELT THERE WILL BE A PRESUMPTION AGAINST MOST DEVELOPMENT IN ACCORDANCE WITH POLICY N2.

The impact of the turbine in the context of the Special Landscape Area is discussed in section 6: Landscape and Visual Impact.

2.5 Natural Heritage Policy

Local Plan policy N13:

PROPOSALS FOR DEVELOPMENT IN OR LIKELY TO AFFECT A SITE OF SPECIAL SCIENTIFIC INTEREST, A NATIONAL NATURE RESERVE, A SITE IDENTIFIED UNDER THE NATURE CONSERVATION REVIEW OR GEOLOGICAL CONSERVATION REVIEW, WILL BE SUBJECT TO SPECIAL SCRUTINY, WITH PARTICULAR REGARD PAID TO THE SITE'S NATIONAL IMPORTANCE. WHERE SUCH DEVELOPMENT MAY HAVE A SIGNIFICANT ADVERSE AFFECT, DIRECTLY OR INDIRECTLY, ON THE DESIGNATED SITE, IT WILL ONLY BE APPROVED IF IT CAN BE CLEARLY DEMONSTRATED THAT THE REASONS FOR THE DEVELOPMENT CLEARLY OUTWEIGH THE VALUE OF THE SITE ITSELF AND THE NATIONAL POLICY TO SAFEGUARD SUCH SITES.

Local Plan policy N14:

PROPOSALS FOR DEVELOPMENT LIKELY TO HAVE AN ADVERSE EFFECT ON A LOCAL NATURE RESERVE, A GRADE 1 COUNTY SITE OF BIOLOGICAL IMPORTANCE OR A REGIONALLY IMPORTANT GEOLOGICAL / GEOMORPHOLOGICAL SITE WILL ONLY BE APPROVED IF IT CAN BE CLEARLY DEMONSTRATED THAT THERE

ARE REASONS FOR THE PROPOSAL WHICH CLEARLY OUTWEIGH THE NEED TO SAFEGUARD THE

INTRINSIC NATURE CONSERVATION VALUE OF THE SITE.

Local Plan policy N15:

WHERE DEVELOPMENT IS TO BE APPROVED WHICH COULD ADVERSELY AFFECT ANY SITE OF SIGNIFICANT NATURE CONSERVATION VALUE, APPROPRIATE MEASURES SHALL BE REQUIRED TO CONSERVE THE SITE'S BIOLOGICAL OR GEOLOGICAL INTEREST AND TO PROVIDE FOR REPLACEMENT HABITATS OR FEATURES WHERE DAMAGE IS UNAVOIDABLE.

Regional Spatial Strategy policy QE1:

CONSERVING AND ENHANCING THE ENVIRONMENT

A. ENVIRONMENTAL IMPROVEMENT IS A KEY COMPONENT OF THE SPATIAL STRATEGY IN ORDER TO UNDERPIN THE OVERALL QUALITY OF LIFE OF ALL AREAS AND SUPPORT WIDER ECONOMIC AND SOCIAL OBJECTIVES.

B. LOCAL AUTHORITIES AND OTHER AGENCIES IN THEIR PLANS, POLICIES AND PROPOSALS SHOULD:

I) SUPPORT REGENERATION, BY RESTORING DEGRADED AREAS, CONSERVING EXISTING ENVIRONMENTAL ASSETS, INCLUDING THE REUSE OF REDUNDANT AND UNDER-USED BUILDINGS OF MERIT, AND CREATING NEW, HIGH QUALITY, BUILT AND NATURAL ENVIRONMENTS, PARTICULARLY WITHIN THE MUAS;

II) CONSERVE AND ENHANCE THOSE AREAS OF THE REGION, WHERE EXCEPTIONAL QUALITIES SHOULD BE REINFORCED BY SUSTAINABLE USE AND MANAGEMENT, INCLUDING THE PEAK NATIONAL PARK, THE FIVE AREAS OF OUTSTANDING NATURAL BEAUTY, THE EUROPEAN WILDLIFE SITES, AND THE WORLD HERITAGE SITE (SEE ENVIRONMENTAL ASSETS DIAGRAM);

III) PROTECT AND WHERE POSSIBLE ENHANCE OTHER IRREPLACEABLE ASSETS AND THOSE OF A LIMITED OR DECLINING QUANTITY, WHICH ARE OF FUNDAMENTAL IMPORTANCE TO THE REGION'S OVERALL ENVIRONMENTAL QUALITY, SUCH AS SPECIFIC WILDLIFE HABITATS (ANNEX B), HISTORIC LANDSCAPE FEATURES AND BUILT HERITAGE, RIVER ENVIRONMENTS AND GROUNDWATER AQUIFERS;

IV) PROTECT AND ENHANCE THE DISTINCTIVE CHARACTER OF DIFFERENT PARTS OF THE REGION AS RECOGNISED BY THE NATURAL AND CHARACTER AREAS (FIGURE 4) AND ASSOCIATED LOCAL LANDSCAPE CHARACTER ASSESSMENTS, AND THROUGH HISTORIC LANDSCAPE CHARACTERISATION.

C. IN BRINGING FORWARD DEVELOPMENT, ALL AGENCIES AND DEVELOPERS SHOULD ADOPT HIGH STANDARDS FOR SUSTAINABLE NATURAL RESOURCE USE AND MANAGEMENT IN LINE WITH POLICIES SUCH AS QE3, QE9, EN1-2 AND M3.

