

Supplementary Guidance: Energy



APRIL 2017



Planning in Orkney

Status of this Supplementary Guidance

The main planning document in Orkney is the **Orkney Local Development Plan** (the plan), which provides the policy framework and land allocations for dealing with planning applications efficiently and with certainty. All decisions on planning applications require that an appropriate balance is struck between the relevant development plan policies and other material considerations.

Supplementary Guidance is produced for given policy areas and subjects where a specific requirement is highlighted within the plan. It is the purpose of supplementary guidance to provide further information, policy and advice on complex planning matters and seeks to expand upon the core policies or land allocations in the plan. Supplementary guidance is always subject to full public consultation and is submitted to the Scottish Government prior to adoption. Once adopted, supplementary guidance has statutory weight in the determination of planning applications and forms part of the plan.

Planning Policy Advice (PPA) is prepared to provide further information and advice on policies and issues where a specific requirement to produce supplementary guidance has not been set out within the plan. Many Development Briefs for land allocations are set at this level, along with the majority of advice and information that is prepared for members of the public and Development Management. PPA is always subject to full public consultation and council approval prior to adoption and publication. Once adopted, PPA is a material planning consideration although it does not bear the same weight as the plan itself.

Development Management Guidance (DMG) is produced to provide advice on technical issues and the interpretation of given policies where a need arises. It is the intention of DMG to ensure a consistency of approach and to highlight the original intention/spirit of a policy where there is any ambiguity. DMG is also produced for less-complex land allocations to ensure a co-ordinated approach to development can be achieved - Conservation Area Appraisals and Conservation Statements are also set at this level within Orkney. Whilst DMG is not subject to public consultation, it is approved by Council prior to adoption and publication. As such, DMG is a material consideration in the determination of planning applications, which is considered to be the standing advice of the Local Planning Authority.

Contacting the Council

Should you wish to discuss any aspect of this Supplementary Guidance, an Officer from Development Management will be available from 09:00 to 17:00, Monday to Friday to meet at the OIC Customer Services in Kirkwall or via telephone 01865873535.

www.orkney.gov.uk

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1. Introduction

Background

- 1.01** The Scottish Government has set targets for 100% of Scotland’s electricity and 11% of heat demand to be generated from renewable sources by 2020. Section 4 of The Climate Change (Scotland) Act 2009 also places a duty on all Public Bodies to mitigate against climate change by reducing emissions of ‘greenhouse gases’, in line with national targets. A modal shift towards renewable and low carbon forms of energy is a major contributory factor in enabling a reduction in emissions. In addition, the Scottish Government has set a renewables target of 100% toward transport energy consumption and electric vehicle charge points will become commonplace in the future.
- 1.02** The renewable energy sector is a growth sector for the both Scottish and the Orkney economies, providing employment and bringing investment. The European Marine Energy Centre is located in Orkney along with a number of renewable energy companies and ancillary businesses. In addition to this, students are attracted to Orkney to study renewable energy-related courses at the International Centre for Islands Technology, which is part of Heriot Watt University.
- 1.03** This guidance seeks to ensure that appropriate development can take place, whilst at the same time seeking to ensure the character and special qualities of Orkney is not adversely affected.

How to Use this Guidance

- 1.03** Applicants are encouraged to refer to this guidance at an early stage in the design and development process and it is recommended that they enter into discussions with the council’s Development Management Team at the earliest opportunity. Pre-application discussions will assist in assessing the levels of supporting information that is required to be submitted with the planning application and the potential effects that should be considered, including cumulative effects on known constraints.

The Policy Context

- 1.04** This guidance accompanies Policy 7 of the Orkney Local Development Plan which seeks to support appropriate renewable energy development. This policy seeks to provide all planning stakeholders with clarity whilst offering a transparent and robust framework for the assessment of relevant development proposals.

A. Heat Networks, Energy from Waste and District Heating

- i. Developments associated with the generation and distribution of heat and power from a variety of sources, including the retro-fitting of networks and other equipment, will be supported to ensure that energy efficiency and renewable heat potential is optimised.
- ii. Pipe runs within developments that are associated with approved heat networks will be safeguarded for later connection.

- iii. Proposed developments should connect to existing heat networks or heat distribution infrastructure where possible, or be designed so they are capable of being connected in the future.
- iv. Renewable heat sources on brownfield sites will be supported where they are integrated with approved heat networks and associated energy centres.
- v. Where heat networks are not viable, appropriate micro-generation and heat recovery technologies associated with individual developments will be supported.

B. Fuel and Energy Storage

- i. Energy storage solutions at the point of generation, and within appropriately sited alternative locations, will be supported in principle where they accord with other development plan policies and where there is potential to connect to off-grid areas, projects or schemes.
- ii. Fuel and energy storage facilities will be supported within industrial locations adjacent to or in close proximity to, port and harbour facilities where there is no direct conflict with adjoining uses or any unacceptable environmental impacts.

C. All Renewables and Low Carbon Energy Developments

- i. The development of renewable and low carbon energy schemes, including the onshore infrastructure and/or buildings required for offshore marine renewable energy developments, and related transmission infrastructure, will be supported where it has been demonstrated that the proposal will not result in significant adverse effects on known constraints, either individually or cumulatively. Sufficient supporting information must be submitted with any planning application to enable a full assessment to be made of the likely effects of the development.
- ii. Conflict with adjoining uses must be avoided and developments may not compromise the viability of any existing land use allocation or approved land use proposal in the surrounding area.
- iii. The net-economic impacts of a proposal, including local and community socio-economic benefits such as employment associated businesses and supply chain opportunities, will be taken into consideration and any demonstratable benefits will be balanced against any identified adverse impacts on known constraints.

D. Onshore Wind Energy Development

- i. Proposals for wind energy developments of all scales, including extensions to existing developments and repowering, will be assessed against the following factors to ensure that there will be no significant adverse individual or cumulative impacts:
 - a. Communities and Amenity
 - b. Landscape and Visual Impact
 - c. Natural Heritage
 - d. Historic Environment
 - e. Tourism and Recreation
 - f. Peat and Carbon Rich Soils
 - g. Water Environment

- h. Aviation, Defence and Communications.
- i. Construction and Decommissioning
- ii. Appropriately sited single small wind energy developments (<20m to blade tip) will be supported in principle where there is a clear visual link, at an appropriate scale, between the wind energy development and the building(s) to which it relates.
- iii. Applications for any windfarms should take account of the Spatial Strategy Framework for windfarm development:
 - a. Areas with potential capacity to accommodate wind farms have been identified as 'Areas with Potential for Wind Farm Development'; representing the areas of least constraint to wind energy development. Wind energy development is likely to be supported in principle within these areas, subject to proposals complying with the Development Criteria from Supplementary Guidance: Energy and any other material planning consideration.
 - b. Within the 'Areas of Significant Protection' wind farm development may be supported when a proposal complies with the Development Criteria from Supplementary Guidance: Energy and where it can be demonstrated by the applicant that any significant effects on the qualities of these areas can be overcome by siting, design or other mitigation.
 - c. Wind farm developments will not be supported within the National Scenic Area.
- iv. Throughout the lifetime of the Plan, OIC will investigate potential 'Strategic Wind Energy Development Areas' within which the principle of wind farm developments will be supported. Any such areas will be subject to appropriate assessment and full public consultation before being adopted within Supplementary Guidance: Energy.
- vi. Consent for wind energy developments may be granted for a maximum period (usually 25 years) from final commissioning/the date that the device commences energy generation. Planning conditions and, where required, a financial bond, letter of credit and/or Legal Agreement will be attached in relation to the removal of the development and to the restoration of the site at the point when the planning permission expires or when the project ceases to operate for a specified period of time.
- vii. Applications for the erection of monitoring equipment, anemometer masts etc., in relation to proposed wind farm projects in advance of a full application being submitted will be supported subject to other development plan policies and any other material considerations. Any planning permission for monitoring/survey equipment will normally be limited to a maximum period of 2 years unless the need for a longer monitoring period can be demonstrated. Consideration should be given to using digital monitoring equipment, especially to mitigate impacts in sensitive locations.

General Considerations

- 1.05** All renewable energy components, associated infrastructure and construction compounds should be located outwith areas that are identified as being at medium to high risk of flooding, to avoid any piecemeal reduction in flood plain storage. Landraising should also be avoided when creating new access tracks unless it can be demonstrated that there will

be no reduction in flood storage and no adverse effect on the conveyance capacity of the flood plain.

