



**Assessing
Wind Energy
Developments**
Planning advice
PA2023-21

September 2023

1. Purpose of this Planning Advice

This Planning Advice is designed for use by both Development Management officers and prospective applicants for all scales of new wind turbines, repowering proposals, and extensions to existing wind energy sites. It also considers ancillary development and energy (battery) storage forming part of a wind energy development. It should be read in conjunction with the Aberdeenshire Local Development Plan 2023 (LDP), Planning Advice PA2023-03 Landscape Sensitivity Assessment – Onshore Wind Energy Development in Aberdeenshire, and [Submission Guidance Note 1 Assessing Noise from Wind Turbines](#)¹. Where proposals are likely to impact upon the Cairngorms National Park, applicants should also consider the Cairngorms National Park Local Development Plan and the Landscape Toolkit produced by the Cairngorms National Park Authority.

This Planning Advice has been divided into three parts:

- a) A brief introduction, which sets out why renewables are necessary, the number of consented developments as of September 2022, scales of wind turbines, and landscape capacity.
- b) Guidance for applicants and development management officers on the assessment of wind turbine applications and when acting as a consultee for proposals under section 36 of the Electricity Act 1989.
- c) A useful checklist for applicants so that they can ensure all necessary information is provided in support of their planning application.

2. Contents

1. Purpose of this Planning Advice.....	2
2. Contents.....	2
3. Introduction	4
4. National Planning Framework 4	4
5. Existing Wind Energy Developments	5
6. Scales of Wind Turbines	6
7. Repowering.....	7

¹ Under review. Due late 2023.

8. Landscape Sensitivity for Wind Farms	7
9. Landscape and Visual Impacts	8
Cumulative Landscape Impacts	10
Cumulative Visual Impacts	11
10. Ecological and Hydrological Impacts.....	12
Impacts on Biodiversity	12
Impact on Birds	13
Cumulative Impacts on Birds	14
Biodiversity Enhancement.....	15
Hydrological Effects	15
Impact on Peat and Prime Agricultural Land.....	16
Trees and Woodlands	16
11. Net Economic Impact and Associated Community Benefits.....	17
12. Public and Residential Amenity.....	18
Noise impacts.....	18
Cumulative Noise Impacts	19
Shadow Flicker.....	19
Public Safety	19
Locating a Development Next to a Wind Energy Development.....	20
13. Historic Environment.....	20
14. Tourism and countryside access.....	21
15. Aviation, Defence and Radar	21
16. Communication Systems and Television Reception	23
17. Gas Pipelines and Pylons	23
18. Ancillary Development and Battery Storage.....	23
Access Tracks.....	23
Buildings, Battery Storage, Transformer Equipment and Power Lines.....	24
Borrow Pits and Construction Materials	25
Disposal of Overburden	25
Drainage Works	25
Landscaping Works.....	26
Parking Areas.....	26
19. Decommissioning Options.....	26
Appendix 1: Application Checklist	28
Appendix 2: Resources	39

3. Introduction

The generation of renewable energy is necessary to address climate change, fuel poverty and in promoting sustainable development. The Scottish Government has set a target date for net-zero emissions of all greenhouse gases by 2045², and the Onshore Wind Policy Statement 2022 sets a new ambition for a minimum of installed capacity of 20 GW of onshore wind in Scotland by 2030³ to support the transition to net zero. Wind energy is one of several renewable options, and this Planning Advice has been drawn up using information from national government guidance and public agencies.

This guidance is for wind energy developments (wind turbines and wind farms) of all scales, even those falling under the Town and Country Planning (Environmental Impact Assessment) (Scotland) regulations 2017. It should also be used for the assessment of proposals that fall under section 36 of the Electricity Act 1989.

This Planning Advice sets out a series of principles that should be considered when locating, siting, and designing a wind energy development, whether they are for a new or repowering proposal. Repowering is where one or more wind turbines exist on a site, but would be modified, replaced or upscaled. This Planning Advice also considers ancillary development, borrow pits and energy storage facilities, often referred to as battery storage units.

Appendix 1 provides a checklist for prospective applicants to ensure all necessary information is provided in support of a planning application.

The Planning Advice also provides a guidance to applicants that propose a development (e.g., a house) near an operational or consented wind turbine(s) (see section 12).

4. National Planning Framework 4

This planning advice has been written in accordance with the Aberdeenshire Local Development Plan 2023. It has also been updated to reflect the policies contained in the National Planning Framework 4 (NPF4). NPF4, removed a previous obligation to produce a spatial framework (map) to identify areas most appropriate for onshore wind farms and expects LDPs to maximise their area's potential from renewable sources. It contains policies that planning applications for a wind energy development will have to comply with, namely NPF4 Policy 11 *Energy*.

² [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)

³ [Onshore Wind Policy Statement 2022](#)

NPF4 Policy 11 places significant weight on the contribution of the proposal to renewable energy generation targets and in meeting greenhouse gas emissions reduction targets. The policy also requires the project design and mitigation of a proposal to demonstrate how impacts will be addressed. At the same time NPF4 maintains the importance of protecting natural assets against unacceptable impacts (Policy 4 Natural Places).

NPF4 also gives support in principle for renewable development proposals in areas normally restricted for development, namely::

- Peatland/carbon-rich soils/priority peatland habitat (NPF4 Policy 5 Soils).
- Prime agricultural land or land of lesser quality that is culturally or locally important for primary use (NPF4 Policy 5 Soils).
- Green belt (NPF4 Policy 8 Green belts).
- Undeveloped coastal areas (NPF4 Policy 10 Coastal development).
- Wild Land Areas (WLAs) Policy 4 Natural places (there are no identified WLAs in Aberdeenshire outwith the Cairngorms National Park).

5. Existing Wind Energy Developments

Within Aberdeenshire there are approximately 558 turbines over 30m high, with a generating capacity of approximately 668 megawatts (as of September 2022). Many singly grouped turbines or small clusters are found in the coastal farmland and agricultural heartland areas. The coastal edge, straths and river valleys are relatively undeveloped. The area of Aberdeenshire within the Cairngorms National Park has no wind turbines. Several wind farms are in the upland areas within Moray south of Keith and Dufftown that have an influence within Aberdeenshire,

The largest number of operation and consented onshore large-scale turbines, as of September 2022, is within farmed coastal plains, ridges and hills, and farmed moorland, summits and plateaux near Huntly and Banchory, with around 185 turbines consented. Up to August 2022, these averaged around 100m to tip, with an electricity generating capacity of at least 366MW. The tallest wind turbines were 125m to tip at a wind farm at Mid Hill, Fetteresso. Singular and wind farms of large/very large wind turbines are concentrated from Rhynie/Huntly to Ellon/St Fergus, with others in the vicinity of Stonehaven, Laurencekirk and Inverboyndie/Banff. The tallest single wind turbine is 135m to tip near Huntly. However, in September 2022, a planning application at the Fetteresso wind farm, south of Banchory (next to Mid Hill wind farm) approved ten wind turbines ranging from 149m to 200m to tip height.

There are offshore wind farms to the north and east of Aberdeen, known as Aberdeen Offshore Wind Farm (96MW) and Kincardine Offshore (50MW), east of Peterhead, known as Hywind (30MW), and in the Moray Firth - Beatrice (588MW) and Moray East, which will generate 950MW of electricity when connect to a substation at New Deer. There is continued interest to develop offshore wind farms at sites in the Moray Firth (Moray West), in Angus, known as Seagreen (1,075MW), floating turbines approx. 65km east of Peterhead, known as Muir Mhor Offshore Wind Farm (798MW), and 80km north east of Fraserburgh, known as Buchan Offshore Wind Ltd (ScotWind) (up to 1GW).

