

Stirling Council Draft Supplementary Planning Guidance
Interim Locational Policy & Guidance for Renewable Energy
Developments (Wind Turbines)

Planning policies:

n.b. All policy references to size of turbines are to the overall height = tower/mounting height plus height to apex of swept 'blade' area. e.g. A turbine with a tower/hub height of 55 metres and blades 25 metres long, is an '80 metre turbine'. Terms used in the policy and guidance for turbine size classes are:

<i>Micro</i>	<i>?(await GPDO review)</i>
<i>Small</i>	<i>(as above) - 25m</i>
<i>Medium</i>	<i>25 – 50m</i>
<i>Medium - Large</i>	<i>50 – 80m</i>
<i>Large</i>	<i>80 - 110m</i>
<i>Very Large</i>	<i>>110m</i>

For the avoidance of doubt, this policy framework applies to all wind turbine proposals. The term 'wind farm' is used below to denote 'groups of large or very large (>80 metres) turbines' (not just wind farms with an installed capacity of 20Mw or more as referred to in SPP). Policy 4 applies to micro and small ['micro' to be defined – relative to permitted development - but 'small' includes up to 25m] turbines. The siting and design guidance will also be the basis of planning advice, if sought, relative to permitted developments.

(1) Wind Energy : General

(a) Outwith 'Areas of significant protection' (see Policy Map 1) the Council will support proposals for wind turbines where:

- **they are appropriate in scale, design and layout for their location**
- **the landscape character and scale is capable of accommodating the scale of development proposed**
- **landscape, wildlife and habitats of international and national importance are not significantly adversely impacted**
- **historic heritage of national importance is not significantly adversely impacted**
- **construction and operation will not impact adversely on the water environment (including water supply catchments)**
- **aviation and telecommunication interests can be protected**
- **significant detrimental effects upon nearby residential areas can be avoided**

(b) All proposals for wind turbines will be assessed in relation to:

- **technical and planning criteria established through national planning policy and guidance, principally the SPP and PAN45**
- **locational and design guidance issued by SNH**
- **all relevant environmental protection policies in the Development Plan**
- **the landscape and visual impact criteria addressed in Policy 2 and any issues of cumulative impact identified in accordance with Policy 3**
- **local technical, planning and environmental criteria as set out in the associated Guidance**

(2) Wind Energy : Visual and Landscape Impacts

The landscape of the Council area possesses distinctive characteristics of high quality. In relation to visual impact and the maintenance of the key characteristics and quality of the landscape, the capacity of the plan area to accommodate additional large and very large wind turbines (80 – 110 metres, and >110 metres) is considered to be severely limited; for medium-large turbines (50 – 80 metres) the capacity is considered to be very localised. For medium turbines (25 – 50 metres) the capacity is more significant.

(3) Wind Energy : Cumulative Impacts

The location, scale and design of all wind farm proposals, and proposals for individual turbines or small clusters in the medium – very large size classes (>20m turbines) will also be assessed in relation to wind turbines (across the same size range) that are established, approved or the subject of valid undetermined applications (including those located within neighbouring Planning Authority areas).

New proposals will not normally be acceptable where they would result in a significant adverse effect upon amenity, including features of landscape, wildlife conservation and/or historic heritage value, by reason of cumulative visual or ecological impact.

In particular, wind turbines proposed or likely to be perceived as extensions to existing wind farms will not be permitted if of significantly different colour, size and/or proportions (tower height to blade length ratio; nacelle design) to the existing turbines, or if laid out according to a discordant design concept.

For reasons of cumulative impact, discrete wind farms will not be supported within the zones identified on Policy Map 1 around existing wind farms. Sensitively designed additions to these wind farms may be acceptable.

(4) Wind Energy : Micro and Small turbines

Proposals for micro-wind turbines and other wind turbines with an overall height of 25m or less will be supported in principle.*

*(a) Individual proposals will be assessed in terms of their local setting and the criteria listed in the associated guidance. They will normally be approved where it can be demonstrated that any adverse impacts are minimised by careful siting and design and there are no unacceptable impacts on the reasonable amenities of neighbouring residents.***