1.06 Infrastructure in the flood plain may be acceptable where it has to be located there for operational reasons, providing it does not increase flood risk elsewhere and is designed to remain operational in flooding conditions.

1.07 In addition to other relevant key agencies, neighbouring landowners and stakeholders, Scottish Water will be consulted on all planning applications to assess any potential impacts on:

- Drinking water quality and quantity
- Below ground asset
- Radio telemetry interference

It is recommended that developers engage with Scottish Water at an early stage in the design process to discuss any potential constraints regarding these factors.

1.08 The developer must liaise with the Council as Roads Authority in relation to access and egress from the proposed development site. This must include for all works associated with alterations to the existing roads infrastructure required to transport materials to and from the development site and to all works associated with construction, maintenance and decommissioning.

Community Benefit

1.09 Where a proposal is acceptable in land use terms, and consent is being granted, local authorities may engage in negotiations to secure community benefit in line with 'Scottish Government Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments'. The current recommended level of community benefit payment is £5,000 per Megawatt per year for wind energy developments, although levels for other forms of development may vary.

1.10 Negotiations for community benefit payments will take place independently from the planning process and therefore sums quoted are indicative and for guidance only depending on the potential impact of development the community benefit requirement may be significantly different. Guidance is provided via the Council's "adopted community benefit policy".

Positive Impacts

1.11 In the assessment of planning applications, the Council will strive to balance both positive and negative factors associated with a proposal prior to making a determination. Where there are significant adverse impacts on known constraints, the onus will be on the developer to demonstrate that the positive impacts, including net economic impact, the scale of contribution to renewable energy generation targets and the effects on greenhouse gas emissions, outweigh these. Further information on positive impacts is included within Section 2 of this guidance.

2. Balancing Impacts of Development

- 2.01** All planning applications are determined by considering the potential benefits of a proposal and any anticipated adverse impacts on known constraints. The Council balance these factors as part of the assessment process before ultimately making a decision regarding the suitability of any application for planning permission.
- 2.02** Whilst potential constraints are covered within the topic-specific policies in the Local Development Plan, and related supplementary guidance, it is likely that the most relevant benefits that a proposed energy development could have would surround net economic benefit; the scale of contribution to renewable energy generation targets; and the effects of a proposal on greenhouse gas emissions.
- 2.03** Where there would be clear adverse impacts on known policy constraints, or impacts on the subject areas included within the Development Criteria at 4.18 of this document, the scale of any positive impacts will help to establish whether, on balance, the identified adverse impacts are unacceptable.
- 2.04** Where a community organisation is a meaningful financial partner in a renewable development this can be considered as shared ownership in the assessment of the planning application. Shared ownership projects offer the opportunity to engage meaningfully with communities and to consider from an early stage, how any income could be used to best effect an area.

Net Economic Benefit

- 2.05** In determining planning applications under Policy 7: Energy, net economic impacts, including local and community socio-economic benefits such as employment, particularly when the development becomes operational, and associated business and supply chain opportunities will be considered.
- 2.06** It is important to note that the net economic benefits of a proposal differ from its gross economic benefits and due regard must be had regarding any potential detrimental impacts that a proposed development may have on existing socio-economic activities.
- 2.07** The level of detail of any assessment submitted in support of an application must be kept proportionate to the likely scale of the net economic benefit, and that assumptions made therein need to be transparent, evidence-based and as accurate as possible.
- 2.08** The key criterion in assessing the economic impact of a proposed development is to estimate the economic position where the development proceeds, and then compare it with the estimated economic position if the proposal does not go ahead. The difference between these two estimates is the net economic benefit of the development. The principles which underpin the economic assessment of activities from the viewpoint of the public sector are set out in HM Treasury's "The Green Book: appraisal and evaluation in central government."

- 2.09 The onus is on the developer to provide the relevant information in support of the planning application. The planning authority will evaluate the assessment of net economic benefit provided by the applicant as part of the planning application process. Early engagement between the developer and the planning authority is strongly encouraged, including discussion regarding the scope of the assessment.
- 2.10 The costs and benefits of the proposed development should be valued, and the net benefit calculated. The period over which costs and benefits are assessed should usually cover the lifetime of the development, so that the costs and benefits which are associated with each different phase of the development, including planning and design, construction, operation and, where appropriate, restoration and aftercare, are taken into account. Costs and benefits should normally be valued using market prices.
- 2.11 The outcomes of a development proposed by a planning application may be subject to significant risks. Any assessment of the net economic benefit should indicate whether the level of uncertainty is high, medium or low. Where the level of risk is expected to be high, this should be explained and quantified as far as possible within the assessment.
- 2.12 The key consideration is that the evidence provides sufficient grounds to robustly assess the likely position if the planning application is approved, and the likely position if the planning application is not approved, so that the planning authority can assess the difference and thus the development's net economic impact.

Other Positive Impacts

- 2.13 Other material factors when seeking to establish whether the impact on known constraints is unacceptable relate to the scale of any contribution to renewable energy generation targets and the effect of the proposal on greenhouse gas emissions.
- 2.14 It is unlikely that a legitimate argument may be formulated in relation to these factors unless the proposal is a 'major' development (i.e. 20MW or greater). The developer should quantify the contribution that the development will make in relation to these factors as part of any Environmental Impact Assessment undertaken in support of any planning application.
- 2.15 Local and community ownership can have a lasting impact, building businesses and community resilience and providing alternative sources of income. These factors can be taken into consideration when calculating the net economic and socio-economic impacts of a development.

3. All Renewables and Low Carbon Energy Developments

- 3.01** The principle of appropriately-sited new renewable and low carbon energy development is supported; including solar, biomass, anaerobic digestion, wind, marine, heat pumps and geothermal. In all cases, the applicant will be required to take cognisance of relevant Development Plan policies and efforts must be made to minimise any adverse impacts on known constraints. Where there are likely to be significant adverse impacts, developers should highlight the positive effects of the proposed development in order that these may be considered on balance to establish if there are any unacceptable impacts that would preclude development. Further information on how the positive impacts of a proposal will be considered can be found within Section 2.
- 3.02** Within the settlements, potential conflicts with adjacent uses or proposed uses are likely to be the greatest issue to overcome, whereby landscape and visual impacts will usually be one of the more relevant factors to consider in rural areas. Where a proposal is likely to have a significant landscape or visual impact, or where there is potential to have an adverse impact on other constraints such as residential amenity or the natural/historic environment, alternative sites should be explored as the first option for mitigation.
- 3.03** Developers are encouraged to liaise with Development Management Officers at the earliest opportunity in the design process to discuss proposals and to seek to identify potential constraints.





4. Wind Energy

- 4.01** This guidance contains a Spatial Framework for wind farm developments and a series of Development Criteria against which all applications for wind energy developments will be assessed. All applicants are advised to consider the spatial framework at an early stage to identify potential constraints that may impact upon their development proposal.
- 4.02** Scottish Planning Policy (SPP) requires that local development planning authorities should identify where there is strategic capacity for wind farms and areas with the greatest potential for wind development. It is a requirement of SPP that a spatial framework be prepared to highlight those areas that are likely to be most appropriate for onshore wind farms as a guide for developers and communities, and also that criteria should be established that will be considered in deciding all applications of wind turbines of different scales.
- 4.03** Sites for small wind energy developments are likely to be found throughout Orkney and will be considered on merit against the Development Criteria and Policy tests (from paragraph 4.18). Outwith the 'Areas with Potential for Windfarms', identified within the Spatial Framework, the level of supporting information required is likely to increase. Large Scale Wind Energy Developments and Windfarms are likely to have a greater impact on the factors considered through the Development Criteria and suitable sites are less likely to be found outwith the 'Areas with Potential for Windfarms' (figure 1).
- 4.04** Wind energy projects are identified by the Environmental Impact Assessment (Scotland) Regulations 2011 as Schedule 2 development and, as such, may require to be screened for Environmental Impact Assessment (EIA). Screening considers the nature, scale and location of a project and whether it will be likely to have significant effects on the environment. If it is determined that EIA is necessary, the developer will be strongly encouraged to apply to the planning authority for a 'scoping opinion' which allows the authority to highlight what the main effects of the proposal are likely to be, and therefore the topics on which the EIA should focus and which should be reported in the Environmental Statement. In addition, where there is potential for projects to affect a Natura 2000 site or its qualifying interests, either alone or in combination with other plans or projects, a Habitats Regulations Appraisal will be required under the Conservation (Natural Habitats, &c.) Regulations 1994 (The Habitats Regulations).