6. Scales of Wind Turbines

Whilst all turbines are likely to raise similar planning and environmental issues, the scale of the impact will vary considerably depending on the height of the turbines, turbine blade length, the location of the development, the size of the turbine group proposed, and the height and proportion of existing turbines. For consistency with Planning Advice PA2023-03 Landscape Sensitivity Assessment – Onshore Wind Energy Development in Aberdeenshire (LSA Planning Advice), this guidance adopts a comparable turbine height typology:

- a) Very large: More than 200m height to tip
- b) Large/very large: 125m to 200m height to tip.
- c) Large: 80m to 125m height to tip.
- d) Medium/large: 50m to 80m height to tip.
- e) Small/medium: 30m to 50m height to tip.
- f) Small: 15m to 30m height to tip⁴.
- g) Small domestic: Less than 15m height to tip.

Where a wind energy development exceeds 20 megawatts (MW), they are classed as a “Major Development” under the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009, as it falls within category of “Electricity generation projects where the capacity of the generation station (including renewables) is or exceeds 20 megawatts (turbines, hydro schemes etc).” Developments that exceed 50MW will be determined by the Scottish Ministers under section 36 of the Electricity Act 1989, and the local Planning Authority will assess these proposals as a consultee.

⁴ The LSA Planning Advice assessment excluded turbines below 30m height to tip

Where a proposal includes battery storage, this will be considered as part of the generating capacity (e.g., 40MW wind farm plus 10MW battery storage battery would be considered to be a 50MW development).

7. Repowering

For proposals that seek to repower (modify, replace or upscale) an existing turbine(s) that proposes a physical change beyond what it has been granted planning permission for, Aberdeenshire Council will require a new planning application. Therefore, applicants should discuss any proposed physical alterations to an existing wind turbine(s) with the Planning Authority.

8. Landscape Sensitivity for Wind Farms

When considering what scale of development is appropriate in the different landscape character types in Aberdeenshire, including proposals to repower and extend a wind farm, reference should be made to the guidance in Planning Advice PA2023-03 Landscape Sensitivity Assessment – Onshore Wind Energy Development in Aberdeenshire (LSA Planning Advice) and Appendix 13, Aberdeenshire Special Landscape Areas (SLA), in the LDP 2023.

The LSA Planning Advice considered the ability of the Aberdeenshire landscape to accommodate wind turbines of all scales over 30m tall, excluding the Cairngorms National Park. This guidance provides a broad, strategic appraisal of the relative sensitivity of the Aberdeenshire landscape to wind energy development. It summarises where the landscape is likely to be most and least able to accommodate change from the introduction of wind turbine development without causing undue negative effects on its landscape character and qualities, relative to turbine height. While there has been a shift towards proposals for very largescale wind turbines of more than 150 metres in recent years, the core advice within the LSA Planning Advice is that each proposal should be assessed through the Landscape and Visual Impact Assessment process, and decisions made on their own individual merits.

Any proposal must not affect the integrity of a Special Landscape Area (SLA), as identified Appendix 13 in the LDP. Further advice is provided in the 'Forces for Change' section in Appendix 13, as wind turbines can affect views to and from the SLA.

As such, while having cognisance of wider climate change and carbon reduction targets, Aberdeenshire Council will endeavour to conserve, enhance and manage landscape

change over time to protect against development that might adversely impact on these landscapes, sense of place and quality of life.

9. Landscape and Visual Impacts

The landscapes of Aberdeenshire are valued and vulnerable resources that help to define the region for residents and visitors. They are therefore sensitive to any development that would have an adverse impact on their character.

While NPF4 Policy 11 Energy criterion e)ii states that significant landscape and visual impacts must be addressed, the policy recognises that such impacts are to be expected for some forms of renewable energy, and will generally be considered to be acceptable where impacts are localised and/or where appropriate design mitigation has been applied.

NPF4 Policy 4 Natural places sets out the importance of safeguarding natural assets including landscape designations as identified in the LDP. The Policy states that development will not have significant adverse effects on the integrity of the designation or the qualities for which it has been identified.

Landscape impact relates to physical features of landscape character, especially large-scale characteristics, such as water bodies, woodland and the landform topography, and the potential impact a proposal will have on them, while visual impacts result from the overall change of in views resulting from a development and is typically assessed via representative viewpoints.

Good design is essential for wind energy developments to ensure that any adverse landscape and visual impacts are minimised and that sensitive viewpoints are not adversely affected. Policy E2 Landscape and Appendix 13 Special Landscape Areas should be considered, as well as guidance from NatureScot (see Appendix 2 below).

In some cases, a small-scale wind turbine may appear less prominent in a 'busy' view with diverse features or where there are already existing man-made features (for example grain silos, shelter belts, or commercial forest plantations). However, most larger scale developments will be better suited to open, large scale and less 'cluttered' landscapes.

The landscape impact of wind turbines can be influenced by:

- Landform, scale and landscape characteristics (e.g., rounded hills or prominent ridgelines).
- Number, size, colour, and layout of wind turbines.
- Blade length and rotation speed of wind turbines.
- Night-time lighting on wind turbines.

- The density of the layout (best practice suggests that turbines should be spaced at least 3 to 4 rotor blade diameters apart).
- The value attributed to the landscape or individual landscape features.
- How turbines relate to the skyline.
- Access tracks.
- Other and ancillary components, such as power lines and battery storage units.

In general, wind energy developments are not compatible with prominent ridgelines, hills or sensitive skylines, or where they appear to reduce the height of a local hill or range of hills. Therefore, the siting in these locations should be avoided. Wind turbines should also generally not be sited adjacent to features, such as pylons or other wind farms to avoid visual clutter. Wind turbines in lowland valley landscapes should avoid being sited in locations where they would dominate residential property or significantly affect the setting of locally prominent landmarks or buildings.

Where a wind energy development already exists nearby to that being proposed (depending on topographical features), the cumulative impacts of this must be assessed and a similar scale and proportion of turbine should generally be proposed.

Applicants and Officers should also consider a range of viewpoints from the surrounding area. These should be presented and discussed between the applicant, Planning Service and relevant consultees at the pre application stage, prior to being agreed, in order to offer the best opportunity to appreciate the impacts of the proposal. Visually sensitive viewpoints can include those which are frequently visited by people (such as well-used transport corridors, tourist routes or picnic spots), residential properties, other inhabited buildings or viewpoints which have a landscape value that people appreciate (and which they might visit for recreational pursuits such as the National Park or areas for walking, cycling or education).

Designated sites are also an important consideration when assessing the landscape and visual impact of a proposal. There is a need for particular care to be taken in the assessment of the impact of wind turbines on designed landscapes and gardens, listed buildings and scheduled monuments. Further details are in section 13 below. Similarly, careful assessment of developments adjacent to, or visible from, the Cairngorms National Park is also required. The Cairngorms National Park Authority has created a [Cairngorms Landscape Toolkit](#), which should be consulted.

Landscape and Visual Impact Assessment (LVIA) is a well-respected methodology for assessing potential impacts on landscape character. Such assessments should be undertaken by a reputable professional Landscape Architect and should be based on the

Guidelines for Landscape and Visual Impact Assessment, 3rd Edition produced by the Landscape Institute. Further guidance on requirements for different scales of development is provided in Appendix 1. Where an EIA is required, the LVIA should be incorporated into this document.