Regional Spatial Strategy policy QE7:

PROTECTING, MANAGING AND ENHANCING THE REGION'S BIODIVERSITY AND NATURE CONSERVATION RESOURCES ALL THE PLANS AND PROGRAMMES OF LOCAL AUTHORITIES AND OTHER RELEVANT AGENCIES SHOULD

I) ENCOURAGE THE MAINTENANCE AND ENHANCEMENT OF THE REGION'S WIDER BIODIVERSITYRESOURCES, GIVING PRIORITY TO:

• THE PROTECTION AND ENHANCEMENT OF SPECIFIC SPECIES AND HABITATS OF INTERNATIONAL, NATIONAL AND SUBREGIONAL IMPORTANCE AS IDENTIFIED IN THE WEST MIDLANDS REGIONAL BIODIVERSITY AUDIT, LOCAL BIODIVERSITY ACTION PLANS (LBAPS) AND OTHER BAPS;

• THOSE THAT RECEIVE STATUTORY PROTECTION; AND

• THE BIODIVERSITY ENHANCEMENT AREAS SHOWN ON THE QE AREAS OF ENHANCEMENT DIAGRAM.

II) INCLUDE POLICIES AND PROPOSALS WHICH ENABLE THE WEST MIDLANDS TO ACHIEVE ITS MINIMUM SHARE OF THE UK BIODIVERSITY ACTION PLAN (UKBAP) TARGETS AS SET OUT IN ANNEX B AND THE TARGETS OF LOCAL PARTNERSHIPS AND OTHER BAPS;

III) TAKE A COMMON APPROACH TO BIODIVERSITY AND NATURE CONSERVATION ISSUES WHICH CROSS LOCAL PLANNING AUTHORITY AND REGIONAL BOUNDARIES, ESPECIALLY THOSE RELEVANT TO:-

• THE STRATEGIC RIVER CORRIDORS AND TRIBUTARIES OF THE SEVERN, TRENT, AVON AND WYE, RIVER CATCHMENTS, AND ISSUES IN CURRENT LOCAL ENVIRONMENT AGENCY PLANS; AND

• PRIORITIES DERIVED FROM ENGLISH NATURE'S NATURAL AREAS FRAMEWORK AND ASSOCIATED AREA PROFILES AND THE WEST MIDLANDS BIODIVERSITY AUDIT.

Section 3: Natural Heritage Assessment considers the impact of the proposal on natural heritage sites in the wider landscape and the compliance of the proposal with the natural heritage planning policy presented above.

Regulation concerned with the protection and conservation of habitats and species which feeds into planning policy is presented below.

The Conservation (Natural Habitats & c.) Regulations 1994 formally transpose the requirements of the EC Habitats Directive into national law and provide for the designation of Special Areas of Conservation (SAC). The aim of the Habitats Directive is to contribute to biodiversity through conserving natural habitats and wild fauna and flora of European Importance.

In October 1994 the Habitats Regulations and PPG9 Nature Conservation were issued. Both support the necessity to identify wildlife corridors/networks. The Habitat Regulations identified that planning and development policies should encourage "the management of features of the landscape which are of major importance for wild flora and fauna". It highlighted the importance of linear features and their adjacent habitats, in particular where they support species listed in Annex iv (a) of the Regulations.

PPG 9 supports these Regulations and states that:

"Statutory and non-statutory sites together with countryside features which provide wildlife corridors, links or stepping stones from one habitat to another all help to form a network necessary to ensure the maintenance of the current range and diversity of our flora, fauna, geological and landform features and the survival of important species".

In addition to the impact on formal natural heritage sites therefore, the impact on landscape features with the potential to act as habitats for species is also central in the protection of wildlife from new development.

2.6 Cultural Heritage Policy

Reginal Spatial Strategy policy QE5:

PROTECTION AND ENHANCEMENT OF THE HISTORIC ENVIRONMENT

A. DEVELOPMENT PLANS AND OTHER STRATEGIES SHOULD IDENTIFY, PROTECT, CONSERVE AND ENHANCE THE REGION'S DIVERSE HISTORIC ENVIRONMENT AND MANAGE CHANGE IN SUCH A WAY THAT RESPECTS LOCAL CHARACTER AND DISTINCTIVENESS.

B. OF PARTICULAR HISTORIC SIGNIFICANCE TO THE WEST MIDLANDS ARE:

I) THE HISTORIC RURAL LANDSCAPES AND THEIR SETTLEMENT PATTERNS;

II) HISTORIC URBAN SETTLEMENTS, INCLUDING MARKET TOWNS AND CATHEDRAL CITIES;

III) LISTED BUILDINGS, SCHEDULED AND UNSCHEDULED ANCIENT MONUMENTS, CONSERVATION AREAS, HISTORIC PARKS AND GARDENS, ALL IN THEIR SETTINGS, AND BATTLEFIELDS;

IV) AREAS OF INDUSTRIAL HERITAGE SUCH AS THE BIRMINGHAM JEWELLERY QUARTER;

V) THE HISTORIC TRANSPORT NETWORK;

VI) STRATEGIC RIVER CORRIDORS (SEVERN, WYE, TRENT, AND AVON); AND

VII) IRONBRIDGE GORGE WORLD HERITAGE SITE.

C. DEVELOPMENT PLANS AND OTHER STRATEGIES SHOULD RECOGNISE THE VALUE OF CONSERVATION LED REGENERATION IN CONTRIBUTING TO THE SOCIAL, SPIRITUAL AND ECONOMIC VITALITY OF COMMUNITIES AND THE POSITIVE ROLE THAT BUILDINGS OF HISTORIC AND ARCHITECTURAL VALUE CAN PLAY AS A FOCUS IN AN AREA'S REGENERATION.