Monitoring Equipment

- 4.05** Monitoring equipment is often used to gather location-specific meteorological information, in advance of determining whether a wind farm may be viable on a given site. The information obtained allows prospective developers to determine the suitability of the location in terms of wind resource and, if it is decided to move forward with a wind farm application, to inform the specific layout and design of the wind farm.
- 4.06** Planning permission is required for monitoring equipment, and any application must be assessed against the development plan and related planning policy documents, and those material planning considerations relevant to the equipment must also be taken into

account. Approval of monitoring equipment does not automatically mean that a wind farm application will follow; if the wind resource is deemed insufficient, or for other reasons, a wind farm application may not be submitted. Approval of monitoring equipment is not an indication that a subsequent wind farm proposal is considered to be acceptable. The details of any wind farm proposal subsequently brought forward will be subject to consultation, public participation, and rigorous assessment in its own right before ultimately being determined.

- 4.07 The preferred means for monitoring the wind resource at potential sites for future wind farm developments is through the use of digital monitoring equipment as opposed to physical anemometer masts. It is expected that low-impact digital equipment will be utilised unless it can be demonstrated that there are location-specific technical reasons why a physical anemometer mast is required.

Areas of Strategic Wind Energy Development

- 4.08 Throughout the lifetime of the Local Development Plan, the Council will investigate potential 'Strategic Wind Energy Development Areas' within which the principle of wind farm developments will be supported. Any such areas will be subject to the appropriate level and types of assessment and full public consultation before being adopted within an updated version of the document.



Wind Energy Definitions

- 4.09 To provide clarification and clear guidance to all planning stakeholders, the Council has identified 6 distinct wind energy development types. These definitions are referred to throughout this guidance and will ensure that the correct and proportionate level of information is submitted in support of each development type. These definitions have been established following consideration of recent development pressures relating to wind energy development in Orkney and align with the categories of wind energy development considered within the 'Landscape Capacity Assessment for Wind Energy in Orkney'.

Table 1

Development Type.	Height to Blade Tip/Quantity.
Small.	<20 Metres.
Medium.	20 – <30 Metres.
Medium/Large.	30 – <50 Metres.
Large.	50 – <80 Metres.
Very Large.	80 – 125 Metres.
Wind Farm.	Two or More 'Medium/Large' Turbines or any number of 'Large' or 'Very Large' Turbines.

- 4.10 For the purpose of this guidance, "wind energy development" also applies to all development that is ancillary to the wind turbine itself, including new access tracks, borrow pits, hardstanding, foundations, landscaping / bunds, foundations, power lines / cables, sub-stations, equipment cabins and any ancillary or related energy storage solutions.

The Spatial Strategy Framework

- 4.11 The areas included within each category in the Spatial Strategy Framework are set out within Scottish Planning Policy (SPP). They are therefore fixed and the Council has no ability to modify what is mapped within this strategy in any way. Figure 1 is intended to give a broad indication of certain defined constraints and is not inclusive of all material considerations in a given area. Each application for planning permission will be assessed on its merits against the Development Criteria (from paragraph 4.18).
- 4.12 Developers of 'wind farms' are generally directed to 'Areas with Potential for Wind Farms' where there are the lowest levels of potential constraints to wind energy developments. 'Areas of Significant Protection' are areas which have identified development constraints that may preclude wind energy development. 'Areas Where Wind Farms are not Acceptable' are also identified within the Spatial Framework. All applications for 'wind farm' developments must also comply with the Development Criteria (from paragraph 4.18) and other material planning considerations.

SP1: Areas with Potential for Wind Farms

- 4.13 These areas have been defined by eliminating sensitive areas that require significant protection or are sensitive to wind farm development. It is not guaranteed that development within these areas will be technically feasible or appropriate and each application will be judged on its merits against the Development Criteria (from paragraph 4.18).

Spatial Policy 1 (SP1) – Areas With Potential For Wind Farms.

Areas with potential capacity to accommodate wind farms have been identified as ‘Areas With Potential for Wind Farms’ and are shown in Figure 1. These places represent the areas of least constraint to wind energy development. Wind energy development is likely to be supported in principle within the areas subject to proposals complying with the Development Criteria and any other material planning consideration.

SP2: Areas of Significant Protection

- 4.14 SP2 identifies known constraints to development, which are acknowledged within Scottish Planning Policy, and steers applicants away from these areas in the first instance. However, the existence of an identified constraint does not in itself lead to a blanket restriction on wind farm development. Justification, along with potential mitigation, will have to be provided in support of a planning application to demonstrate that the proposal is acceptable.
- 4.15 The 2km separation distances around the Towns and Villages of the Orkney Local Development Plan are intended to steer development away from areas of largest population where there are likely to be increased sensitivities to landscape and visual impacts. These areas are not to be interpreted as “exclusion zones” and local factors, such as topography and the orientation and massing of the existing development pattern, will be taken into consideration in the determination of specific applications.
- 4.16 It is anticipated that further survey work will be undertaken during the lifetime of the Local Development Plan to examine outward visibility from towns and villages to refine these areas. Until such a study is completed, the separation areas are indicative only and the impacts of any proposals on residents within settlements will be considered on a case by case basis.

Spatial Policy 2 (SP2) – Areas of Significant Protection

The following areas have been identified within SPP as requiring significant protection from Wind energy development:

The Heart of Neolithic Orkney World Heritage Site.

Designed Landscapes and Gardens.

2km Envelope around Towns and Villages.

Natura 2000 and RAMSAR Sites.

Sites of Special Scientific Interest (SSSI).

Areas of Wild Land.

Deep Peat, Priority Peatland Habitat and Carbon Rich Soils.

Within the Areas of Significant Protection wind farm development may be appropriate in some circumstances. It must be demonstrated by the applicant that any significant effects on the qualities of these areas can be overcome to the satisfaction of the planning authority by siting, design or other mitigation.

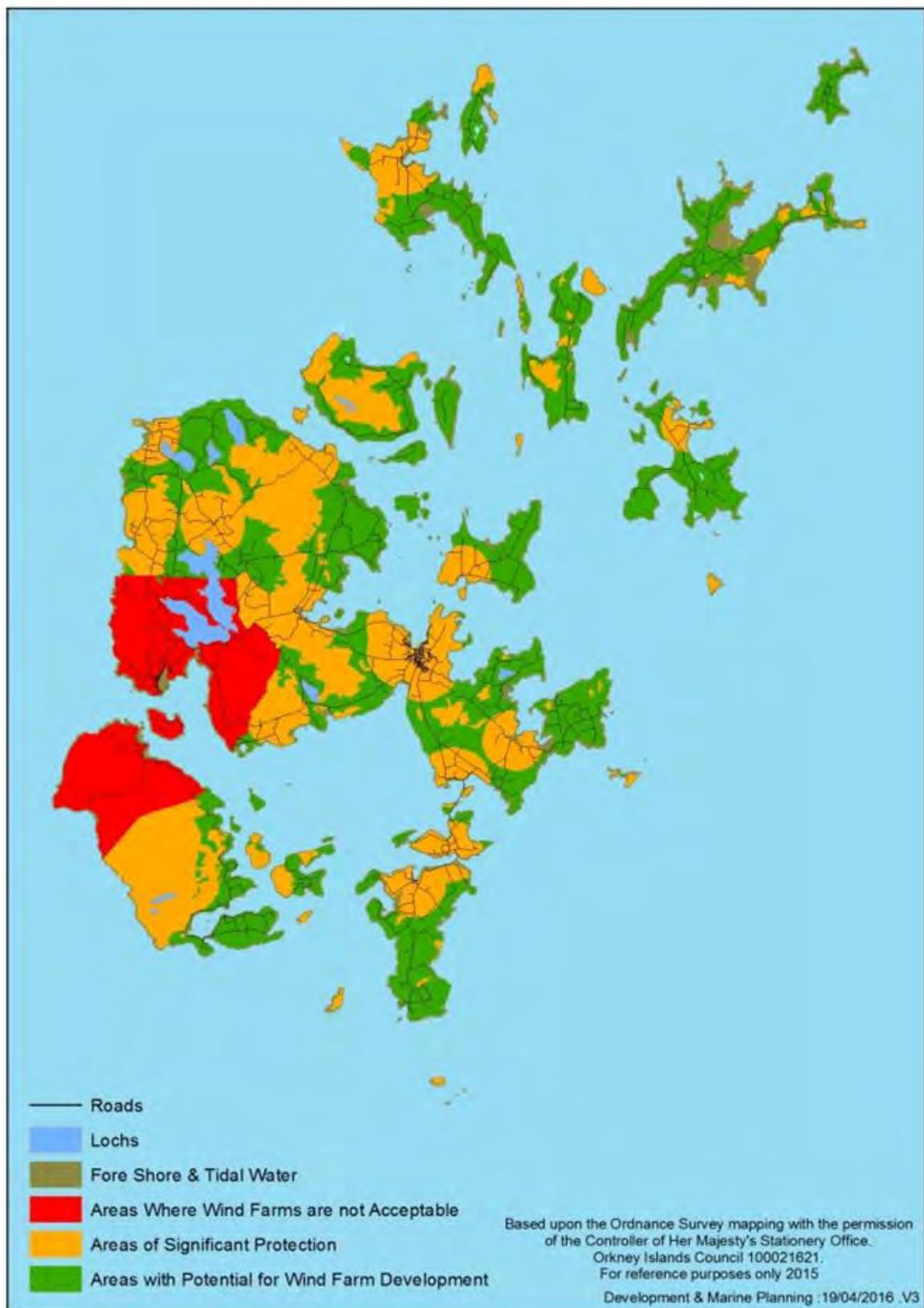
SP3: Areas Where Wind Farms Will Not be Acceptable