A Cumulative LVIA may be required where a proposal involves:

- an extension to an existing or approved but unbuilt wind energy development; and/or
- where there are existing, approved but unbuilt, or proposed developments in the area.

A Cumulative LVIA identifies the significant cumulative impacts arising from the proposal and should be submitted as part of an EIA or environmental information. Further advice is available from NatureScot (see Appendix 2) and below.

Cumulative Landscape Impacts

There are also two types of cumulative landscape impact:

- a) “Cumulative effects on the *physical fabric* of the landscape arise when two or more developments affect landscape components such as woodland, dykes, rural roads or hedgerows. Although this may not significantly affect the landscape character, the cumulative effect on these components may be significant – for example, where the last remnants of former shelterbelts are completely removed by two or more developments.
- b) Cumulative effects on *landscape character* arise when two or more developments introduce new features into the landscape. In this way, they can change the landscape character to such an extent that they create a different landscape character.” (NatureScot, 2012).

In some areas of Aberdeenshire wind energy development has, through the large-scale introduction of an alien feature out of scale and context with the existing character of the landscape, had a detrimental landscape impact. Maintaining the integrity of Aberdeenshire’s landscape is a key consideration in the determination of planning applications under policies E2 Landscape and C2 Renewable Energy.

Extending an existing wind farm must also continue to fit within the landscape, or not become out of scale with, or traverse landscape areas. Ideally, they should not be seen as a separate wind farm. Nonetheless, cumulative effects may be judged unacceptable because of incompatibility in design between wind farms in the same vicinity.

As part of an assessment of cumulative impact, battery storage and ancillary development, such as borrow pits and access tracks, should also be considered as they can have an impact on the integrity of landscape features. For example, access tracks for turbine developments may necessitate the removal of features that are an integral to the landscape character in that area. Therefore, applicants should identify opportunities to reduce the impact of turbine access tracks, where applicable (e.g., track greening). Cumulatively such battery storage and ancillary developments may cause sufficient modification or removal of these landscape features such that the character of the area is significantly altered.

Cumulative Visual Impacts

Cumulative impacts from wind turbines that are new, repowering or extensions can have significant land use planning implications, particularly in relation to landscape and visual impacts. There are two distinct types of cumulative visual impact:

- a) “*Combined visibility* occurs where the observer is able to see two or more developments from one viewpoint. Assessments will consider the combined effect of all wind turbine developments which are (or would be) visible from relevant viewpoints. Combined visibility may either be in combination (where several wind turbine developments are within the observer’s arc of vision at the same time) or in succession (where the observer has to turn to see the various wind turbine developments).
- b) *Sequential* effects occur when the observer has to move to another viewpoint to see different developments. Sequential effects will be assessed for travel along regularly used routes like major roads, railway lines, ferry routes, popular paths, etc. Sequential effects may range from *frequently sequential* (the features appear regularly and with short time lapses between) to *occasionally sequential* (long time lapses between appearances) depending on speed of travel and distance between the viewpoints” (NatureScot, 2012).

When considering whether a view can accommodate change through wind turbine development, reference should be made to the cumulative impact [guidance](#)⁵ produced by NatureScot. The assessment of cumulative visual impact should be based on an analysis of the capacity of a view to absorb change (which can, for example, relate to the values

⁵ <https://www.nature.scot/doc/guidance-assessing-cumulative-impact-onshore-wind-energy-developments#Undertaking+a+Cumulative+Landscape+and+Visual+Impact+Assessment>

attributed to the view or the scale of the associated landscape) and the sensitivity of the relevant receptors.

Where a wind farm or wind turbine already exists nearby (depending on topographical features) a similar scale and proportion of wind turbine should be proposed, where possible (see above). Wind farms that contrast in turbine height, blade length and rotation, and layout may give rise to visual conflict and be judged unacceptable. If wind turbines are to be different, a justification of the reasons for not proposing similar wind turbine(s) to those adjacent or nearby must be provided.

Similarly, consideration should be given to the scale, proportion and design of existing and neighbouring wind energy developments when extending or repowering a wind farm or single wind turbine. It is preferred that additional or replacement wind turbines appear as a continuation of the scale and design of existing wind turbines (i.e., like for like). This includes the rotor diameter vs turbine height of the proposed and adjacent wind turbines, and how they relate in terms of scale and proportion (see section 7 above).

10. Ecological and Hydrological Impacts

Aberdeenshire is very rich in natural heritage. The impact a proposed development will have will depend on size and number of wind turbines, the siting of underground cables, drainage channels and track roads, and the scale and location of the development proposed. Even temporary crane platforms, which are used during the construction of each wind turbine, can affect sensitive sites such as peatlands. In other less sensitive areas mitigation measures may avoid any significant impact on such sites through detailed siting and design.

NPF4 Policy 4 Natural places states that development will not have significant adverse effects on the integrity of the designation or the qualities for which it has been identified. For clarity, Policy 4 states that a development proposal, which by virtue of type, location or scale having an unacceptable impact on the natural environment, will not be supported.

Where there is likely to be a significant impact, the applicant must demonstrate why a site in a less sensitive area is impractical. A rigorous justification of the reasons for dismissing alternative sites should be provided.

Impacts on Biodiversity

NPF4 adds significant weight to the nature crisis with Policy 3 Biodiversity, and brings stronger focus on restoration, biodiversity enhancement, conservation, and ecological connectivity. It also introduces the mitigation hierarchy, which indicates the order in which the impacts of development should be considered and addressed (i.e. to avoid, minimise, restore then offset).

Several areas of Aberdeenshire have been designated to reflect their international, national or local importance for the protection of species, habitats, geology, landforms, or a combination of these. Most designated sites are located along the coast and the south-west corner of Aberdeenshire. However, there are many other habitats and species of importance found out with designated sites.

Wind energy developments outwith a designated site can still affect areas of natural heritage protected under natural heritage designations, in particular birds which regularly fly to feed or roost outwith the designated site. Conversely, although wind energy developments should generally not be proposed in a designated site, it may be appropriate in some rare cases if the magnitude of effect on the purpose/attribute for which the site is designated is negligible or can be appropriately mitigated.

Many non-designated habitats, species and geological features are also of importance to the biodiversity of Aberdeenshire and should be provided with protection from any adverse impacts from wind energy development.

Where there is a potential for impact applicants should undertake a Baseline Ecological Survey in line with Aberdeenshire Council guidance (see Planning Advice PA2023-10 Securing Positive Effects for Biodiversity in New Development). This will highlight any potential impacts on designated sites, habitats and protected species and identify further survey requirements including bird surveys. NatureScot provide guidance on bird surveys which should be used by developers. The fragmentation of habitats will not be supported, or where adverse impacts are not mitigated. Policy E1 Natural Heritage should be consulted when considering proposals and their impacts on natural heritage.

Impact on Birds

Some bird species are more sensitive to wind energy developments than others. Birds can be affected if turbines are situated on migratory routes, or within feeding and roosting grounds. It is important that turbine developments avoid impacting upon important bird populations through collision, displacement or barrier effects, and consideration must be given to NatureScot and Royal Society for the Protection of Birds (RSPB Scotland)

guidance on the effect of wind farms, the Conservation (Natural Habitats &c.) Regulations 1994, Birds of Conservation Concern 2002-2007, Article 6 of the Habitats Directive 92/43/ECC, and the 1979 'Birds' Directive.