D. IN PARTICULAR, STRATEGIES SHOULD EXPLORE THE REGENERATION POTENTIAL OF:

I) REDUNDANT OR UNDER-USED INDUSTRIAL AND COMMERCIAL BUILDINGS;

II) RURAL SETTLEMENTS AND MARKET TOWNS OUTSIDE THE MUAS;

III) VICTORIAN AND EDWARDIAN COMMERCIAL CENTRES PARTICULARLY IN THE MUAS;

IV) TRADITIONAL BUILDINGS OF THE COUNTRYSIDE;

V) EXISTING CHURCH BUILDINGS AND THEIR POTENTIAL COMMUNITY USES;

VI) 19TH AND EARLY 20TH CENTURY URBAN HOUSING; AND

VII) THE CANAL NETWORK.

In line with the requirements of the above policy as well as those pertaining to Local Plan policy QE1 which is presented in section 2.5: Natural Heritage Policy but applies to impacts on the environment in the widest sense of the term, an assessment of the proposal with regard to potential impacts on listed buildings and their settings, and on other archaeological and historical sites, areas and monuments, is presented in section 4: Cultural Heritage Assessment.

2.7 Rural Policy

Regional Spatial Strategy Policy RR1: Rural Renaissance

A. RURAL AREAS OF THE WEST MIDLANDS WILL BE REGENERATED THROUGH THE IMPROVEMENT OF CHOICE IN HOUSING; THE DIVERSIFICATION OF THE RURAL ECONOMY; BETTER TRANSPORT LINKS BOTH WITHIN RURAL AREAS AND BETWEEN URBAN AND RURAL AREAS; IMPROVING HEALTH, EDUCATION, SKILLS TRAINING, SOCIAL, SHOPPING, COMMUNITY FACILITIES AND OTHER SERVICES, THE SUSTAINABLE USE OF ENVIRONMENTAL ASSETS, AND THE PRUDENT USE OF NATURAL RESOURCES.

B. POLICY PRIORITIES WILL VARY ACCORDING TO A NUMBER OF FACTORS, INCLUDING THE QUALITY OF THE ENVIRONMENT, LOCAL CHARACTER AND DISTINCTIVENESS, NEED FOR NEW EMPLOYMENT, NEED FOR ADDITIONAL HOUSING, INCLUDING AFFORDABLE HOUSING, TO MEET LOCAL NEEDS AND STEM POPULATION DECLINE, AND ACCESS TO SERVICES AND FACILITIES.

C. IN PREPARING THEIR DEVELOPMENT PLANS, LOCAL AUTHORITIES WILL NEED TO HAVE REGARD TO THE INTER-RELATIONSHIP BETWEEN URBAN AND RURAL AREAS AND TO DRAW A GENERAL DISTINCTION BETWEEN:

I) RURAL AREAS WHICH ARE SUBJECT TO STRONG INFLUENCES FROM THE MUAS AND WHICH ARE RELATIVELY PROSPEROUS AND HAVE GENERALLY GOOD ACCESS TO SERVICES. FOR THESE, THE MAIN PRIORITY WILL BE TO MANAGE THE RATE AND NATURE OF FURTHER DEVELOPMENT TO THAT REQUIRED TO MEET LOCAL NEEDS, WHILST ENSURING THAT LOCAL CHARACTER IS PROTECTED AND ENHANCED; AND

II) RURAL AREAS WHICH MAY BE REMOTE FROM THE MUAS, WITH GENERALLY SPARSE AND IN SOME CASES DECLINING POPULATION, POOR ACCESS TO JOBS AND SERVICES. HERE THE MAIN PRIORITIES SHOULD BE ECONOMIC DIVERSIFICATION (PA14-15), AFFORDABLE HOUSING, BETTER SERVICES AND IMPROVED PUBLIC TRANSPORT.

D. SIGNIFICANT INCIDENCES OF LOW INCOME AND SOCIAL EXCLUSION OCCUR THROUGHOUT THE RURAL AREAS AND SHOULD BE ADDRESSED WHEREVER THEY OCCUR, ALTHOUGH THE MOST SEVERE PROBLEMS TEND TO BE IN THE MOST REMOTE AREAS.

Regional Spatial Strategy policy PA15:

AGRICULTURE AND FARM DIVERSIFICATION

DEVELOPMENT PLANS AND OTHER STRATEGIES SHOULD RECOGNISE THE CONTINUING IMPORTANCE OF THE AGRICULTURAL SECTOR IN THE REGION. DEVELOPMENT PLANS SHOULD INCLUDE POSITIVE POLICIES TO PROMOTE AGRICULTURE AND FARM DIVERSIFICATION THROUGH THE DEVELOPMENT OF INNOVATIVE BUSINESS SCHEMES INCLUDING SUSTAINABLE TOURISM, ENVIRONMENTALLY SUSTAINABLE FARMING, FORESTRY (QE8) AND LAND MANAGEMENT, NEW AND INNOVATIVE CROPS, ON-FARM PROCESSING

ADDING VALUE TO EXISTING PRODUCTION AND THE PROMOTION OF LOCAL MARKETING AND SUPPLY CHAINS. ANY DEVELOPMENT SHOULD BE APPROPRIATE IN SCALE AND NATURE TO THE ENVIRONMENT AND CHARACTER OF THE LOCALITY.