4.17 Scottish Planning Policy states that wind farm developments are not acceptable in National Scenic Areas and developments which meet the definition of a 'wind farm' at Table 1 will not be supported within the National Scenic Area.

Spatial Policy 3 (SP3) – Areas Where Wind Farms Will Not Be Acceptable

Wind Farm developments will not be supported within the National Scenic Area.

Figure 1 – Spatial Strategy Map



The Development Criteria for all types of wind energy development

Development Criterion 1 – Communities and Amenity

- 4.18 Wind energy development will not be permitted in locations where there will be unacceptable adverse impacts on quality of life or amenity at sensitive locations such as residential properties, core paths and certain community facilities, workplaces and recognised visitor sites. Where requested by the planning authority, planning applications must be accompanied by evidence of assessment of factors including shadow flicker, electromagnetic interference, construction/decommissioning, phasing, noise impact assessment and cumulative impacts.
- 4.19 Wind energy developments, no matter the size, must be located a safe distance from the boundary with a public road, including any carriageway, verge, footway or cycleway. The recommended safe distance would equate to the height of the turbine to blade-tip.
- 4.20 Impacts on the amenity of surrounding users can sometimes be minimised by the sensitive siting and design of the proposed development. Applicants should therefore demonstrate to the satisfaction of the planning authority how they have considered the following:

Shadow Flicker

- 4.21 Scottish Government advice states that there is unlikely to be a problem with shadow flicker with a separation of 10 times the wind turbine's rotor blade diameter from a dwelling house to the proposed location of a wind turbine. If turbines are to be located closer than this or, when requested by the Council, the applicant will have to prove that there will no adverse impacts on the amenity of residential properties.

Noise

- 4.22 There are 2 distinct noises generated from wind energy developments. One is mechanical noise from the components of the turbine (gearbox, generator and drive train) and the other is aerodynamic noise from the passage of wind through the blades. Both vary depending on a number of factors including the turbine model and size. The noise generated from a proposed wind energy development must be assessed to ensure compliance with the Department of Trade and Industry publication "The Assessment and Rating of Noise from Wind Farms", September 1996 and the Department of Energy and Climate Change publication "An Analysis of How Noise Impacts are considered in the Determination of Wind Farm Planning Applications", April 2011 to the satisfaction of the planning authority.
- 4.23 Proposals that raise significant noise issues should be supported by a Noise Impact Assessment which will identify significant adverse noise impacts at the location and in the surrounding area (including ambient noise level) and possible reduction measures (mitigation and control). Noise Impact Assessments will be undertaken in accordance with the Scottish Government's Technical Advice Note: Assessment of Noise (2011) and the IOA good practice guidance on wind turbine noise.

Electromagnetic Interference

- 4.24 All efforts should be made to minimise electromagnetic interference on broadcasting, communication signals and fixed links used for aviation and shipping navigation. Applicants are encouraged to make direct contact with radio communication agencies before applying for planning permission, so that the proposal does not cause interference (contact details are provided within the Further Information section of this document). Planning conditions may be used that would require the developer to correct any electromagnetic interference on television and radio reception within affected properties at their own expense.

The Construction Phase and Traffic

- 4.25 All efforts should be made to minimise the effect of construction on the surrounding residents and road users. Applications may need to be supported by a Method Statement. This Statement will provide information on the route/timing of construction movements, including details of weights and lengths of load, possible road infrastructure upgrades and construction phases and timescales. More detail on this issue is given in the Development Criterion on Construction and Decommissioning (DC9).

Development Criterion 2 – Landscape and Visual Impact

- 4.26 Wind energy development that is likely to have a significant adverse impact or cumulative impact on landscape character or visual amenity, which cannot be mitigated to the satisfaction of the planning authority to avoid unacceptable impacts, will not be permitted.
- 4.27 Wind energy developments can potentially have an adverse impact on landscape and visual amenity. They should therefore be supported by a Landscape and Visual Impact Assessment (LVIA), in accordance with current best practice advice and guidance from Scottish Natural Heritage and the planning authority, where necessary to enable objective assessment of potential significant adverse impacts
- 4.28 Visual impacts and landscape impacts are interrelated yet distinct from each other. Visual impacts relate to what people can see from places that they frequent or from particular viewpoints, whilst landscape impacts relate to the physical effect that a proposed development may have, as well as the potential effect “on the feeling of a place” and the identity of a location. The landscape and visual impacts of a development are strongly influenced by turbine’s form, design, colour, size, relationship to other turbines and by any ancillary infrastructure. Sensitive siting and design can help to ensure that the visual impacts of potential wind energy developments in the landscape remain within acceptable limits. The siting and design of a proposed wind energy development should seek to reduce its potential landscape and visual impact by ensuring that the receiving landscape is able to accommodate the new development.
- 4.29 Regard should be given to the backcloth of the proposed device; typical weather and light conditions; cumulative impact; and the way that the wind energy development can be coloured to minimise impact (darker grey when viewed against terrain and light grey/white when breaking the skyline) from key viewpoints. Company names and logos should not be included on turbines in order to reduce visual impact and where technically achievable

finishes to turbines should be matt to reduce reflected glare. In addition, consideration must be given to the visual impacts that any aviation lighting may have on amenity.

Landscape and Visual Impact Assessments

4.30 The table below outlines when Landscape and Visual Impact Assessments (LVIA) will be required and indicates the minimum level of detail that will generally be required in relation to the scale and location of the proposed development. The guidance within the table represents the minimum information that would be required and a higher level of detail may be required if a proposed turbine is in a particularly sensitive area or has the potential to have an adverse impact on a sensitive receptor. It is suggested that the Landscape Capacity Assessment for Wind Energy in Orkney is referred to at an early stage in the planning process to inform site selection and to support any LVIA. All LVIA must accord with the SNH guidance on ‘Visual Representation of Wind Farms’.