The siting of a wind energy development on or adjacent to a site of international importance will have to be assessed in accordance with the Habitats and Birds Directives, and the RSPB Scotland should also be consulted on this matter. Advice should also be sought from NatureScot if a proposed development will affect a Special Area for Conservation (SAC), Special Protection Area (SPA), Ramsar site, a Site of Special Scientific Interest (SSSI) or any species of international importance.

Any potential impacts that result in bird displacement should be identified together with appropriate avoidance or mitigation measures. This may include timing of works to avoid breeding season or habitat enhancement in adjacent areas to provide alternative feeding/roosting grounds. Policy E1 Natural Heritage protects species and nature conservation sites and will be strictly applied. Where the impact is uncertain, but there are sound scientific grounds that significant irreversible damage could occur, the precautionary principle will be applied, and planning permission should be refused.

Post construction monitoring may also be required to identify any impacts on sensitive species resulting from the development, and to assist with a cumulative impact assessment. Developers of medium and larger scale turbines, particularly those proposed for more sensitive areas, will therefore be expected to carry out post-construction bird monitoring. The findings of the surveys should be made available to Aberdeenshire Council, NatureScot and other relevant environmental organisations, including RSPB Scotland.

Cumulative Impacts on Birds

Wind turbines can have negative impacts on bird populations through collision with turbine blades; displacement due to habitat loss; disturbance, and barrier effects. As such, consideration must be given to whether proposed developments will amplify the impact of other developments in the area on bird populations, including developments other than wind turbines. It is very important that the cumulative impact on critical populations of birds is considered, as the impact of several wind farms may add up to a level that cannot be sustained in one area.

Discussions on which species may be subject to cumulative impact should be undertaken at the EIA scoping stage. Methodology for assessing cumulative impact on birds is available from NatureScot (see Appendix 2).

Cumulative impact should be quantified in EIA Reports including any possible mitigation and enhancement measures. Impact should be assessed at the local, regional, and national level. In some situations, where a SPA or Ramsar site is affected, a Habitats Regulations Appraisal may be required.

Biodiversity Enhancement

Policy E1 Natural Heritage also requires developers to identify measures to enhance biodiversity and geodiversity as part of their proposal and in line with good practice – further information is available in Planning Advice PA2023-10 Securing Positive Effects for Biodiversity in New Development. All Development Management Officers should ensure that satisfactory measures are proposed by the developer and conditions/agreements are in place to ensure that they take place. It may be appropriate for a Habitat Management Plan (HMP) to be requested illustrating how improvements to biodiversity and geodiversity will be implemented and managed. HMPs should be produced in accordance with NatureScot's best practice guidance.

Hydrological Effects

The potential hydrological effects of turbines, access tracks and other ancillary development should be considered, as there could be significant effects on or adjacent to the application site. Watercourses, underground streams, and private springs should be avoided, and private water supplies must not be adversely affected. The Council's Planning and Economy Service and Environmental Health Team will be able to advise on known private water supplies.

Policy PR1 Protecting Important Resources is also in place to protect Aberdeenshire's hydrological resource from damage by turbine and other developments. SEPA should be consulted on information provided by the developer on the potential impact of turbine proposals on ground water and water courses, which may also be used as a source for private water supplies. If there is the potential for an impact on fisheries, the relevant River Trust(s) should be consulted.

Impact on Peat and Prime Agricultural Land

Consideration should also be given to the potential release of carbon dioxide during the construction period of a wind turbine as a result of the proposed development disturbing peat and/or bogland areas.

The carbon calculator is no longer relevant, and NPF4 Policy 5 Soils allows for application of best practice and most up-to-date tools for assessment. Proposals will only be supported if designed and constructed in accordance with the mitigation hierarchy and in a manner that protects soil. All valued soils require a detailed site-specific assessment and Policy 5d lists assessment requirements, which include the likely net effects of the development on climate emissions and loss of carbon. NatureScot also provides a good practice guide on [wind farm construction](#)⁶.

There is also the potential for wind turbine developments in peat bog areas to have a detrimental impact on the stability of peat areas and cause the mass movement of peat. The Scottish Government provides a [peat landslide hazard best practice guide](#)⁷ on the assessment of peat landslide risk.

Proposals should also avoid, where possible, prime agricultural land (classes 1, 2 and 3.1).

Once decommissioned, the site must be restored and returned to its original status. Decommissioning should also include the removal of the turbine foundations, unless the applicant demonstrates that there would be significant disruption and environmental impacts. In these cases, the Planning Authority may agree that the turbine foundations can remain in situ.

Trees and Woodlands

Proposals for wind turbines should also not result in the loss of protected trees or those of significant ecological, historical, recreational or shelter value. Policy PR1 Protecting Important Resources should be used to assess proposals that are likely to cause the loss of some of these valuable resources, and compensatory planting will be necessary where the removal of trees has been authorised. Further advice is also available in Planning Advice PA2023-20 Trees and Development.

⁶ <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/renewable-energy/onshore-wind-energy/wind-farm-construction-good>

⁷ <https://www.gov.scot/publications/peat-landslide-hazard-risk-assessments-best-practice-guide-proposed-electricity/>

An Ecological Survey may be required to assess biodiversity and amenity value of a woodland and habitat. For any proposals involving the removal of trees and woodland, the Scottish Forestry's [Policy on Control of Woodland Removal](#)⁸ will apply. In line with this policy there should also be a particularly strong presumption against the removal of the following types of woodland: ancient semi-natural woodland; woodland integral to the value of nationally designated or special sites; woodland woodlands critical to water catchment management or erosion control; or woodlands listed as 'Plantations on Ancient Woodland Sites' (PAWS).

There should also be a strong presumption against woodland removal where it would lead to fragmentation or disconnection of important forest habitat networks.

Where compensatory planting is required, this will be considered on a case-by-case basis. Cognisance must be given to the Aberdeenshire Forestry and Woodland Strategy 2021 and the views of Scottish Forestry. It is expected that any compensatory planting is on-site, unless a sequential assessment shows that another site is more appropriate. Any off-site planting, including 'strategic' replanting sites⁹ should be as close as possible to the application site. Any compensatory planting must be undertaken to an agreed standard to mitigate the impact of the removal on landscape, sequestered carbon, character, amenity, and ecological diversity. Any new planting should also enhance connectivity with existing blue-green infrastructure.

If a wind energy development will result in the felling and reshaping of an existing woodland, a Woodland Management Plan, including felling and restructuring proposals should be supplied as part of the application. The Woodland Management Plan should be carried out and presented in accordance with Scottish Forestry guidelines.

11. Net Economic Impact and Associated Community Benefits

NPF4 Policy 11 Energy criterion c) only supports new development where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities. This information will be required as supporting information with any planning application.

Developers and/or landowners are encouraged to negotiate directly with communities rather than engaging with the local authorities on associated community benefits. Please

⁸ <https://forestry.gov.scot/support-regulations/control-of-woodland-removal>

⁹ These are areas where trees are planted to compensate for more than one wind farm.

note that a community benefit associated with a wind turbine proposal is not considered to be a material consideration in the determination of a planning application.

12. Public and Residential Amenity

When siting wind energy developments, consideration must be given to minimising adverse impacts on public and residential amenity, and any adverse effects should be capable of satisfactory mitigation. The visual impact of wind turbines is discussed under section 9, amenity impacts on recreation users are discussed in section 14. This section will look at other potential issues associated with wind energy developments, including:

- Noise
- Shadow flicker
- Public safety

A number of detailed considerations of potential impacts on people can be identified and, if the magnitude of the proposal and the sensitivity of the site warrant it, are best assessed by professional studies commissioned by the applicant. Aberdeenshire Council's Environmental Health Team will be consulted regarding any potential impacts from shadow flicker and noise.