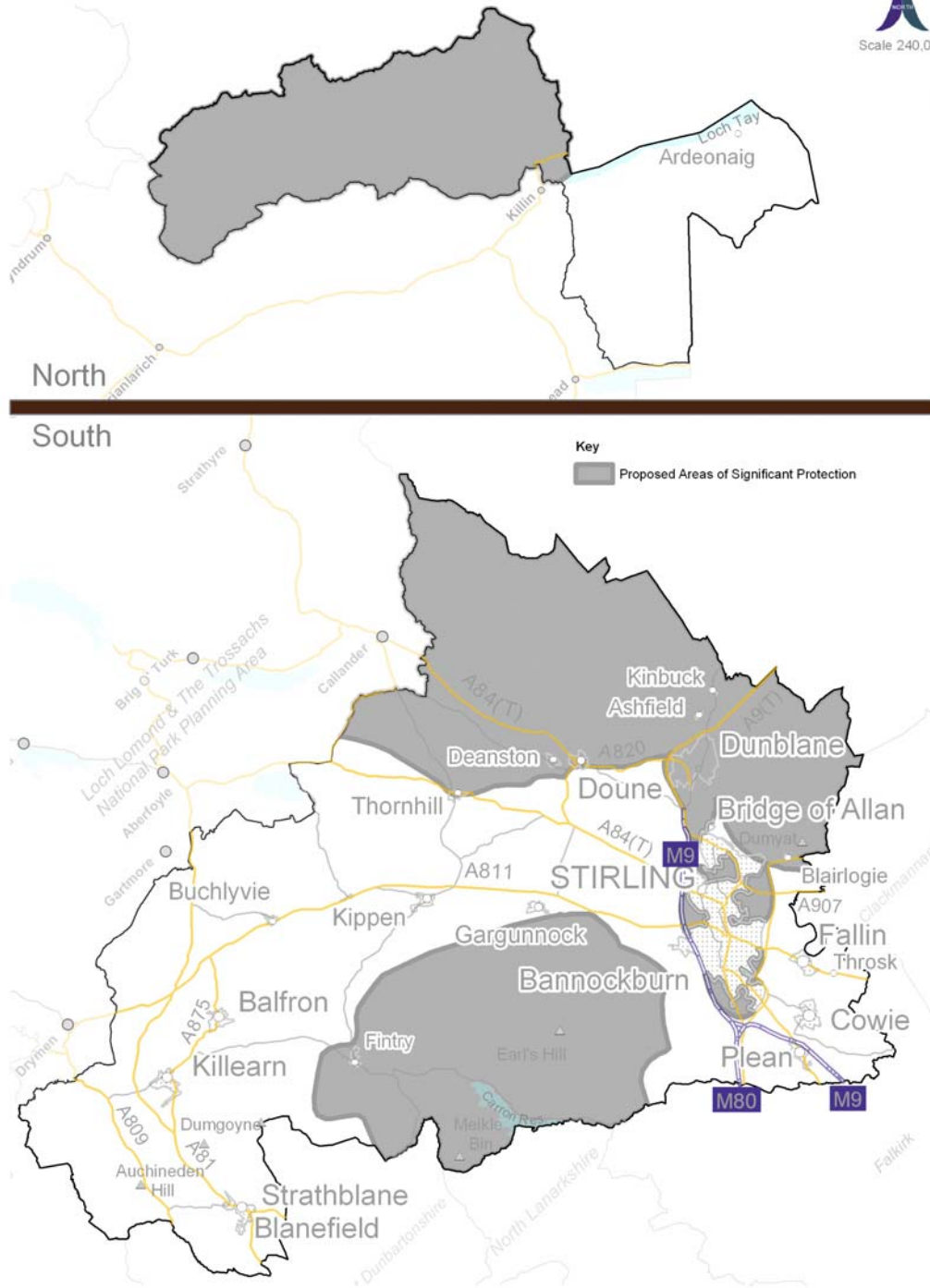
(b) Multiple installations outwith urban areas will only be permitted where there are judged to be no significant adverse visual, landscape or biodiversity impacts or other cumulative impacts.

** Micro-turbines fitted on buildings such that their elevation would be more than 25m above ground level will still be assessed relative to part (a) of the policy.*

*** It is recognised that the Scottish Government is still considering p.d. rights for micro-generation installations, both domestic and non-domestic. The English consultation document suggests that turbines of up to 18m in height may become p.d. at non-domestic premises.*

Policy Map 1 (North & South)

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(5) Wind Energy : ‘Community’ Turbines

The initial assessment by the Planning Authority will apply the same tests of acceptability for a community project as it would to a commercial proposal (i.e. Policies 1-4 above). However, where a community wishes to erect one or more turbines solely as a community venture, or takes a share in a larger project , or supports a proposal by a local business, where it is the only community

significantly impacted by the proposal, the Council will regard this as a Material Consideration and may grant consent to turbines with greater impacts upon that residential area than would normally be the case.