Table 2

Scale.	Level of Information Required.
Small or where there is the potential for cumulative impacts.	There will be a requirement for LVIA in relation to proposed developments in the NSA and the WHS Inner Sensitive Zones or where two or more wind turbines are proposed. If the proposed development does not have a clear visual link to the building to which it relates a LVIA is also required. The LVIA would be a basic level LVIA with a Zone of Theoretical Visibility (ZTV) map covering up to a minimum of 5km radius from the wind turbine with wireframe drawings and photomontages from a limited number of viewpoints to be agreed in advance with the planning authority. LVIA should also include assessments of cumulative impacts (wind energy developments that have been approved).
Medium.	LVIA are generally required for this scale of development, particularly if the proposal is sited in the NSA; associated with the WHS Inner Sensitive Zones; where two or more wind turbines are proposed; or if the proposed development does not have a clear visual link to the building to which it relates. The LVIA would be a basic level LVIA with a Zone of Theoretical Visibility (ZTV) map covering up to minimum of 10km radius from the wind turbine with wireframe drawings and photomontages from a limited number of viewpoints to be agreed in advance with the planning authority. LVIA would have to include assessments of cumulative impact (wind energy developments that have been approved).
Medium/Large.	LVIA Required. The LVIA will be more detailed with a ZTV map covering a radius of a minimum of 15km from the wind turbine with wireframe drawings and photomontages from key locations to be agreed in advance with the planning authority. The scale of the ZTV may increase with the scale of the wind turbine proposed. This LVIA would also include an assessment of the sensitivity of the landscape, magnitude of change and residual impacts. LVIA would have to consider the cumulative impact of the development (wind energy developments that have been approved).
Large, Very Large and	LVIA Required The LVIA will be detailed with a ZTV map covering a radius of a minimum of 20km in the case of medium/large, large or very large turbines, with

Wind Farm.	wireframe drawings and photomontages from key locations to be agreed in advance. The scale of the ZTV will increase with the scale of the wind farm proposed. This LVIA would also include an assessment of the sensitivity of the landscape, magnitude of change and residual impacts. LVIA would also include assessments of cumulative impacts (wind energy developments that have been approved).
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The main sensitive visual and landscape receptors are outlined below:

The Hoy and West Mainland National Scenic Area

- 4.31 The Hoy and West Mainland National Scenic Area is a sensitive landscape with stricter considerations regarding the potential impact of new development on its special qualities and its setting. Wind energy developments that meet the definition of a ‘wind farm’ at Table 1 will not be permitted within the NSA. The boundary of the NSA can be found within the Spatial Strategy at figure 1. A description of the NSA and its special qualities can be found at www.snh.gov.uk.

Wild Land

- 4.32 Wildness is an important quality found in many of Scotland’s landscapes, with the largest areas of highest wildness identified on SNH’s map of Wild Land Areas. Wild land is valued by many for the opportunity it provides for engagement with nature as well as experiencing ‘respite’ from the pressures and complexities of the modern world. SPP requires development plans and spatial frameworks for onshore wind to identify and safeguard the character of areas of wild land, and any development proposals to demonstrate significant effects can be substantially overcome. Scottish Natural Heritage has prepared an Interim Guidance Note on Assessing Impacts on Wild Land which may be accessed at: <http://www.snh.gov.uk/docs/A1418983.pdf>

Residential Properties and Settlements

- 4.33 Residential properties and settlements are sensitive receptors and should be a consideration of any application. Particular regard must be had to potential impacts on residential amenity.

Landscapes of Historic or Cultural Significance

- 4.34 Landscapes of historic or cultural significance can be sensitive to wind energy developments. Historical landscapes can relate to the World Heritage Site, its Inner Sensitive Zones and wider landscape setting (in particular where the sensitive ridgelines may be compromised) as defined within the ‘Heart of Neolithic Orkney World Heritage Site Supplementary Planning Guidance; other Scheduled Ancient Monuments and their settings; Listed Buildings and their settings; Conservation Areas; and Historic Gardens and Designed Landscapes. Please see the Development Criteria on Historic Environment (DC6) for further information.

Views from Recognised View Points, Main Routes, Visitor Attractions and Core Paths

- 4.35 Views from recognised view points, main routes, visitor attractions and core paths are used by residents, as well as visitors to Orkney. It is important that, wherever possible, our enjoyment of a place is not significantly compromised by new wind energy developments. The distraction of drivers and cumulative impact along main vehicular routes should be considered when siting wind energy developments. In particular developments must not affect the forward visibility or visibility from junctions of vehicle drivers.
- 4.36 Depending on the circumstances, LVIA should pay regard to the cumulative impacts of development. These studies must be completed in line with current best practise advice

from Scottish Natural Heritage to the satisfaction of Orkney Islands Council. Applicants are encouraged to contact the planning authority at an early stage to agree viewpoints, technical content and those wind energy developments to be taken into account for cumulative assessments.

Development Criterion 3 – Natural Heritage

4.37 Orkney has a rich and varied natural heritage and it is particularly important to assess impacts on the following international and national designations:

- Natura 2000 sites (Special Protection Areas, Special Areas of Conservation).
- Ramsar Sites.
- Sites of Special Scientific Interest.

The boundaries to these designations are shown in Appendix 1.

4.38 Development proposals will not be successful where there would be unacceptable adverse effects, either individually or cumulatively on the qualifying interests and integrity of Natura 2000 sites; Ramsar Sites; or Sites of Special Scientific Interest, with the national policy tests for each designation guiding assessment. Developers will be required to have due regard to wider biodiversity and geodiversity interests and to comply with the relevant policies of the Development Plan.

4.39 Development which would be likely to have a significant effect, directly or indirectly, on a Natura 2000 site (either individually or in combination with other plans or projects) will only be permitted where a Habitats Regulations Appraisal (HRA) has demonstrated that it will not adversely affect the integrity or qualifying interests of the site, or there are no alternative solutions and there are imperative reasons of overriding public interest, including those of a social or economic nature. The developer will be required to provide sufficient information relating to the proposed development and its likely environmental effects to enable the Planning Authority to undertake the HRA and to come to an informed conclusion.

4.40 Where, for reasons of overriding public interest, the Planning Authority proposes to approve a development which could adversely affect the integrity of a Natura 2000 site, Scottish Ministers must be notified. Should Scottish Ministers agree with the Planning Authority, the council has a duty to secure any compensatory and/or mitigation measures necessary to ensure the overall coherence of the Natura 2000 network.

4.41 Development that affects a Site of Special Scientific Interest (SSSI) will only be permitted where the objectives of the designation and the overall integrity of the area will not be compromised; or any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental or economic benefits of national importance; and there is no satisfactory alternative.

4.42 Information relating to each of Orkney's international and national sites is provided on the Scottish Natural Heritage website, through its Sitelink facility which may be accessed at <http://gateway.snh.gov.uk/sitelink/index.jsp>. Planning applications will be assessed in terms of their likely effects on the qualifying features of these sites, as well as the

effectiveness of any mitigation measures that have been identified to avoid significant adverse effects on these features as well as overall site integrity.

- 4.43 European Protected Species, for example otters and all bat species, are identified in Annex IV of the Habitats Regulations. They are afforded the highest level of legal protection under European and UK legislation which in the UK is achieved through the Conservation (Natural Habitats, andc.) Regulations 1994 (as amended). Works which affect European Protected Species may require a license; further details are available in Supplementary Guidance Natural Environment and current licensing arrangements may be found at www.snh.gov.uk.
- 4.44 A number of other species are protected under the Wildlife and Countryside Act 1981 (as amended). Development that would be likely to have an adverse effect, individually or cumulatively on any of these species will not be permitted unless it can be demonstrated at the planning application stage that the impact can be satisfactorily mitigated.
- 4.45 Through the Nature Conservation (Scotland) Act 2004, the Council, as a public body, has a requirement to further the conservation of biodiversity when exercising its respective functions such as planning. The UK Biodiversity Action Plan identifies a range of habitats and species which are considered 'priorities for conservation'. Those which are found in Scotland are included in the Scottish Biodiversity List, along with a number of priority habitats and species which are absent or infrequent in other parts of the UK.
- 4.46 When considering the likely effects of a development on the wider biodiversity, developers are encouraged to refer to the Orkney Local Biodiversity Action Plan (LBAP) which lists the priority habitats and species that are found in Orkney. The Orkney LBAP 2002 and its recent revisions can be accessed from the OIC website at <http://www.orkney.gov.uk/Service-Directory/L/Local-Biodiversity-Plan.htm>. Further information on how local biodiversity is safeguarded, in particular through the suite of Local Nature Conservation Sites (LNCS), can be found within Supplementary Guidance Natural Environment.
- 4.47 Where large or very large scale developments are proposed, the Planning Authority Good practice indicates that for the most significant developments, e.g. a development covering several hectares, an Ecological Impact Assessment (EclA) would be required, adopting the methodology of the Chartered Institute of Ecological and Environmental Management (CIEEM). For some developments an EclA may form part of a wider Environmental Impact Assessment (EIA).
- 4.48 Information on the appropriate timing of habitat and species surveys, as well as ecological mitigation or enhancement works is provided in Supplementary Guidance Natural Environment.
- 4.49 Where the development proposal has potential to affect environmentally sensitive areas, the Council may require the developer to appoint an Ecological Clerk of Works to provide advice on, and monitoring of, construction activities. Where a development proposal would result in habitat loss or fragmentation, the developer will be encouraged to explore options to compensate for impact on biodiversity interests.