The proposed wind turbine for installation at High View Farm represents an agricultural

diversification project which will provide a supplementary income stream to the farm that will complement the core farming operations over the 25-year duration of the project. The project will feed electricity into the National Grid that is generated sustainably, without the use of non-renewable, depleting environmental assets and natural resources.

3. NATURAL HERITAGE ASSESSMENT

Existing ecological information concerning statutory e.g. Sites of Special Scientific Importance (SSSI) and non-statutory e.g. Sites of Importance for Nature Conservation (SINC) designated sites and records of legally protected and notable species were sought within an area extending up to 5km from the proposal site. The following were consulted:

- database resources of DEFRA; and
- database resources of Natural England.

3.1 Statutory Designated Sites

The following statutory designated sites are located within 5km of the proposed site and are listed in order of distance from the proposal site:

Site Name	~Distance and Direction from Proposal Site	Description
Froghall Meadow and Pastures SSSI	Nearest boundary 810m NE	Unimproved, species-rich fields and areas of scrub with their associated flora. Supports bird species including bullfinch.
Churnet Valley SSSI	1.2km NNE	Semi-natural ancient woodland intermixed with scrub, grassland and mire, marsh and carr with associated flora. Supports woodland bird assemblages; species include goshawk, sparrowhawk, woodpecker, finches, tits, warblers, redstart, pied flycatcher, reed bunting; and invertebrate fauna.
Whiston Eaves SSSI	Nearest boundary 1.8km E	Species-rich meadows, rush pastures, scrub and running water with associated flora. Bird species present include green woodpecker, chiffchaff, garden warbler, blackcap and redstart. Bullhead found in the water environment.
Dimmings Dale and the Ranger SSSI	3.8km SE	Wooded valley. Features insects, invertebrates, aquatic life.
Bath Pasture SSSI	4.5km E	Unimproved acid grassland with associated flora.

3.2 Non-statutory Designated Sites

Sites such as Local Nature Reserves or Country Parks located within 5km of the proposed development are presented below:

Name	~Distance and Direction from Proposal Site
Coombes & Churnet Valleys RSPB Reserve	2.1km NNW
Hales Hall Pool LNR	2.4km S
Cecilly Brook LNR	2.5km SSW
Consall Nature Park	3km NW

3.2 Species and Habitats

The Staffordshire Ecological Record has been consulted in respect of birdlife in proximity to the proposal site, to aid initial consultation. The area of search is defined as the 1km grid square within which the proposed turbine lies (SK0146) surrounded by a 1km buffer. Bird species from the last five years within this area are presented below:

Birds
whooper swan
mandarin duck
mallard
kestrel
moorhen
woodcock
wood pigeon
hoopoe
lesser spotted woodpecker
jackdaw
raven
blue tit
marsh tit
house marten
garden warbler
wren
blackbird
song thrush
robin
chaffinch
bullfinch

The proposal site lies within the Ecosystem Action Plan area, "Species-rich Farmland" which contains the priority habitats of species-rich grasslands (lowland meadows) and upland & lowland heath.

3.4 Assessment of Impacts

The proposal is a small-scale wind energy installation of a height to hub of 22.6m and height to blade tip of 34.4m. There are no internationally designated sites within the area assessed. There are five statutory designated natural heritage sites within a 5km radius of the proposal site. Of these, Dimmings Dale and the Ranger SSSI and Bath Pasture SSSI are designated for features that would be unaffected by a wind energy installation. As the proposal site lies within improved agricultural grazing, it is unlikely that the bird species habituating the unimproved pastures and the woodlands of the remaining three designated sites would be affected by the wind turbine at the proposed location.

Regarding non-statutory natural heritage sites within 5km, there are four such sites within this radius. The natural heritage interest of Consall Nature Park is covered by a SSSI designation. The park in its role as a site of amenity for the public consists of heavily wooded pathways. As such, the potential for outward views is limited. It is not considered that a wind energy installation of this scale will have a detrimental impact on any of these non-statutory sites.

The proposed wind turbine footprint is sited infield from the hedgerow field boundaries of the installation field in order to protect against disruption to the hedges in terms of their potential to act as wildlife corridors or a habitat or foraging site for wildlife. It is considered that the site, amongst open farmland, has little significant ecological value. Furthermore, as the site for the proposed turbine lies within neither of the priority habitats for which the "Species-rich Farmland" ecosystem area is primarily concerned, it is not considered that the wind turbine will interfere with the protection and enhancement of the priority species associated with the habitats.

3.5 Compliance with the Development Plan

Given the above assessment, significant adverse effects on biodiversity and the natural heritage as a result of the proposed development are considered unlikely. This installation, comprising a single small-scale wind turbine, will not adversely affect the designated sites presented above, thereby fulfilling Local Plan policies N13, N14, N15 and Regional Spatial Strategy QE1 and QE7 as set out in section 2.5: Natural Heritage Policy.

4 CULTURAL HERITAGE ASSESSMENT

To ensure the development meets planning policy requirements in respect of cultural heritage, its potential effect upon the baseline cultural heritage resource for the site (if any) and for buffer zones to a maximum radius of 5km have been assessed.

4.1 Scheduled Ancient Monuments

Scheduled Ancient Monuments (SAMs) within 5km of the proposal site are presented below in order of proximity to the proposal site. Whether they are located within or outwith the ZTV (zone of theoretical visibility) for the proposal is also stated.