(6) Wind Energy : 'Community Benefit'

'Community benefit' arrangements unrelated to the implementation of a wind energy project will not be taken into account in the Development Management process*.

However, prospective developers will be directed to liaise with the Council's Economic Development officers in order to establish the scale and nature of any potential economic spin-offs for local businesses, employment opportunities, etc. arising from their proposals. Economic Development will provide a report on the outcome of any such discussions and this report will be a Material Consideration when the Council determines the application.

* Any benefit, such as a community trust fund, "should not be treated as a material consideration unless it meets the tests set out in Circular 1/2010 *Planning Agreements.*" (SPP 2010)

Local Guidance & Criteria:

The above policies are based upon the staged approach to spatial frameworks in PAN45 Annex 2, as modified by the findings of the Council/National Park/SNH landscape capacity and sensitivity study – the *Study*.

The factors relevant to wind turbine proposals, and a guide to the advice in the *Study* according to turbine size and landscape type, is given in the Supplementary Planning Guidance below.

1 *Appropriate scale, design and layout for the location*

(a) *relative to landscape character and quality*¹

The text explaining these constraints and their effects upon the capacity to accommodate wind turbines is in the following sections of the report:

- 3a – Landscape scale (pp 29 – 33)
- 3b – Distinctive hill edges (pp 34 – 37)
- 3c – Iconic landscape features (pp 37 – 40)
- 3d – Impacts of existing and consented windfarms (pp 40 - 44)

Additionally, the report identifies areas with sensitivities to turbine developments for three reasons:

- 3e – Areas of landscape character incompatible with existing and consented windfarm sites (pp 44 – 46)
- 3f – Landscape pattern (pp 46 – 49)
- 3g – Area valued for sense of remoteness while being easily accessed from an urban centre (pp 50 – 53)

(see http://www.stirling.gov.uk/turbine_report_reduced_part_1-6.pdf).

¹ see *'Stirling landscape sensitivity and capacity study for wind energy development'*; for Stirling Council, Loch Lomond & The Trossachs National Park Authority and SNH; (November 2007)

Landscape character types found in the Plan area are described in the *Study* according to their sensitivity to windfarm development. They are mapped as Figure 16 of the report (see http://www.stirling.gov.uk/turbine_report_figures_reduced.pdf) and Section 3(ii) of the report sets out in detail the key landscape characteristics of each type (see http://www.stirling.gov.uk/turbine_report_reduced_part_2.pdf). Guidance is then provided on how these Character types might accommodate certain scales and types of wind farm development “where capacity exists”. The whole Plan area is within one or other of the Character types and so guidance can be found for any site within the Council area.

Appendix 10 of the report provides a ‘Checklist for assessment of windfarm proposals within [the] Stirling Area landscape’ http://www.stirling.gov.uk/turbine_report_appendices.pdf .

(b) relative to the historic environment

Developers will be expected to take into account Scheduled Ancient Monuments, Listed Buildings and their settings (especially Category A buildings and structures), Conservation Areas and Inventory Gardens & Designed Landscapes. These enjoy statutory protection.

In the Stirling area, two battle sites – Bannockburn and Sheriffmuir – are of importance and the Council will consider their implications for the siting of any large wind turbines that may affect their setting. (Historic Scotland are currently considering more specific definition of these sites).

Developers will be expected to consider sites listed in the Sites and Monuments record for the area when considering the location of wind farms and the detailed siting of turbines.

2 Avoiding adverse impacts on wildlife and habitats of international, national and regional importance

There are a significant number and range of nature conservation designations in the Plan area. Some have implications for development outwith their boundaries. Some also may be susceptible to cumulative impacts should new wind farms be proposed in certain areas.