Development Criterion 4 – Historic Environment

- 4.50 Wind energy developments will not be permitted where they would have an unacceptable adverse impact on the historic environment. Where applicable, a planning application should consider all potential direct, indirect and cumulative impacts on the historic environment and look at potential mitigation measures which would avoid, reduce or minimise identified adverse effects.
- 4.51 Historic environment resources are defined as those identified in the Orkney Local Development Plan and /or in national listings, schedules or registers held by Historic Scotland or other competent authorities. Relevant historic environment resources include:
- The World Heritage Site, its Inner Sensitive Zones and Wider Landscape Setting.
 - Scheduled Monuments and other unscheduled sites of archaeological significance and their setting.
 - Listed Buildings and their setting.
 - Conservation Areas.
 - Historic Gardens and Designed Landscapes.
- 4.52 It is important that the setting of historic environment resources are safeguarded and, where appropriate, planning applications should be supported by a LVIA and cultural heritage assessment, to enable potential impacts to be properly assessed. Where relevant, the historic environment should also be a consideration in an Environmental Impact Assessment (EIA). The assessment should include the effect of a development on the historic environment resource and its setting.
- 4.53 Cultural Heritage Impact Assessments should be completed to the satisfaction of Orkney Islands Council where requested by the planning authority. Further information on the content and information to be included within a Cultural Heritage Impact Assessment, which would generally form the historic environment chapter of any EIA where one is required, will be published within the Council's Supplementary Guidance relating to the Historic Environment.
- 4.54 In some situations, where there are known or potential archaeological remains that may be impacted by the proposed development, it will be necessary to undertake an archaeological assessment of the site prior to the determination of the planning application. Such assessments may include Desk-based assessment, walkover and other relevant field survey, geophysical survey or intrusive evaluation as directed by the Council Archaeologist. On other occasions it will be appropriate to appoint a suitably-qualified archaeologist to undertake a watching brief during all ground-breaking. It is recommended that early advice is sought from the Council Archaeologist where there are known archaeological deposits nearby.
- 4.55 Where relevant, reference should be made to the latest Scottish Historic Environment Policy and 'Managing Change in the Historic Environment' guidance when assessing the potential impact on historic environment resources. These documents can be found at www.historicenvironment.scot

- 4.56 Locational information on Listed Buildings is available at www.pastmap.org.uk, with further information on heritage assets on Historic Environment Scotland's website (www.historicenvironment.scot/advice-and-support) and the location and boundaries of Orkney's Conservation Areas is provided in the Proposals Maps of the Orkney Local Development Plan. There are 3 historic gardens and designed landscapes in Orkney:
- Melsetter House in Hoy.
 - Balfour Castle in Shapinsay.
 - Skail House in Sandwick.
- 4.57 Due to its international importance, significant protection has been given to the World Heritage Site and its Inner Sensitive Zones through the Spatial Policy; careful consideration must be given to the siting and design of proposals within this area and it must be demonstrated, through assessment, that there will be no significant adverse impact on the Outstanding Universal Value of the World Heritage Site.

Development Criterion 5 – Tourism and Recreation

- 4.58 Any wind energy proposals that have the potential to have significant adverse impact on any tourism and recreation resource, which is intrinsically linked to enjoyment of the surrounding landscape, will not be supported unless sufficient mitigation can be provided.
- 4.59 Tourism and recreation facilities are important to visitors to Orkney and residents alike. The character of the surrounding landscape is sometimes of fundamental importance to the enjoyment or appreciation of a site. Examples of such facilities include some core paths, certain monuments, cliff landscapes and picturesque beaches.
- 4.60 The impact of a proposed development on the understanding, special character or enjoyment of tourist or recreational sites should be a consideration of any proposal and it will be necessary for the applicant to demonstrate that there will be no unacceptable adverse impact on any such facility caused as a result of the development.

Development Criterion 6 – Peat and Carbon Rich Soils

- 4.61 Wind energy development should avoid the unnecessary disturbance of peat and carbon-rich soils. Best practice must be adopted in the movement, storage, management and reinstatement of peat and carbon-rich soils. Information on the distribution of carbon-rich soil, deep peat and priority peatland in Orkney is available on the Carbon and Peatland Map (2016) which may be accessed from the SNH website at <http://www.snh.gov.uk/planning-and-development/advice-for-planners-and-developers/soils-and-development/cpp/>
- 4.62 Development on undisturbed areas of peat or carbon-rich soils will not normally be permitted unless the economic and social benefits of the development clearly outweigh any potential detrimental effect on the environment and it has been clearly demonstrated that there is no viable alternative. Where appropriate, wind energy development on deep peat lands is required to be supported by the use of the Scottish Carbon Calculator.

- 4.63 The conservation of peat land is important because of its role in the storage of carbon, its potential archaeological significance and for the management of water resources. The Scottish Government through their advice note on Wind Farm Developments on Peat land supports the use of the Carbon Calculator for considering the carbon savings from wind energy developments on deep peat lands. “Calculating Carbon Savings from Wind Farms on Scottish Peat Lands” assesses the carbon impact of wind energy developments by comparing the carbon costs of wind energy development with the carbon savings attributable to the wind energy development. The Scottish Government’s Land Use Strategy’s Map 6 – Depth of Peat is a good initial guide to the areas where the Carbon Calculator should be used.
- 4.64 Additionally developers should follow guidance given by the Scottish Environment Protection Agency and Scottish Renewables in their joint publication on Development on Peatland: “Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste”. This document can be found at www.scottishrenewables.com
- 4.65 Where appropriate a Peat Management Plan that includes mitigation measures should be submitted with the planning application; the Plan should include a peat depth survey and demonstrate that unnecessary disturbance, degradation and erosion would be avoided. It should identify measures that would be adopted to mitigate and, if this is not possible, remediate areas where disturbance is unavoidable. The Scottish Government has also produced “Guidance on Developments on Peatland–Site Surveys.”
- 4.66 It is important to restore degraded peatland sites and opportunities for the incorporation of habitat improvements should be explored through the habitat management plans associated with developments.

Development Criterion 7 – Water Environment

- 4.67 Wind energy development should avoid causing significant impacts on the water environment. Proposals should not cause a deterioration in the ecological status of the water environment and, where possible, should include measures for the management and /or enhancement of the water environment, including burns, rivers, lochs, wetlands, groundwater, reservoirs and any impacts on private water supplies.
- 4.68 The Council has a duty as a responsible authority under the Water Framework Directive and the Water Environment and Water Services (Scotland) Act (2003) to protect and, where possible, improve the water environment. An important element for protection is the County’s drinking water. Clarification on the location of the County’s groundwater and Drinking Water Protected Areas (DWPA) should be gained from Scottish Water and Scottish Environment Protection Agency. These areas should be protected with the aim of reducing the level of purification required due to deterioration in their quality.
- 4.69 A key objective of the Scotland River Basin Management Plan and the Orkney and Shetland Area Management Plan is that water bodies achieve good ecological status and where possible improvements are made. This in turn will contribute to meeting the objectives of the Local Biodiversity Action Plan.

- 4.70 Wetland habitats, an important part of the water environment, sit at the interface between dry terrestrial habitats and water bodies. They can be found in a variety of landscape settings, receiving water from rainfall, overland flow or from the ground. They support a particular range of vegetation types and are often identified as part of a development site habitat survey. Some wetland types have a strong dependency upon water coming from the ground and are sensitive to disturbance through development activity.
- 4.71 New developments should avoid, at both construction and operation stages, impacts on the water environment through a process of survey to identify the location of sensitive receptors and designing the layout to provide adequate buffers. Where impacts cannot be avoided, they should be minimised through appropriate mitigation. Survey requirements may include hydrological study and/or a hydrogeological study, ecological survey and/or survey of waterbodies. Wherever possible, opportunities to enhance the water environment should be sought.