Name	~Distance and Direction from Proposal Site	Within/Outwith ZTV
Consall Lime Kilns	3.5km NW	outwith

4.2 Listed Buildings

English Heritage's database resources have been consulted in respect of listed buildings within proximity to the development site. Listed buildings within 2km of the site are presented below in order of distance from the site:

Name	Listing	~Distance and Direction from Proposal Site
Milepost at SK 018 460, Kingsley Holt	grade II	330m SSE
13 x listed buildings in Kingsley	all grade II	430m – 1.2km NW
8 x listed buildings in/near Froghall	all grade II	1.1 – 1.7km NE

Long Croft Farmhouse	grade II	1.3km SW
Broad Haye Farmhouse	grade II	1.4km SSW
5 x listed buildings at/near Whistonbrook	all grade II	1.4 – 1.6km NE
Booths Farmhouse	grade II	1.6km SW
Thornbury Hall	grade II	1.6km SSE
The Hermitage	grade II	1.6km NNE
Milepost at SK 002 470	grade II	1.7km WNW
Barn approximately 20m north of the Hermitage	grade II	1.7km NNE
Woodhead Hall	grade II	1.7km SSE
2 x listed buildings at Eavesford Farm	both grade II	1.7 – 1.8km ENE
Barn approximately 300m north of the Hermitage	grade II	1.8km NNE
Milestone SE of Bridge no 53 Caldon Canal at SK 01 55 4802	grade II	1.8km NNW
Cherryeye Bridge at SK 014 481	grade II	1.9km NNW

All of the listed buildings presented above appear to lie within the area specified by the ZTV.

4.3 Non-Designated Sites

No non-designated historical or cultural heritage sites have been located in proximity to the proposal site.

4.4 Registered Parks and Gardens

The nearest boundary of Alton Towers (Registered Park and Garden grade I) lies some 6km to the south-east. The majority of the Park lies within the ZTV.

4.5 Assessment of Direct Impacts

This section considers the potential for the development to cause direct effects in the form of damage or destruction during construction upon features of cultural heritage interest, whether known sites or unknown buried archaeology. These effects would be most likely to occur during construction and decommissioning, and would be permanent and irreversible.

The proposal site is not located within or adjacent to any historic, cultural or built site, monument or building, nor is it within an area of archaeological interest, therefore no direct impacts on cultural heritage are considered likely to occur.

4.6 Assessment of Indirect Impacts

This section considers the potential for indirect, visual impacts to occur upon the settings of features of cultural heritage interest. The setting of a scheduled monument, listed building or other site can be loosely interpreted as features, spaces and views that are historically and functionally related, and which can be considered vital to their intrinsic interest. Setting can be tangible, such as a defined boundary, or intangible such as atmosphere or ambience. The main concern for visual effects on a cultural heritage setting is the potential for the development to fragment the historic landscape, separate connectivity between historic sites and impinge on views to and from sites with important landscape settings, although the narrow and so visually permeable nature of the development may permit the visible setting of a special interest to still be apparent. Wind Energy and the Historic Environment (English Heritage 2005) lists visual dominance, scale, intervisibility, vistas and sight-lines as well as noise, movement and light as potential effects upon features of cultural heritage interest that might be derived from wind energy projects. Indirect effects can occur during construction, operation and decommissioning.

The overall potential for indirect impacts from the proposal is considered to be low for the following reasons:

There is only a single SAM within the 5km buffer zone assessed, and it lies outwith the area specified by the ZTV for the proposal. Therefore, its setting will be unaffected by the turbine at High View Farm.

There are approximately 40 no. listed buildings within the proposal's 2km buffer zone, none of which are grade I or II* listed. Those that lie within the neighbouring settlements of Kingsley and Kingsley Holt have the setting of the surrounding built environment of their village. Erecting the wind energy installation on land at High View Farm will therefore avoid a visual impact to the primary setting of these buildings. The nearest listed building designation is for a milepost at Kingsley Holt, some 330m from the proposed turbine. The wind turbine will not affect the setting of this object, which consists of its immediate surroundings of the roadway. This will also be the case for the other two listed building designations for a milepost and a milestone. The remaining listed buildings that lie outwith the main settlements of the area tend to be farmhouses or other buildings associated with farm steadings. All lie at minimum distances of approximately 1.1km from the proposal site, therefore the impact of the wind turbine on their settings is considered to be of no greater than a low to medium magnitude.

The 6km separation distance between the wind turbine and the nearest part of Alton Towers is considered sufficient to ensure for no significant impact to the site; if a clear view is possible, the turbine will be viewed as a relatively distant, single element within the wider panorama.

4.7 Compliance with the Development Plan

The development has been assessed against the relevant planning policy in relation to cultural heritage. The development is considered to meet the requirements of national planning policy in

that the proposal site contains no scheduled monuments, listed buildings or other national or regionally important sites and, in line with Regional Spatial Strategy QE5 and Local Plan policy QE1, the assessment conducted has concluded that no unacceptable impact will occur to the settings of SAMs, listed buildings or registered parks or gardens in the locale. Therefore no net loss to the historic environment resource is considered likely to result from the proposed wind turbine.

5 RESIDENTIAL AMENITY

5.1 Communities

The nearest communities to the development are Kinglsey to the north-west and Kingsley Holt to the south and east. It is not considered that these communities will be adversely affected by the installation of this small-scale wind energy installation. In England there is no statutory separation distance requirement between wind turbines and communities; rather, distances to safeguard residential amenity are usually determined by noise controls (Wind farms – Distance from Housing: House of Commons standard note SN/SC/5221).