- (i) *Natura* and RAMSAR sites – The requirements to be met are set out in Revised Circular 6/1995 – *Nature Conservation: Implementation in Scotland of EC Directives on the Conservation of Natural Habitats and of Wild Flora and Fauna and the Conservation of Wild Birds (June 2000)*.
- (ii) Protected species - Certain species are listed on Annex IV of the Habitats Directive as species of European Community interest and in need of strict protection. The protective measures required are outlined in Articles 12 and 13 of the Directive. The species listed on Annex IV whose natural range includes any area in Great Britain are called ‘European protected species’. These species are listed on Schedules 2 (animals) and 4 (plants) of the Habitats Regulations 1994 (as amended in 2004, 2007 and 2008). The Scottish Government has produced explanatory guidance on the 2007 amendments which can be viewed on the Scottish Government website.
- (iii) SSSIs, NNRs - The requirements are set out in Structure Plan Policy ENV1
- (iv) LNRs, LBAP, etc – The requirements are set out in Structure Plan Policy ENV1

Outwith designated sites there is guidance on the likelihood of turbines being sited in areas where bird species particularly sensitive to the presence of wind farms occur. This is in the form of maps produced by RSPB (in association with SNH) for Scotland (RSPB Research Report No. 20, 2006). These maps will suggest where further investigation of bird interest may be required.

If a proposed development appears likely to adversely affect the conservation status of habitats or species for which a European (*Natura*) site has been designated, an ‘Appropriate

Assessment' of the proposals must be carried out and a satisfactory means of mitigating the impacts must be found before the proposal can be approved.

3 **Avoiding construction and operational impacts on the water environment (including water supply catchments)**

Turbine bases are relatively small and a wind farm will physically occupy only a small part of its overall 'footprint'. However, the turbines are linked to road access points and usually to each other by construction/maintenance access tracks (usually unsurfaced and flanked by drainage channels), and ducted cabling. There will be a transformer building of some sort and sometimes the former contractors' compound(s). In total, therefore, engineering works affecting the ground surface, and so potentially impacting upon watercourses, peatlands, other wetlands, etc, may be extensive enough to represent environmental impacts requiring management and mitigation (and may also represent potential for cumulative impacts, taken with impacts from other projects in the catchment). Smaller turbines or individual larger turbines, on low ground, may be more readily developed using existing means of access, and so potentially less disruptive.

(i) Watercourses – The **quality** of all water bodies in Scotland is to be maintained or enhanced, and measures to achieve this are now formalised in the River Basin Management Planning process. Developers should first demonstrate that proposals have been located and designed so as to minimise risks of adverse effects on water bodies, direct or indirect. Construction of approved schemes will require adherence to the appropriate engineering codes of conduct.

As noted above the Endrick, Teith and Tay river systems (stem rivers and in-course lochs plus some tributaries) are designated SACs for the **conservation** of one or more fish species, and for other interests, such as Otters. Turbine projects with the potential to adversely impact on these rivers and lochs or their headwaters through diversion of flow, pollution, siltation, etc will require Appropriate Assessment by the Planning Authority as well as EIA.

(ii) Peat deposits represent a store of carbon, significant in terms of climate change amelioration, as well as of water. **Peatlands** are a significant feature of the landscape, and all the sizeable remaining lowland raised bogs of the Forth valley are a nature conservation resource of international or national importance (SACs, SSSIs, NNR). Upland peat areas are often found in areas of good wind resource and relatively gentle relief and can be developed for wind farms but great care is needed to avoid serious erosion and cumulative degradation of the resource.

(iii) Significant parts of the hills and moorlands found in the southern part of the Plan area (Auchineden area, Carron Valley, upper Endrick, Earlsburn, Loch Coulter, etc are **drinking water catchments** with a number of surface reservoirs. Scottish Water should be consulted in relation to any proposals within these catchment areas.

Howietoun is the location of a historic fish farm, now a renowned fisheries research establishment, linked to the University of Stirling. It has a particular requirement for clean inlet water, and this is drawn from several small surface water catchments in the vicinity. Adverse impacts upon these catchments will not be permitted.

4 **Protection of aviation and telecommunication interests**

General guidelines and consultation requirements are set out in PAN45 and *Wind Energy and Aviation Interests – Interim Guidelines (DTI 2002)*. For aviation requirements and guidelines specific to the Stirling Plan area see below.

(i) Civil Aviation

Most of the Southern part of the Plan area is covered by a 'Windfarm Consultation Zone' relating to Glasgow airport safeguarding. A small area in the extreme south-east (coinciding with an 'area of search' in landscape terms) is also covered by the equivalent zone for

Edinburgh Airport. The Town & Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) (Scotland) Direction 2003 requires that 'windfarms' within these zones be the subject of consultation with the airport owner/operator. The consultation address is :

*The Safeguarding Department
Glasgow/Edinburgh Airport Limited
c/o Planning and Surface Access
BAA
First Point
Buckingham Gate
Gatwick Airport
West Sussex
RH6 0NT*

In relation to Glasgow Airport there is also a small area near Strathblane within which consultation is required (address same as above) for any development, including wind turbines, exceeding 15m in height.