Noise impacts

Given the considerable impact of turbines on amenity in terms of noise, a noise impact assessment will need to be undertaken for many proposals. More details are provided in the application checklist in Appendix 1 and in [SGN1: Assessing Noise from Wind Turbines](#)¹⁰. Aberdeenshire Council's Environmental Health Team will be consulted regarding any potential impacts from noise.

Properties that may be sensitive to noise because of a wind energy development include homes, nursing homes, accommodation blocks and non-residential uses.

Where a wind turbine development is proposed in a planning application, a higher level of noise impact on properties with a financial interest in the development¹¹ than neighbouring properties may be acceptable. This requirement does not apply in the case of a wind turbine proposed on a built or cultural heritage site/area/feature e.g., a residential listed building owned by the applicant/beneficiary of the wind turbine.

¹⁰ Under review. Due late 2023 <https://www.aberdeenshire.gov.uk/environment/environmental-health/noise-pollution/>

¹¹ A definition of financial interested is provided on page 2 in SGN1: Assessing Noise from Wind Turbines.

Cumulative Noise Impacts

Noise impacts have become an increasingly common concern as more turbines are proposed near residential properties or are repowered. In areas where a proposal is proximate to other turbine developments and noise sensitive receptors, the cumulative noise impact of developments on amenity must be considered. Environmental Health must be consulted in such instances.

When considering the cumulative noise impact of wind turbines, the conditioned noise levels of turbines in the area, rather than measured or predicted noise levels, must be applied. In certain instances, properties with a financial interest in a wind energy development will be afforded higher levels of noise impact than other affected receptors.

Shadow Flicker

The potential for shadow flicker impacts inside residential properties and next to public roads must be considered. An assessment of the potential harm and nuisance shadow flicker could cause throughout the year should be provided for all dwellings and public roads that could be affected. Where necessary, the Planning Authority may request an assessment of cumulative shadow flicker. The likelihood and duration of shadow flicker will depend on several factors, including the direction of road/house relative to the turbine(s), distance from and size of the turbine(s) (hub-height and rotor diameter), and time of year.

Public Safety

Safety issues, such as structural damage, ice throw and driver distraction must also be considered when siting a wind turbine in close proximity to roads, public paths and railway lines. The greater the number of wind turbines in close proximity of a road, public path or railway line, the greater the risk of debris following catastrophic failure, and the greater the risk of driver distraction.

In the interests of safety, the distance between a wind turbine and an existing road (except a trunk road) and railway line should be at least 1 times the height (to blade tip) of the proposed turbine(s) plus 50m. In the case of trunk roads, developments should be sited at least 1.5 times the height (to tip) of the turbine away from the nearest kerb line of the trunk road carriage way.

Larger turbines should be fitted with equipment that detects and prevents operation in conditions where ice is present, including vibration sensors and other means of detecting imbalance in the blades.

When considering any proposal, an assessment must be done on the potential risk posed to any road or rail users while it is accepted that risks may be very low. Feedback from statutory consultees will also be a key part of the assessment process.

The movement of construction traffic must also be considered to ensure that road safety is addressed, and the road and bridge network will not be degraded. Conditions will generally be applied to any planning permissions requiring submission of an Abnormal Load Routing Plan or a Construction Traffic Management Plan.

Wind turbines and associated developments should avoid areas at risk from flooding, functional flood plains, where it could increase the severity of flooding elsewhere, or cause soil erosion.

Locating a Development Next to a Wind Energy Development

Where an applicant proposes a new development (e.g., a house) near an operational or consented wind energy development, the applicant for the new development may be requested to submit assessments (e.g., a Noise Impact Assessment) that demonstrates that the wind energy development(s) would not adversely affect the amenity of the proposed development. Where the applicant has not demonstrated that the existing or consent wind energy development(s) would not adversely affect the amenity of proposed development this may mean that planning permission is refused.

13. Historic Environment

The built and cultural heritage of Aberdeenshire contributes towards the identity of the area, and features such as castles and pre-historic sites help give the North East a distinctive character. It is therefore crucial that Aberdeenshire's built heritage is protected from harm through insensitive or inappropriate forms of development.

Advice should be sought from Historic Environment Scotland, and the Council's Archaeological Service and Environment Team on all potential impacts on the character, integrity or setting of scheduled monuments, listed buildings, inventory battlefields, historic designed landscapes identified in the Inventory, and conservation areas.

Applicants should also consider LDP policies HE1 Protecting Listed Buildings, Scheduled Monuments and Archaeological Sites (including other historic buildings) and HE2 Protecting Historic, Cultural and Conservation Areas.

Operations that directly impact on any listed building or scheduled monument will also have to apply for further statutory consent.

Impacts on the setting of listed buildings, archaeological sites, historic land uses, and designed gardens and landscapes may be assessed as part of a LVIA.

14. Tourism and countryside access

Scotland's landscapes (and some townscapes) are a major economic asset for the tourism industry, which this provides an argument for avoiding adverse impacts upon aspects of the Scottish landscape that attract tourists.

Assessment of the potential impacts on tourist infrastructure will be undertaken under other headings (safety, noise, visual impact etc), but these require to be given additional weight when they affect the tourist economy. Impacts on rights of way during construction must be identified and mitigated (e.g., a temporary route and signage).

Sites should be selected that minimise visual impact from tourist viewpoints, routes and facilities.

15. Aviation, Defence and Radar

The siting of wind turbines may have implications for flight paths of aircraft, airport radar and communications and weather radar stations. Their support structure and rotating blades can have an effect on communication, navigation and surveillance by giving off false radar returns and masking (shadowing) genuine aircraft returns. Tall structures can also act as obstructions to low flying aircraft as they take off and land or interfere with visual aids such as landing lights. In some circumstances turbines may also cause turbulence to passing aircrafts. Major airports and technical sites are 'safeguarded' by Directions made under the Town and Country Planning (General Development Procedure) (Scotland) Order 1992. Aberdeenshire Council also has safeguarding agreements with airfields at Inch and Longside, which are not protected by this legislation. To reduce potential impacts that may affect any safeguarded zone, proposals should generally avoid siting wind turbines:

- in the approach/take-off airspace of an aerodrome;
- in military low flying areas;

- in the line of sight of any radar or other electronic aids for air navigation or for weather reading; and/or where they would;
- infringe the aerodromes obstacle limitation surfaces;
- obscure runway approach lights;
- have the potential to impair the performance of aerodromes navigation aids, radio aids or telecommunication systems;
- distract pilots by lighting if proposed; or
- have the potential to increase the numbers of birds or the bird hazard risk.

Where the safe and effective operation of any weather station, aerodrome, radar or communications system could be compromised, including when an objection is received from the relevant authority or aerodrome operator and mitigation isn't possible within the scope of the planning application, the application should generally be refused or withdrawn by the applicant. The Civil Aviation Authority (CAA) also provides [guidance¹²](#) on [wind turbines¹³](#) and [aerodromes¹⁴](#), which can be used by applicants and development management officers to identify any potential issues. At the taller end of the height scale, all onshore wind turbines 150m high and over to blade tip require visible red aviation warning lighting under CAA rules.