5.2 Noise

At the time of writing, the detailed methods of construction to be employed are not known as these will only be finalised when a contractor is appointed. For this reason, predictions of noise levels during construction have not been carried out.

ETSU-R-97 is the industry standard document for setting appropriate noise emission levels for operating turbines and guides planning conditions. ETSU-R-97 includes a simplified noise criterion appropriate for single turbine developments, whereby limiting turbine noise at the nearest properties to no greater than 35 dB, LA90,10min at wind speeds of up to 10 ms-1 is considered to afford sufficient protection of amenity (a higher noise limit of 45 dB(A) may be applied to properties where the occupier has a financial involvement).

The candidate turbine for the development is a Northern Power Systems 100kW machine with a 22.6m hub height. The nearest dwelling not involved with the project lies approximately 245m to the south-southeast of the turbine footprint in Kingsley Holt. Based on noise emission data provided by the manufacturer, it is not anticipated that there will be any detrimental noise impact to residential properties not financially involved. Amenity is not anticipated to be adversely affected by noise and in order to ensure compliance with the noise criteria we would willing accept a noise level condition to be attached to any granted planning consent.

In a similar way to construction, noise during decommissioning will be managed to ensure compliance with best practice, legislation and guidelines current at the time.

5.3 Light Pollution

No light pollution is anticipated to be generated as a result of the development.

5.4 Shadow Flicker

Shadow flicker can affect nearby properties early in the morning or late in evening. It is caused by the rotating blades interrupting light from sun when the turbine is between a property and the sun. This occurs early in the morning to the west of turbines and late in the evening to the east. The effect is typically emphasised on sunny days in winter than in summer, as in summer the sun is much higher for longer and therefore the shadow is more local to the actual turbine. It is generally accepted that some degree of shadow flicker is acceptable, but that limits should be imposed to restrict the number of hours per year for which any one property is affected. There are no specific rules on this, but a 30 hour per year maximum has been suggested as reasonable in Germany and this is generally accepted. Planning policy also states that a distance of ten times the rotor diameter is sufficient to safeguard dwellings from an unacceptable level of shadow flicker. In this case, this equates to 236m (23.6m x 10). As the nearest residential property to the proposal lies some 245m from the proposed turbine, shadow flicker is not anticipated to be a problem.

5.5 Air Quality and Emissions

This section considers the positive and negative contributions that the development may make towards air quality, dust and greenhouse gas emissions as a result of the construction, operation and decommissioning and whole life history cycle of the development.

Construction

The movement of vehicles and plant on site would create exhaust emissions. In addition, construction activities have the potential to create a dust nuisance in dry, windy conditions. As a consequence of the relatively small scale nature of the development in combination with the high degree of dispersion of airborne pollutants that would occur prior to reaching sensitive receptors (nearby dwellings) emissions originating from onsite plant are considered to be negligible.

The movement of soils and rubble during construction and site preparation activities may result in the generation of airborne soil dust. This kind of dust generated in such a manner is typically coarse and remains airborne for short periods only. Overall, the occurrence and significance of dust generated by earth moving operations is extremely difficult to estimate, and depends upon meteorological and ground conditions at the time and locations of the earth works.

Operation

The purpose of the development is to generate electricity from a renewable source of energy, therefore negating the need for power generation from combustion of fossil fuels. Consequently, the electricity that would be produced by the Development results in a save in emissions of carbon dioxide (CO_2) with associated environmental benefit.

During its operational lifespan the wind turbine development has the potential to displace electricity generated from fossil fuels and consequently prevent CO_2 from being released. The actual amount of CO_2 released through electricity generation in the UK relates directly to the generating plant in use at any given time. This mix changes on a daily basis and will change in the future as UK generating plant is replaced and fuel costs change, and as a consequence it is not possible to predict exactly how much CO_2 release the wind turbines will prevent over their lifetime.

The operation of the development has the potential, based on the same assumptions, to also displace other gases related to coal-fire electricity generation including those associated with acid

rain such as sulphur dioxide (SO2) and oxides of nitrogen.

CO2 Emissions Lifecycle of the Wind Turbine

A low level of CO2 emissions will be released over the life of a wind turbine through its construction, maintenance and decommissioning phases, e.g. from steel and cement production and transport. However, such emissions are involved in building any conventional electricity plant. Conventional fossil fuelled electricity plants have the additional CO2 emissions from procurement and burning of fossil fuel energy sources during operation which increases their impact.

The Parliamentary Office of Science and Technology (October 2006) compared the life cycle CO2 emissions of different electricity generation systems in the UK. It was found that coal burning power systems have the largest carbon footprint of all the electricity generation systems analysed having up to 1000g of CO2 equivalent per kilowatt hour (kWh) of generation (1000g CO2eq/kWh). The carbon footprint of fossil fuelled power plants is dominated by emissions during their operation.

In contrast it finds that electricity from wind energy has one of the lowest carbon footprints with nearly all the emissions arising during the manufacturing and construction phases such as the production of steel and concrete, which account for 98% of the total life cycle CO2 emissions. The carbon footprint for onshore wind energy is given as only 4.64g CO2eq/kWh.

Even when taking account of the full life cycle emissions of CO2, a wind turbine therefore emits far less CO2 per unit of energy from construction, maintenance and operation than conventional fossil fuelled electricity plants such as coal, oil and gas.

Decommissioning

Effects from this phase of the development will be similar to those generated during the construction phase.