PAN45 also notes that Prestwick Airport "would like to be advised of all other proposed windfarm developments within c.46 miles (= 40 nautical miles) of the airport".

(ii) Military Aviation

There are no Tactical Training Areas coincident with the Plan area. However, the area forms parts of 'Low Flying Areas' Nos. 14 and 16. Consultation with the Ministry of Defence (www.defence-estates.mod.uk) is therefore advisable for any 75m+ (250 ft) turbine proposal in open country.

(iii) Telecommunications

The operation of any wind turbine can produce electromagnetic radiation and therefore potentially cause interference with the broadcast signals directed at radio, television and microwave receivers. Large turbines may physically interrupt broadcast signals and communications if badly sited. It is the developers' responsibility to consult with statutory undertakers, broadcasters, telecommunications operators, the emergency services and others to ensure that any necessary measures are taken to avoid problems before applications are submitted.

The Stirling Plan area does have a long-established communications 'hub' at Earl's Hill, in an area where two wind farms are in operation, and other proposals are pending. It is also a key area in terms of 'line – of – sight' telecommunications links between south, central and north Scotland. Developers should consult with the Radiocommunications Agency – now part of OFCOM (www.ofcom.org.uk) – to obtain details of communications installations in the vicinity of their proposal.

Developers are further advised to consult 'Arqiva' (www.arqiva.com) with regard to any structure exceeding 15 metres in height in order to avoid impacting on digital broadcasting networks.

(iv) Weather radar

A Meteorological Office (MoD) weather observation and warning radar, one of two covering Central Scotland, has been sited at Holehead (OS grid ref NS617833) on the southern extremity of the Plan area. The Town and Country Planning (Ministry of Defence Technical Site) (Holehead, East Dunbartonshire) Direction 2006 requires that MoD (www.defence-estates.mod.uk) are consulted on any development proposals within designated areas around the radar. There are separate areas (largely determined by the contours of the land) according to whether proposed structures fall within stated height ranges i.e. up to 10.7m (35 ft); up to 15.2m (50 ft); up to 45.7m (150 ft); up to 91.4m (300 ft).

The Council will not permit any development which has the potential to reduce the efficiency and effectiveness of any relevant installation, or which may otherwise compromise operational capability or safety, unless it is demonstrated that the developer has reached agreement with the appropriate body regarding mitigation measures, and that these are incorporated into the proposed development.

5 **Avoidance of significant detrimental effects upon nearby residential areas**

Residents experience changes to their environment permanently and so their interests require special consideration. There are 4 principal potential impacts that are generally recognised:

(i) Visual intrusion

Local residents, and all other interested parties considering whether to support or object to a proposal, require accurate information as to the nature of the proposal. For most people, the most useful information is that presented in visual form. Developers of wind farms typically follow SNH advice and other guidance and present copious visualisations, usually in the form of 'viewshed' or LVIA maps/diagrams, and photomontages (with or without computer – generated 'wireline' or 'wireframe' diagrams. Properly interpreted these are all useful means of judging the visual change to the local landscape likely to result from the proposed development. However, the Council is persuaded that these 'standard' visualisations:-

(a) Must be labelled (using non-technical language) advising how they should be viewed; for instance whether they are best taken out into the field, whether they are suitable for viewing on a computer screen, and what they purport to illustrate; and

(b) Must be properly sized in accordance with best practice guidance. For the avoidance of doubt the Council expects all wireframe/photo/photomontage viewing distances and image heights to meet preferred requirements (i.e. not just the minimum) described in Table 17 of the SNH 2006 guidance; and

(c) Must be augmented with photomontages based upon single – frame photographs taken using a 50 mm lens (or digital equivalent) showing the site as viewed from those points from which most people are likely to see it. These should be available alongside any panoramic photographs and photomontages originated from the same viewpoints. They should be labelled so as to emphasise that this lens type is generally reckoned best to represent what the eye sees. They should be included even if the layout of the proposed development is such that not all of the turbines can be encompassed in one image.