In Aberdeenshire, there has been a particular issue with the impact of turbines on radar for both civilian and military aviation. NATS, Aberdeen International Airport and MoD will therefore be consulted on any applications for wind turbines to determine the potential impact on radar.

Applicants should discuss potential impacts with NATS, Aberdeen International Airport and/or MoD who can offer blanking¹⁵ or other mitigation measures. However, in recognition of the cumulative impact of turbines on their radar, NATS together with Aberdeen International Airport will only allow limited blanking of turbines that are visible to their radar. This mitigation method will effectively ignore any radar returns within a tightly defined area surrounding a wind turbine. However, this will also ignore any other movement from aircraft and therefore their technical advisors have determined the criteria that will require to be met to determine the number of blanking zones used to mask problem developments.

¹² <https://www.caa.co.uk/uk-regulations/>

¹³

<http://publicapps.caa.co.uk/modalapplication.aspx?catid=1&pagetype=65&appid=11&mode=detail&id=5609>

¹⁴

<http://publicapps.caa.co.uk/modalapplication.aspx?catid=1&pagetype=65&appid=11&mode=detail&id=576>

¹⁵ The blanking out of specific areas 'hides' wind turbines from radar returns to stop them appearing as 'clutter' and be mistaken for aircraft.

16. Communication Systems and Television Reception

Wind turbines can interfere with broadcast communications and other wireless services through signal blocking or reflection. It is impossible to obtain a definite picture of all the transmission routes across any proposed site for a wind energy development due to the large number of bodies who use communication systems. However, they can have an impact on the layout of turbines.

The Office of Communication provides [guidance¹⁶](#) on this issue and should be contacted to identify any potential television and radio broadcasting, telecommunication and wireless communication issues.

The nature of interference to communication or television reception depends on many variables, including the system frequency, the position of the wind turbine(s) with respect to the system, and the directional characteristics of the transmitting and receiving antennae. Proposals should avoid siting turbines:

- within a known communications 'band';
- where they would interrupt communication systems for emergency services or MoD; and
- where they will disrupt broadband services.

17. Gas Pipelines and Pylons

A separation distance between wind energy proposals and high-pressure gas pipelines of 1.5 times the tip height of the turbine should be maintained. The extent and location of pipelines can be viewed in Planning Advice PA2023-13 Pipelines & Hazardous Development Consultation Zones or by contacting the Planning Authority. Wind turbines should also be sited more than topple distance away from pylons. In circumstances where pipelines or pylons are close to a proposed development site the relevant operator(s) will be consulted.

18. Ancillary Development and Battery Storage

In addition to the wind turbines themselves, wind farms may also include battery/energy storage elements and have a host of other development needs associated with servicing them (see examples below).

Access Tracks

The following should be considered for permanent or temporary access tracks:

¹⁶ http://licensing.ofcom.org.uk/binaries/spectrum/fixe-terrestrial-links/wind-farms/tall_structures.pdf
https://www.ofcom.org.uk/data/assets/pdf_file/0026/63494/tall_structures.pdf

- a) The natural heritage value and sensitivity of different habitats.
- b) Minimising their length and impact on the landscape and ecology (see Policy R4 Hill Tracks). Wherever practical, existing tracks should be used. If a new access track is needed, it should be routed out of sight from popular viewpoints, away from watercourses and habitats containing important species, and designed to reflect the contour gradient. Opportunities for track greening should also be considered.
- c) Are constructed from appropriate surface material, ideally from a local source, to minimise the level of contrast with its surroundings (see also “Construction materials” below).
- d) Wherever possible, new roads should be of the floating type constructed ideally on mats, which results in minimum excavation.
- e) Have slight gradients/cut embankments than steep embankments to allow vegetation to regenerate.
- f) Prevent erosion, sedimentation and discolouration along with monitoring proposals and contingency plans.
- g) Minimise crossing peatland and restore of damaged areas.

Buildings, Battery Storage, Transformer Equipment and Power Lines

The following should be considered when siting ancillary buildings, battery/energy storage facilities, transformer equipment and powerlines:

- a) All buildings and equipment should be designed to be out of sight of sensitive viewpoints.
- b) The natural heritage value and sensitivity of habitats and species.
- c) Impact on the setting of listed buildings, conservation areas, archaeological sites, inventory battlefields and historic gardens and designed landscapes (as listed in “The Inventory of Historic Gardens and Designed Landscapes”).
- d) Transformer equipment should ideally be housed in the base of each tower, depending on the size and location of the turbine (i.e. a designated site or within a settlement), or housed in a separate ‘building’ adjacent to the turbine.
- e) Substations, battery storage units and power cables connecting to the national grid should be sited with minimum ecological, landscape, and cumulative visual impacts.
- f) The operational noise impact from the battery storage if mechanical ventilation or transformers are proposed, particularly where the development scale increases.

- g) In coastal landscapes, substations and battery storage units should be low and inconspicuous, and sited away from turbines to reduce visual clutter.
- h) Power cables, fencing, buildings, and anemometer masts should be located and designed in a way that minimises clutter.
- i) Power cables connecting the individual turbines to the on-site substation, battery storage unit and/or to the should be underground¹⁷. Connections from a wind farm substation to the distribution or transmission network will be provided by the network operator under Section 37 of the Electricity Act. Developers need to consider potential impacts on Ground Water Dependent Terrestrial Ecosystems (GWDTE), water bodies, peat and other sensitive environments when considering cabling. Running cables along or under access tracks could minimise potential impacts.

Borrow Pits and Construction Materials

Where materials for construction are to be sourced from local or onsite borrow pit(s), further details must be provided on the location, likely visual, ecology and hydrological impacts, proposed mitigation measures, and how the land will be reinstated/made good. This must include cross-sections of any proposed (and reopening of) borrow pit(s).

Recycled materials should be assessed as to whether they are the best environmentally practical option for materials, particularly for items such as aggregate and road construction materials.

Disposal of Overburden

Overburden from construction works should be disposed of in a sensitive manner, on site if this is appropriate to the character of the area, as fill for reinstating borrow pits or in a form that can be reclaimed for the long-term reinstatement of the site at decommissioning. Disposal of overburden should be given due consideration in the method statement and should in all cases accord with Policy R4 Hill Tracks.

Drainage Works

Consideration should be given to their scale, location and line, and potential effects of discharges and temporary or permanent changes to hydrology, particularly to wetland and peatland habitats.

¹⁷ The planning application consenting process will vary depending on who installs the underground cable. A private developer will require planning permission, but a statutory undertaker may benefit from Permitted Development rights. A third-party developer may require separate planning permission where the energy proposal does not propose any cables but defers this aspect for the future.

A Drainage System scheme should be considered, to remove surface water runoff and prevent erosion. Consideration should be given to the scale, location, and line of any drainage works proposed. Culverting should be avoided.

Landscaping Works

Where the proposal is located on a sensitive site, such as an archaeological site, or in close proximity to housing or tourist attraction, landscaping should be a fundamental and integral part of the design. Any proposed works should be appropriate in their nature and scale, and should not incorporate trivial, ornamental or other 'cosmetic' treatments or attempts at screening proposals, as a result of poor-quality siting or design.

Parking Areas

Consideration should be given to the scale, location, layout, material, markings and signing, ensuring there will be no unacceptable impact on the character and amenity of the surrounding area.

19. Decommissioning Options

The decommissioning of a wind turbine(s) should be considered at the planning stage of the project.