Overall Impact

The development will have a positive benefit of emission savings. Even when taking account of the full life cycle emissions of CO2, a wind turbine will emit far less CO2 per unit of energy from construction, maintenance and operation than conventional fossil fuelled electricity plants such as coal, oil and gas.

6 LANDSCAPE & VISUAL IMPACT

6.1 Assessment

The location for the proposed turbine is situated amongst agricultural land at High View Farm, on slightly elevated land compared to the locale. The proposal site falls within the North Staffordshire green belt and is also governed by a Special Landscape Area (SLA). The landscape is heavily wooded which affords a considerable degree of screening of views towards High View Farm, in particular from surrounding lanes. The ZTV for the proposal demonstrates the limited visibility of the wind turbine over the wider landscape, with theoretical visibility local to a distance of circa 6km surrounding the turbine (with the exception of isolated outlying areas of land.

The key aspects of the proposal in relation to the SLA are its siting and scale. The scale of the proposed machine, at a height to hub of 22.6m and 34.4m to blade tip is a small-scale wind turbine. There do not appear to be other vertical structures that will combine to create a cumulative visual impact with the

the turbine, such as chimneys and telecommunications infrastructure, in proximity to the installation site. The northern edges of Kingsley Holt are bordered by mature deciduous trees preventing views of the turbine. Similarly there is considerable vegetative screening at the north of Holt Lane on the southern fringe of Kingsley.

Staffordshire Moorlands District Council's Landscape and Settlement Character Assessment (2008/09) identifies the proposal site as lying within the landscape character type "Dissected Sandstone Uplands". This landscape is characterised by its undulating hills dispersed with small-scale valleys, a landcover of small- to medium-sized fields bordered by hedges and hedgerow trees and dispersed settlement, and stands of woodland. This landscape is relatively closed due to the prevalence of vegetation which limits views and creates a sense of confinement.

The ZTV (zone of theoretical visibility) for the proposal gives an indication of the visual influence of the turbine within a 15km radius of the site. It should be noted that the ZTV is based solely on ground contour data and does not account for landscape features such as vegetation and buildings which can limit or block views of a turbine. As such, the ZTV should be considered as representing a visual impact worst case scenario. Furthermore, the ZTV does not distinguish between different degrees of visibility. Judgement therefore needs to be exercised when interpreting the map, for example between visibility of the turbine at 500m, and the ability of the human eye to discern the turbine from a distance of 15km.

The ZTV indicates that a Northern Power Systems 100 turbine at the proposed location has a limited visual influence over the wider landscape for a project of this scale. The dimensions of the area of search is 30km x 30km, however the considerable majority of the areas from which the turbine will be theoretically visible lie within a radius of up to 6 or 7km in distance and even within this area, visibility is intermittent. The ZTV indicates that visibility will typically occur on higher elevation land, with river valleys not experiencing visibility of the turbine, including the clear majority of the lowest parts of the Churnet Valley. The valley as a whole is heavily wooded, making outward views towards the turbine infrequent.

The installation of the turbine will not encourage urban sprawl in the form of the expansion of the surrounding built environment, as new development in proximity to the turbine would have to adhere to planning policy designed to safeguard the amenity of residents, for example with regard to turbine noise and flicker.

Given the visual impact across the wider landscape as indicated by the ZTV, the overall visual impact of the proposed wind turbine installation at High View Farm is assessed to be low. It is considered that whilst there will inevitably be a level of impact due to the unavoidable stature of any wind energy development, the relatively modest scale of the Northern Power Systems 100 turbine can be accommodated by the receiving landscape, thus retaining the character and quality of the countryside.

6.2 Compliance with the Development Plan

It is argued that the proposal complies with Local Plan policies N7 and QE1 in that this relatively small-scale and visually permeable installation will not detract from the Dissected Sandstone Uplands character on the urban fringe, which gives the area its character. In line with Local Plan policies and N2 and N8, the relatively limited visibility of the turbine across the green belt and SLA ensure for the safeguarding of these designated areas.

7 FURTHER CONSIDERATIONS

7.1 Cumulative Considerations

A search has been conducted for other wind energy projects either at the full planning stage or having been granted permission, within Kingsley parish and neighbouring parishes. The results are presented below.

Site Name	Ref. No.	Turbine(s)	Status	~Distance and Direction from Proposal Site
Ipstones Park Farm	10/00459/FUL	1 x turbine on 15m tower	approved	4km NNE
Blakelow Farm	12/00262/FUL	1 x 5kW turbine on 15m tower	approved	6km NNE

The wind energy installations within the area of search are small- and micro- scale turbines and are associated with or in proximity to farm premises. Accordingly, and in addition to the separation distances of 4km and 6km between these projects and the proposed turbine at High View Farm, no cumulative impact is anticipated between the proposed turbine and others in the wider area.

7.2 Hydrology & Flood Risk

The nearest waterbody to the proposal site would appear to be a drainage ditch, the nearest part of which lies approximately 140m to the south-southwest of the turbine footprint. The construction process represents the stage of development where impacts on hydrology or hydrogeology are most likely to arise. During this phase, best practice construction methodology will be used at all times so that any effect on the hydrological environment is avoided. Owing to the small scale of the proposal, with earthworks and excavations limited to the preparation of the ground for the foundation block, access and cabling tracks, any significant impact on watercourses or groundwater is preventable; the likelihood of such an impact is considered to be low. There is no need for sustainable urban drainage systems due to the small footprint of the development. The proposal site is not located within an area considered at risk of flooding by the Environment Agency.