PAN 45 included a table summarising likely perceptions of wind farms (size of turbine not stated) viewed from increasing distances. Local assessments of existing wind farms in Stirling and the Ochil Hills with 115 – 125m turbines leads to the following revised categorisation:

Viewing distance	PAN45 Fig 8 'Perception'	Stirling perception
Up to 2 kms	Likely to be a prominent feature	Dominant
2 – 5 kms	Relatively prominent	
5 – 10 kms	Only prominent in clear visibility – part of the wider landscape	Prominent
10 - 15 kms		Present
15 – 20 kms	Only seen in very clear visibility – a minor element in the landscape	Visible
20 - 30 kms		

On this basis the Council will wish to see evidence of location, scale, layout and design being considered in relation to communities, and of consultation having taken place with those communities, within 5km for Large and Very Large (> 80m) turbines and within 2km for Medium and Medium-Large (25 – 80m) turbines.

As indicated in draft Policy 5, the Council may give more favourable consideration to turbines close to a community if that community, through an appropriate agency, is the developer or has a direct interest in the development. Such interest will be regarded as a Material Consideration in the determination of such proposals. However, a reasonable degree of unanimity of local support for the proposal will be required. Appropriate evidence that all potentially affected persons have been made aware of the potential impacts and of their opportunity to object will be needed, to be placed before the Planning Panel.

(ii) Noise

Recommended levels of acceptable noise propagation from wind turbines relative to 'noise – sensitive' properties and 'areas frequently used for relaxation or activities for which a quiet environment is highly desirable' are explained in PAN45. The Council expects at least these recommended standards to be satisfied. Where turbines are proposed to be laid out in linear arrays upwind (prevailing wind) of residential properties, modelling of the potential for enhanced noise propagation should be carried out and any necessary siting adjustments made if a potential problem is revealed.

(iii) TV/Radio/Telecommunications interference

Developers should liaise with broadcasters and telecommunications operators with networks/transmitters in the area and seek mutually acceptable solutions to any potential signal interference issues prior to submitting proposals. Should any problems nevertheless arise with interference affecting reception at individual properties, the Council will require turbine developers/operators to provide solutions.

(iv) Shadow flicker

Developers will be required to ensure that location, scale, layout and design of proposals will not lead to unacceptable impacts on residential properties as a result of flickering light interference patterns generated by low morning and evening sunlight passing through rotating turbine blades.

(v) Other issues of particular concern to local communities may arise:

There may be **safety** concerns. Turbines occasionally suffer structural failures during operation. Developers should consider whether there are any potential circumstances whereby such an event could pose a risk to people or property (or to roads, railways and places of public resort) in the vicinity, and site proposed turbines accordingly.

Construction is likely to involve considerable **traffic** and the passage of some large or very large vehicle loads. Liaison will be expected with Council Roads officials as to acceptable **routes** (as part of the site selection and planning process) and with Police over timing and safety requirements (post – approval). If improvement to public roads and road corridors to facilitate construction access is required, agreement must be reached as to whether these works will be required for subsequent maintenance purposes and therefore need to be permanent. Where this is not the case reinstatement may be required, to the satisfaction of the Council.

Grid connections, particularly if by overhead cables, may be regarded as visual intrusions if passing close to residential properties. Underground or overhead cables running across prominent hill slopes may also raise concerns. While it is accepted that such connections will not be included in proposals if dealt with under the Planning Acts, the Council will expect applicants to indicate, whenever possible, their likely type and route.

Unless any **ancillary works**, such as road improvements or transformer facilities, are remote from the turbine location, the Council will expect all components of the development proposal requiring planning permission to be included in one consent application, and their potential environmental effects all to be considered in the Environmental Impact Assessment.

Where proposals are below the threshold for 'discretionary' (i.e. Schedule 2) EIA the Council will still prefer to receive a supporting **Environmental Statement** demonstrating that appropriate potential impacts have been anticipated, assessed and where necessary avoided or mitigated.

n.b. Decommissioning

Wind turbines have a design 'life' and are usually granted consent for a period of 25 years. Turbines may also cease generating power for other reasons. It seems likely that a wind farm site, once approved, will remain suitable for that purpose and that, if the technology is still viable at the end of the approval period, turbines will be replaced.

Planning applications require to be accompanied by information on these matters, with a scheme of decommissioning, equipment removal, site restoration and aftercare, and financial arrangements sufficient to ensure that the necessary works can be carried out.

If the turbine(s) cease operating before the consent expires, with no prospect of restarting, there will be provisions in consents (or planning agreements) to bring forward the decommissioning scheme.

If the operator wishes to extend the life of the site by replacing turbines at the end of the consent period an application will be required. If the turbines are to be replaced earlier, with different sized models, an application will be sought and the operator will be required to complete the changeover in as short a period as possible.