A condition requiring decommissioning and site clearance will be included in any planning permission and/or legal agreement. In some cases, a bond will be requested to ensure there is sufficient money available to return the site to its original state. The requirement for decommissioning and reinstatement of the site will be triggered if the project ceases to operate for a period of time (generally this is six months).

Depending on the sensitivity of the proposal's location and likely impacts, the Planning Authority may apply time limited conditions to the planning permission, for the purposes of reviewing environmental impacts.

Planning permissions for medium-large, large or very large turbines will include a condition requiring the submission of a Restoration and Decommissioning Plan within two years of the commissioning of the turbine. This should be prepared and agreed with the Planning Authority and should include the following, although this list is not exclusive:

- the length of time it will take to remove all the turbines and associated tracks, cables, and buildings;
- transport and traffic requirements i.e., vehicle movements, road widening or other traffic measures;
- remedial works e.g., soil covering and reseeded; and

- the impacts on the wider environment e.g., natural habitats, recreational users, residential areas (in particular noise impacts).

Appendix 1: Application Checklist

Table 1 below provides a checklist for prospective applicants to ensure all necessary information is provided in support of their planning application. This list is not exhaustive and discussion over exact requirements for each proposal will vary between projects. For larger turbines, additional information may be required as part of the EIA process and will be identified at the EIA scoping stage. As such, and in all cases, discussions should take place with the Planning Authority at an early stage to establish and confirm information requirements.

Table 1: Planning application checklist

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
Environmental Impact Assessment	Environmental Impact Assessment (EIA) may be required under the terms of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Further details on EIA regulations are available in Appendix 2 below.			
Community consultation	<ul style="list-style-type: none"> For some developments, developers will be encouraged to deliver public consultation using PAS's practical guide, SP=EED® (Successful Planning = Effective Engagement and Delivery), which has been published as Planning Advice PA2023-15. All major development proposals (greater than 20MW) must carry out Pre-Application Consultation (PAC) with the local community and submit a PAC report with the planning application. A Proposal of Application Notice (POAN) must also be agreed with by the Planning Authority. Information submitted should include a summary of events held, attendance, feedback, and responses to feedback. 			

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
Local employment	Details should be provided of the local employment and/or business opportunities that may arise as a result of the wind energy development particularly in relation to civil engineering works, supply chains, haulage and other non-specialist works. These details should be justified and evidenced.			
Associated community benefits	A wind farm developer/owner may wish to play an active role in the community. Developers or landowners are encouraged to engage directly with communities rather than with Aberdeenshire Council on this issue. The absence or presence of any contribution to local communities is not an issue that will be considered by the authority in its determination of whether planning permission should be granted.			
Developer obligations	<ul style="list-style-type: none"> • Details should be provided on the form of developer contributions required as a result of the proposed wind energy development. The need for developer contributions will be assessed in relation to the impact of the proposed development in the locality, such as visual and road infrastructure impacts (i.e. need for new footpaths or road widening). Developers will be expected to alleviate such impacts through means agreed by the Council's Developer Obligations Team. • Developer Obligations do not include any payments made to local communities to assist with community development. These are not a material consideration in any planning application. 			

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
Landscape and visual impact	<ul style="list-style-type: none"> • Technical information from the turbine supplier is often adequate. • Photomontage may be requested to illustrate relationship. • Eight figure grid reference for each proposed turbine. 	<p>A Landscape and Visual Impact Assessment (LVIA) that is proportionate to the scale of the proposal and should include:</p> <ul style="list-style-type: none"> • Zone of Theoretical Visibility (ZTV) map covering an area up to 20km (radius) from the turbine. • Wireline drawings and photomontages from a limited number of key viewpoints (viewpoints to be agreed with Aberdeenshire Council). • Design statement may be required in the case of multiple turbines. 	<p>A comprehensive LVIA should address the sensitivity, magnitude and significance of landscape and visual impact and include:</p> <ul style="list-style-type: none"> • ZTV map covering an agreed area (radius) from the turbine. The higher the turbine, the greater the area. • Wireline drawings and photomontages from key viewpoints (viewpoints to be agreed with Aberdeenshire Council, and NatureScot, where appropriate). • Assessment of landscape sensitivity, magnitude of change and residual impacts. • Design statement identifying design objectives and process. • Eight figure grid reference for each proposed turbine. <p>LVIAs should be completed in accordance with 'Guidelines for Landscape and Visual</p>	

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
		<ul style="list-style-type: none"> • Eight figure grid reference for each proposed turbine. 	Impact Assessment, 3 rd Edition' produced by the Landscape Institute.	
Cumulative impacts	<ul style="list-style-type: none"> • Cumulative impacts have become an increasingly significant constraint on development in Aberdeenshire due to the scale of development that has already taken place. • Whilst cumulative impacts are considered in EIA Reports submitted in support of large applications, smaller developments can also have an unacceptable cumulative impact. • In general, all developments of over 50m in height will need to be accompanied by a Cumulative LVIA, in line with NatureScot best practice guidance (see Appendix 2), though these assessments may be requested for smaller scale developments. 			
Ecological Survey	A baseline Ecological Survey will generally be required for all tower mounted turbines over 15m. This may inform the need for further surveys focusing on vulnerable or protected species which use the site. The survey should be conducted in accordance with Aberdeenshire Council's planning advice PA2023-17 on Baseline Ecological Survey (see Appendix 2).			
Peat and soils	<ul style="list-style-type: none"> • A detailed site-specific assessment is provided for all valued soils, which include the likely net effects of the development on climate emissions and loss of carbon. • Supporting information must demonstrate why a location rich in peat deposits is required and whether alternative sites have been considered. 			

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
	<ul style="list-style-type: none"> Effort should be made to avoid areas of peat, which includes wind turbines, construction compounds, tracks, borrow pits etc. 			
Natural heritage sites	<p>International and National Designations</p> <p>Supporting information must demonstrate that proposals (including all associated works) will not affect such sites to an unacceptable degree. Where proposals may have a significant effect on European Sites (Special Areas of Conservation (SAC) or Special Protection Area (SPA)), they should be screened in accordance with the Habitats Regulations Directive. A Habitats Regulation Appraisal may be required. Where mitigation measures are proposed these must be shown to be:</p> <ul style="list-style-type: none"> achievable; agreed with NatureScot and any organisation responsible for managing the designated site or with responsibility for the maintenance of the site and the integrity of the reason for its designation; and subject to planning conditions or a Section 75 agreement as appropriate. <p>Local Designations</p> <ul style="list-style-type: none"> For other recognised nature conservation sites (such as Local Nature Conservation Sites, nature reserves, designated wetlands, woodland in the NatureScot’s Ancient Woodland Inventory and the Native Woodland Survey of Scotland) supporting information must demonstrate that the proposal’s public benefits clearly outweigh the nature conservation value of the site. In all cases, impacts must be suitably mitigated against. 			
Impacts on birds	<ul style="list-style-type: none"> Up to 15m – Ornithological Surveys are generally not required. 	<ul style="list-style-type: none"> Ornithological surveys are generally required. Please contact RSPB 		

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
	<ul style="list-style-type: none"> 15m to 50m – Ornithological Surveys may be required, particularly if the site is located close to an SPA (such as Loch Skene). 		Scotland and NatureScot for further guidance. Post construction monitoring may also be required, particularly in more sensitive areas.	
Woodland Management Plan	<ul style="list-style-type: none"> Supporting information must demonstrate why a woodland location for the wind turbine(s) is required and whether alternative sites have been considered. If a wind energy development will result in the felling and reshaping of an existing woodland, a Woodland Management Plan, including felling and restructuring proposals should be supplied as part of the application. It should be carried out and presented in accordance with Scottish Forestry guidelines. Where applicable, details of compensatory planting must be provided. 			
Noise Assessment	Please contact Aberdeenshire Council’s Environmental Health Team for advice on the specific noise assessment methodology required. Advice on undertaking a noise impact assessment, cumulative impacts, extending wind farms, financial interests and sensitive receptors are provided in Aberdeenshire Council’s guidance, SGN1/2021 Assessing Noise from Wind Turbines ¹⁸ .			
Shadow flicker	An assessment of the potential harm and nuisance shadow flicker could cause throughout the year should be provided for all dwellings and public roads that could be affected.			
Public safety	<ul style="list-style-type: none"> Depending on the scale of the proposal, and in consultation with relevant consultees and stakeholders, a risk assessment of the proposed development should be submitted, taking 			

¹⁸ Under review. Due late 2023.