7.3 Aviation

Following discussions throughout 2001 by the DTI-led Working Group for Wind Energy, Defence and Civil Aviation Interests, a consultation proforma has been agreed between the BWEA and key aviation issue consultees such as the MOD, NATS and CAA. Owing to their height, wind farms can have an effect on the aviation domain. Rotating wind turbine blades may have an impact on certain aviation operations, particularly those involving radar. The aviation community has procedures in place designed to assess the potential effect of developments such as wind farms on its activities and, where necessary, to identify mitigating measures. From a search of the wider area, the closest significant aviation facility appears to be Manchester Airport, some 40km distant.

7.4 Tourism

A MORI poll was commissioned by Scottish Renewables Forum and the British Wind Energy Association (BWEA, now Renewable UK) in 2002 to determine public attitudes towards wind farms in Argyll, which at the time, had the highest concentration of wind farm developments in Scotland

and the UK as a whole. The survey, which was based on detailed interviews with approximately 300 visitors, found that over 90% of visitors would return to Scotland for a holiday regardless of a wind farm in the area. Only 8% of the tourists who had seen a wind farm during their visit returned with a negative impression. Eight out of ten said that they would go to a wind farm visitor or information centre during their stay. This research indicates that the presence of wind turbines as part of the wider landscape framework does not significantly detract from the tourist experience of an area.

8 NATIONAL POLICY GUIDANCE

8.1 UK Policy

The UK Government is committed to addressing the causes and consequences of climate change. The Climate Change Act 2008 sets a legally binding commitment to cut the UK's carbon emissions by 80% by 2050 and requires that limits be set on the total amount of emissions in successive five year periods (carbon budgets) against a 1990 baseline. This makes the UK the first country in the world to set such a long-term and significant carbon reduction target into law.

The Renewable Energy Strategy 2009 (part of the Government's Overall UK Low Carbon Transition Plan) outlines the UK's requirement to increase the use of renewable electricity, heat and transport. It sets out a path to achieving the UK's legally binding target to ensure 15% of energy comes from renewable sources by 2020. It predicts that, in order to meet the targets, renewables should provide 30% of electricity by 2020, two-thirds of which is expected to come from onshore and offshore wind. This target has now been increased to 100% through the 2020 Routemap.

8.2 The UK Renewable Energy Strategy (July 2009)

This document guides the UK towards realising the target of 15% of energy from renewable sources by 2020. This document acknowledges that a greater amount of renewable energy developments are required to meet the aforementioned target. In order to meet the overall 15% target, 30% of electricity should be generated from renewable sources.

8.3 Renewables Statement of Need (July 2006)

In July 2006, the UK Energy Review was published by the Department of Trade and Industry. Annex D contains "The Renewables Statement of Need". This document states that:

"New renewable projects may not always appear to convey any particular local benefit, but they provide crucial national benefits. Individual renewable projects are part of a growing proportion of low-carbon generation that provides benefits shared by all communities both through reduced emissions and more diverse supplies of energy, which helps the reliability of our supplies. This factor is a material consideration to which all participants in the planning system should give significant weight when considering renewable proposals. These wider benefits are not always immediately visible to the specific locality in which the project is sited. However, the benefits to society and the wider economy as a whole are significant and this must be reflected in the weight given to these considerations by decision makers in reaching their decisions."

8.4 Assessment of Material Considerations

9 SUMMARY

The UK government has set a target of generating 15% of energy demand from renewable sources by 2020. In order for this target to be achieved, forward thinking and progressive selection of suitable sites is necessary. Areas of land that can comfortably accommodate wind turbine developments should be explored and encouraged where the machines have access to a productive wind resource.

The Northern Power Systems 100 is a wind turbine capable of generating a significant amount of electricity despite it having dimensions comparable to a less productive machine (the annual electricity production of the installation is estimated to be in the region of 170,000kWh of fuel-free electricity).

Although located within the green belt and an SLA, the estimate of electricity that will be generated by the wind turbine with its associated carbon saving will more than offset any negative impact to these designations. Moreover, the turbine will preclude urban fringe development which the green belt designation is designed to prevent, as planning policy to safeguard the amenity of property, for example from noise and flicker, would thwart development in the surrounding area. Please note that a site specific noise report is currently being undertaken and will be submitted in support of the application together with a Phase 1 habitat study being carried out by a suitably qualified ecologist. As this document highlights, the potential effects of the proposal are considered to be of a corresponding magnitude to the relatively small scale of the installation.

Department for Trade and Industry (1996) ETSU-R-97 The Assessment and Rating of Noise from Wind Farms'.

MORI Scotland (2002) Tourist Attitudes Towards Wind Farms.

Parliamentary Office of Science and Technology (2006) Carbon Footprint of Electricity Generation, Postnote: No 268.

www.bwea.com/aviation/index.html

Department of Environment Food and Rural Affairs (DEFRA) (2008) Climate Change Mechanism: The Kyoto Protocol [online]. Available at http://www.defra.gov.uk/environment/climatechange/internat/un-kyoto.htm [Accessed on 04/05/2009]

Climate Change Act 2008. London: HMSO

HM Government (2009) The UK Renewable Energy Strategy 2009, Surrey: OPSI.

AE ASSOCIATES
Cameron House, 26 Cupar Road,
Auchtermuchty, Fife KY14 7DD
T 01337 827571 / 07910741328
E ae.associates@btinternet.com

ae associates