Development Criterion 8 – Aviation, Defence and Communications

- 4.72 Wind energy developments have the potential to have a negative effect on aviation and their communication, navigation and surveillance systems because of their scale and potential for electro-magnetic interference.
- 4.73 Wind energy developments will not be permitted in locations where they would have an adverse effect on the safe use of airports, airfields, their communications, navigation and surveillance systems including radar and other equipment. The interests of the Ministry of Defence should also be protected. Developments should not have any unacceptable adverse impact on communications or telecommunications infrastructure that cannot be mitigated.
- 4.74 The potential effects on aviation, their communications, navigation, surveillance and the interests of the Ministry Defence will be assessed in consultation with the Civil Aviation Authority, National Air Traffic Service (NERL – NATS Enroute plc), the Ministry of Defence, Highlands and Islands Airports Limited, OIC Airport Superintendent and Her Majesty's Coastguard.
- 4.75 Mitigation measures, including lighting markers, may be required and full details of these should be provided with the planning application. Further information on mitigation measures that involve the interest of the Ministry of Defence interests can be found at www.mod.uk
- 4.76 Any potential impacts on existing commercial communications or telecommunications infrastructure must be mitigated in advance of any development commencing.

Development Criterion 9 – Construction and Decommissioning

- 4.77 Where relevant, planning applications for wind energy developments should be supported by statements on the construction and decommissioning of the proposed wind energy development. A decommissioning statement should be updated at least one year before the cessation of generation at the site.

- 4.78 Depending on the scale of the turbine(s) and the sensitivity of the site, all scales of wind energy developments could be required to submit a method statement for the construction of their proposal in support of the application. This statement would cover the phasing of construction, associated timescales and methods for transporting equipment to and from the site. This is to ensure minimal impacts on the surrounding environment and users.
- 4.79 Large and very large scale wind energy developments and wind farms will normally be given planning permission for a period of 25 years. At the end of this period, a new planning application for continued use or for new development will be required. A decommissioning statement is also a requirement for large and very large scale wind energy developments and windfarms. The statement should provide details of the necessary works, the method of reinstatement to the site's original condition as well as information regarding the proposed removal of the development and the related ancillary equipment and infrastructure. The statement will pay regard to the scale of the original development and the sensitivities of the site and its surroundings.
- 4.80 In order to determine the cost of reinstatement, applicants will have to demonstrate that an appropriate mechanism (e.g. funding) is put in place to undertake this future work. Details of the mechanisms for the restoration of the site must be made in the decommissioning statement. It should be made clear whether costs are estimated on the basis of current or future costs. To ensure that decommissioning and reinstatement is completed and that all costs are met by the developer appropriate planning conditions and, where required, a financial bond, letter of credit and /or a Section 75 Planning Obligation will be arranged.
- 4.81 Appropriate conditions will be placed on the planning consent requiring that, unless agreed in writing by the planning authority, if a wind turbine is not operational and producing energy for a period of one year it should be removed and the site restored at the expense of the developer.



Landscape Capacity

Landscape Capacity Assessment for Wind Energy in Orkney

- 4.82 Commissioned by Orkney Islands Council in 2013, the Landscape Capacity Assessment considers the capacity of the Orkney landscape to accommodate onshore wind energy development.
- 4.83 The study found that the following factors act as constraints to the development of multi-turbine windfarms in Orkney:
- The modest scale and extent of the island landscapes.
 - The lack of extensive large scale uplands into which turbines can be readily absorbed.
 - The highly dispersed population and patterns of settlement that occur on the islands, resulting in widespread visual sensitivities.
 - The presence of areas with outstanding scenic qualities and wildness, the significance of the landscape to the setting of the World Heritage Site, and the sensitive coastline and seascape which is a defining feature of Orkney.
- 4.84 The Landscape Capacity Assessment provides detailed guidance on underlying and residual capacity for different scales of wind turbines throughout Orkney, along with siting guidance for each scale of device specific to each area. The study represents a strategic-level starting point to assist planners and developers to shape proposals and will be utilised by the planning authority in the assessment of planning applications, specifically when considering Development Criterion 2 – Landscape and Visual Impact.

Areas where Cumulative Impact Limits Development

- 4.85 The Landscape Capacity Study identified a number of areas within Orkney which have existing or approved turbine development, or developments nearby, which result in these landscapes having reached or being close to reaching their limits of cumulative wind energy development.
- 4.86 These areas are defined by the following criteria:
- The underlying landscape capacity within the specific Landscape Character Area (LCA) and the surrounding LCA.
 - The developed areas of windfarms and turbines (operational and consented) and the cumulative extent of their impacts on the surrounding landscape.
 - The extent of area within which further significant development should be limited to avoid extending cumulative landscape and visual impacts between the groups of turbines within the area and other turbines outside the area.
- 4.87 In the case of specific development proposals for new turbines, or for the repowering of existing turbines within these areas, there will be an assessment of the detailed criteria outlined within the study by the planning authority and this should be considered by potential developers when they prepare any Landscape and Visual Impact Assessment.

Using the Landscape Capacity Assessment for Orkney

- 4.88 The Landscape Capacity Assessment for Orkney will be a key tool to be utilised by the planning authority and developers to understand the likely acceptability of proposed wind development in landscape terms. The methodology for using the study for all sizes of development is outlined within the Assessment. It is fully acknowledged that the study is strategic in nature and is not a substitute for a development-specific impact assessment at the Development Management level.
- 4.89 The guidance provided within the Assessment is applicable to turbines of all sizes including small turbines, and can be used to identify in broad terms where capacity for turbines may exist, likely acceptable group sizes and separation distances. There are however particular characteristics of small turbine developments which are important to the way they are perceived and their ability to be acceptably absorbed into the landscape.
- 4.90 In comparison with turbines greater than 20m, small turbines are more diverse in their design with more varied forms, colours, blade configurations, rotation speeds and rotation directions. Small turbines are likely to be sited within landscapes already including significant amounts of built development with which turbines would be seen, such as roads, farm buildings, telegraph poles and other turbines. The scale of the turbines means that their visibility is much more likely to be influenced by local topography, vegetation or other built development.

Policy Statement for Small Wind Energy Developments: Landscape and Visual Impact

Small Wind Energy Developments

Appropriately sited single Small Wind Energy Developments will be supported where there is a clear visual link, at an appropriate scale, between the wind energy development and the building/s to which it relates and the development meets the other Development Criteria for all types of wind energy development. Where the relationship is not clear visually, where there is the potential for significant adverse cumulative impacts, or where the application relates to more than one turbine, the applicant will be required to submit a Landscape and Visual Impact Assessment (LVIA) in order to demonstrate that the proposal will not have a significant adverse landscape or visual impact.

- 4.91 The overall aim of this policy statement is to ensure that the landscape and visual impact of small wind energy development remains within acceptable limits, although it is acknowledged that other constraints and considerations will need to be taken into account (See Development Criteria from paragraph 4.18). Locating small wind energy developments close to the buildings to which they relate can also have benefits for the developer in terms of cable lengths and this locational requirement assists in reducing the potential visual and landscape impact as the resulting wind energy development would be viewed in conjunction with existing built form.
- 4.92 It is understood that locating a turbine close to a building may in some circumstances not be appropriate due to other siting and design factors that are detailed in the following list

of policy tests. To be successful in their planning application for a small-scale turbine, a developer must demonstrate how they have considered the following in order to minimise landscape and visual impacts.