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
	<p>account of proximity of any surrounding development/land uses, risk of injury to humans through catastrophic equipment failure or ice throw, and driver distraction.</p> <ul style="list-style-type: none"> • An informal risk assessment may be requested to ensure that the developer has considered this impact in order for mitigation measures to be proposed. • For proposed wind farm developments, an assessment of any road safety as well as capacity implications of the proposal, including possible effects of visual distraction caused by the turbines themselves will be required. 			
Historic environment	<p>Supporting information should identify:</p> <ul style="list-style-type: none"> • historic and archaeological sites affected by the proposal, proportionate with the scale and number of turbines. • The effect of the proposal and all associated works on the integrity of a site and its setting; requirements for archaeological survey and recording. • Any proposed mitigation measures. • Viewpoints/Photomontages/Wirelines/Cumulative impacts will be required from all potentially affected sites. 			
Tourism and countryside access assessment	<p>Where applicable, an assessment of any visual and amenity impacts on tourist and recreation facilities or tourism and countryside access, e.g., footpaths.</p>			
Access	<p>An access plan will be required for all applications. This should show existing roads and non-motorised public access footpaths, bridleways and cycleways on the site and external links from</p>			

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
	the site, together with proposed public access provision both during construction and after completion of the development.			
Aviation/radar	In Aberdeenshire there has been a particular issue with the impact of turbines on radar for both civilian and military aviation. Developers are therefore advised to consult NATS, Aberdeen International Airport and Ministry of Defense (MOD) prior to a planning application being submitted.			
Communication systems and television reception	Tall structures such as wind turbines can have a detrimental impact on broadcasting, wireless and telecommunication signals. The Office of Communication provides guidance on this and should be contacted to identify any issues.			
Wind turbine(s)	Full technical details of the turbines, including the proposed foundations, if applicable.			
Energy/Battery storage	<ul style="list-style-type: none"> • If proposed, full technical details of the battery storage unit(s) must be provided, including their elevations and size. • A risk assessment of catastrophic failure of the battery system should be provided to assess potential impact on adjacent land and watercourses. • A Noise Impact Assessment may be required if mechanical ventilation or transformers etc are proposed, as there may be an operational noise impact from the battery storage, particularly where the development scale increases. 			
Ancillary works	<ul style="list-style-type: none"> • Details of all ancillary works such as access tracks, track improvement, substations and borrow pits should be provided. 			

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
	<ul style="list-style-type: none"> • Details should be provided of temporary and permanent access requirements, including earthworks, for construction, maintenance, and eventual decommissioning. Details of any landscaping works proposed. • With regards any borrow pits, applicants must provide details of their location, size, depth, with cross sections, the duration/programme of operation and a programme for eventual closure including a site reinstatement/restoration plan. • Aberdeenshire Council Roads Department can advise whether access arrangements are appropriate, whether the local road network can accommodate the projected level of construction traffic, and what works may be required off-site to allow access. • In the case of turbines of 40m or more in height, a condition will be applied to any consent requiring the submission of an Abnormal Load Routing Plan (ALRP), written in accordance with Aberdeenshire Council's Abnormal Load Routing (Windfarms) Guidelines, for approval by the local Planning Authority. This will ensure that proposals will not risk road safety and will not degrade the road and bridge network. • For smaller turbines, a condition will be applied to any consent requiring the approval of a Construction Traffic Management Plan. 			

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
Construction	<ul style="list-style-type: none"> • A condition may be applied to planning consents requiring the submission of a construction method statement. The method statement should follow best practice guidance contained in Good practice during wind farm construction. Evidence of non-reflective construction materials should be provided. • Where road widening or improvements to the road network are proposed to allow the turbine(s) to be transported to the application site, details should be given to the potential loss of roadside habitat, trees, hedges and dykes, and impacts to bridges and historic environment features. 			
Trunk roads	Where a wind energy development will have an impact on the trunk road network, applicants should refer to Transport Scotland's guidance and are encouraged to contact Transport Scotland prior to submitting their application.			
Decommissioning, restoration and aftercare	<ul style="list-style-type: none"> • A condition will be applied to all planning permissions requiring the decommissioning of the wind turbine(s), and the restoration of the site, should they cease operating for 6 months or more. The principle of the use of the site would persist in perpetuity. • Sufficient funds, such as a bank bond, should be available to ensure the decommissioning of the site, and estimated costs should be made 		In addition to the requirements for decommissioning and restoration, a condition will be applied to all planning permissions requiring the submission of a draft Decommissioning, Restoration and Aftercare Strategy to the Planning Authority prior to the commencement of the development. A further planning condition will require a detailed strategy within 3	

	Turbine height up to 30m	Turbine height 30-50m	Turbine height greater than 50m	Tick if complete
	<p>available to the Planning Authority. This includes the dismantling, removal, disposal, site restoration, remediation aftercare liabilities and incidental work associated with professional costs.</p>		<p>years of the decommissioning of the turbine or expiration of planning permission.</p>	

Appendix 2: Resources

Local Policies and Advice

[Aberdeenshire Local Development Plan 2023](#)

[Aberdeen City and Shire Strategic Development Plan 2020](#)

[Aberdeenshire Council Planning Advice](#)

[Aberdeenshire Council, SGN 1/2021 Assessing Noise from Wind Turbines](#)

Scottish Government

[Carbon calculator for wind farms on Scottish peatlands: factsheet](#)

[Environmental Impact Assessment](#)

[Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments](#)

[Planning Advice: Onshore wind turbines](#)

[Planning advice notes](#)

[National Planning Framework 4](#)

Historic Environment Scotland

[Historic Environment Policy for Scotland \(2019\)](#)

NatureScot

[Assessing the cumulative impact of onshore wind energy developments \(2012\)](#)

[Good practice guidance during wind farm construction](#)

[Planning and Development Advice: Renewable Energy - Wind farm development](#)

[Planning and Development Advice: Wind farm impacts on birds](#)

[Planning and Development Advice: Wind farm impacts on landscape](#)

[Standing advice and guidance documents](#)

[Siting and designing wind farms in the landscape - version 3a \(2017\)](#)

Royal Society for the Protection of Birds (RSPB)

[Policy Insight: Wind Farms & Climate Change](#)

Scottish Environment Protection Agency (SEPA)

[Guidance on Wind \(onshore\)](#)

[Guidance Note 4 Planning guidance on on-shore windfarm developments \(2017\)](#)

Scottish Forestry

[Forestry Commission \(2018\) Create a woodland management plan](#)

[Scottish Forestry \(2009\) Control of Woodland Removal](#)