- The turbine is coloured so as not to contrast with the predominant backcloth when viewed from key locations. Generally in Orkney this would be a neutral light grey with a matt finish applied to reduce reflected glare. Company names and logos should not be included on turbines in order to minimise landscape and visual impacts.
- The applicant should demonstrate that they have selected the most appropriate tower height for the proposed location, with the overall aim being to reduce the height of the turbine as far as possible. It is the understanding of the Council that the wind resource in Orkney is of a high quality and therefore higher towers are often not required unless the site has issues relating to wind turbulence. In these instances, the developer should seek to balance the performance of the turbine with the potential landscape and visual impacts and will explain how this has been accomplished.
- The potential noise from a turbine to sensitive locations, such as houses in third party ownership, can have a bearing on where a proposed turbine can be sited and will on occasion necessitate that the proposed device cannot be situated in close proximity to the building that it serves. In these cases alternative sites should be identified which preferably relate to other buildings which are not sensitive to noise. It is recommended that early engagement takes place with the council's Environmental Health service to discuss proposals.
- Other elements of the landscape may be utilised to reduce the landscape and visual impacts of small scale wind energy developments, for example locating them along an existing fence line or private access track. Prominent locations (for example ridge lines when viewed from public areas) should be avoided as it is unlikely that these applications will satisfy the development criteria in Section 3.3.
- The type and style of the proposed turbine(s) should be considered in relation to those existing (or consented) that will be seen with the development to avoid visual incoherence caused when a different style of turbine is seen within the same view. The coherence of a group of similar turbines can be disrupted by the introduction of a differently styled turbine into a view.
- From important viewpoints care should be taken to avoid small turbines being back-grounded by larger more distant turbines, as this can cause confusion about turbine scales and their relationship to the landscape.
- For small turbines there may be more opportunities for topography, buildings and trees to provide screening and prevent inter-visibility between developments, which may allow a reduction in the recommended separation distances. However, care should be taken to avoid unacceptable sequential effects, for example from multiple developments being seen when travelling along a linear route such as a road or path.
- The size and lowland locations of most small turbines means that they may benefit from back-clothing more often than larger upland developments, and their restricted visual influence may provide more certainty about the conditions against

which they will be viewed. In this case turbines coloured to minimise contrast against their background may be an effective mitigation.

- Small turbines are most likely to appear rational in the landscape when they are seen to have a relationship with an associated energy user, be it a house, farm, infrastructure or an industrial development. The relationship should be such that the turbine(s) are not seen to be dominant or overbearing. Isolated small turbines, with no apparent rationale, should be avoided.
- Groups of turbines of all scales should be arranged to correspond to the predominant pattern of landscape within which they will be seen. In lowland locations manmade features are most likely to define the landscape pattern, and it is likely that small turbines are best aligned to the pattern of roads, tracks, walls and field boundaries.

4.93 Proposals for wind energy developments of all scales must be assessed against the Development Criteria outlined from paragraph 4.18 in this guidance. Depending on the size and location of the development, a Landscape and Visual Impact Assessment may be required. Please see the Landscape and Visual Impact Development Criterion (DC2) for further information.

5. Heat Networks, Energy from Waste and District Heating

- 5.01 Policy 7 of the Plan supports the development of heat networks in as many locations as possible to maximise heat recovery from existing and proposed sources. Specific Planning Policy Advice will be prepared for individual heat networks to provide information on heat sources, safeguarded pipe-runs, and/or cables and any requirements for future developments to link into the network.
- 5.02 Energy centres within new development, and on brownfield sites, will be supported where it facilitates district heating, or connects to an approved heat network, and where there are no unacceptable environmental impacts or conflicts with adjacent uses.
- 5.03 The generation of energy from waste from existing or new will be encouraged. Where an 'energy from waste' facility is proposed, it must comply with emissions standards and, depending upon its scale, will require to be at least screened for Environmental Impact Assessment. Any proposal for such a scheme will include full details of how any recovered energy will be utilised and will detail any pipe-runs and/or cables and ancillary development.
- 5.04 Where an application does not believe a district heating system is technically feasible or financially viable, an energy statement which is proportionate to the scale of the development should be submitted in support of the application.



6. Fuel and Energy Storage

Energy Storage

- 6.01 The development of energy storage solutions associated with new and existing renewable energy developments will be supported.
- 6.02 Energy storage solutions may take the form of batteries, power to gas (electrolysis), district heating systems, heat networks, private wire networks, etc.
- 6.03 Energy storage solutions must pay regard to all relevant Development Plan policies to ensure that there are no unacceptable impacts. Where a development is proposed in association with a wind energy development, the Development Criteria from paragraph 4.18 of this guidance will be relevant to the turbine and any ancillary infrastructure. Furthermore, wherever possible and appropriate in landscape terms, applications for energy storage solutions should consider utilising any existing foundations or hard-standings created as part of the construction phase of the development.
- 6.04 Where an energy storage solution is proposed in association with a development, details must be provided regarding how the energy will ultimately be utilised in off-grid areas, projects or schemes.

Fuel Storage

- 6.05 The storage of liquid or gas fuels will be supported within industrial land allocations where there is no direct conflict with adjoining uses.
- 6.06 Any such proposal must comply with current containment standards and, depending upon its scale and the type of substance to be stored, will require to be at least screened for Environmental Impact Assessment or will require a full Environmental Impact Assessment.
- 6.07 The Health and Safety Executive will be consulted in relation to relevant planning applications (for example in the case of storing hazardous substances).



Further Information on Renewable Energy Development

Advice on the use of energy statements to support planning applications, proportionate to the scale of development:

<http://www.gov.scot/resource/0048/00488003.pdf>

Consultation draft guidance on assessing impacts on Wild Land:

<http://snhwebsite:8090/docs/A2179580.pdf>

Wild Land Descriptions and Hoy Description:

<http://snh.gov.uk/docs/A2027835.pdf>

Landscape Impacts Guidance

<http://www.snh.gov.uk/planning-anddevelopment/renewable-energy/onshore-wind/landscape-impacts-guidance/>

Spatial Planning for onshore wind turbines – natural heritage considerations

<http://www.snh.gov.uk/docs/A1663759.pdf>

Wind Farm Impacts on bird guidance

<http://www.snh.gov.uk/planning-anddevelopment/renewable-energy/onshore-wind/windfarm-impacts-on-birds-guidance/>

For any engineering activities in the water environment please refer to:
The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)

Guidance based on specific types of development:

LUPS-GU4 Planning guidance on on-shore windfarm developments:

<http://www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf>

LUPS-GU18 Planning guidance on hydropower developments:

<http://www.sepa.org.uk/media/136104/planning-guidance-on-hydropower-developments.pdf>

Fuel storage – the Control of major accident hazards (COMAH) Regulations are applicable to any establishment storing, or otherwise handling, large quantities of chemicals or substances of a hazardous nature, including production facilities, warehouses, and some distributors, for further details of the regulations see: <http://www.sepa.org.uk/regulations/control-of-major-accident-hazards-comah/>

Topic based guidance:

LUPS-DM-GU2c (ii) Development Management Guidance on Heat Networks and District Heating: <http://www.sepa.org.uk/media/219485/lups-dm-gu2c-ii-development-management-guidance-heat-networks-and-district-heating.pdf> supported by the land use planning background paper on

heat networks and district heating:

http://www.sepa.org.uk/media/162921/lups_bp_gu2c_ii_land_use_planning_background_paper_on_heat_networks_and_district_heating.pdf

LUPS-GU7 Guidance on the Water Framework Directive including river basin planning:

<http://www.sepa.org.uk/media/143208/lups-gu7-planning-guidance-on-the-water-framework-directive-including-river-basin-planning.pdf>

LUPS-GU31 Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems:

<http://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions-and-groundwater-dependent-terrestrial-ecosystems.pdf>

Future sites should be assessed for flood risk from all sources in line with Scottish Planning Policy (Paragraphs 254-268). The [Flood Maps for Scotland](#) are available to view online at

<http://www.sepa.org.uk/environment/water/flooding/flood-maps/>

If a flood risk is identified then a Flood Risk Assessment (FRA) should be carried out following the guidance set out in the document [Technical flood risk guidance for stakeholders](#):

<http://www.sepa.org.uk/media/162602/ss-nfr-p-002-technical-flood-risk-guidance-for-stakeholders.pdf>.

Borrow pits – see advice in LUPS-GU4 Planning guidance on on-shore windfarm developments:

<http://www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf>

Guidance on the assessment of peat volumes, reuse of excavated peat and minimisation of waste:

<http://www.sepa.org.uk/media/136117/planning-guidance-on-on-shore-windfarms-developments.pdf>

SEPA Regulatory Position Statement – Developments on Peat:

http://www.sepa.org.uk/media/156522/wst_ps_peat.pdf

Regulatory advice

Where aspects of a proposal requires authorisation from SEPA, refer to the regulatory section of the SEPA website at <http://www.sepa.org.uk/regulations/>.

Details of The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) can be found in the [CAR Practical Guide](#).

Is it waste - Understanding the definition of waste:

http://www.sepa.org.uk/media/154077/is_it_waste.pdf

Appendix 1 – Natural Heritage Designations

