East Ayrshire Council

East Ayrshire Local Development Plan

Supplementary Guidance

Planning for Wind Energy

December 2017

Supplementary Guidance: Planning for Wind Energy

Contents

1. Context and Purpose of Supplementary Guidance.

1.1 The Renewable Energy Agenda

The use and development of renewable energy technologies plays an important part in the national and international drive to respond to climate change and move towards a low carbon future, as emphasised in National Planning Framework 3 (NPF3) and Scottish Planning Policy (SPP). By increasing our use of renewable energy sources and reducing reliance on traditional fossil fuels, not only can we secure a safe long term energy supply, but also tackle the rise in global temperature associated with the burning of fossil fuels.

The Scottish Government is firmly committed to increasing Scotland's renewable energy output and has set ambitious targets for the generation of renewable energy. The 2020 Routemap for Renewable Energy in Scotland, most recently updated September 2015, sets out the Governments targets for renewable energy generation and how these targets could be met. Headline targets include that by 2020:

- The equivalent of 100% of Scotland's electricity demand should come from renewables;
- 11% of heat demand should come from renewable sources;
- At least 30% of overall energy demand will be from renewables;
- There should be 500 MW of community and locally-owned renewable energy.

These targets are the most ambitious in the EU and working towards them will see Scotland position itself as an international leader in renewable energy production. The Scottish Government regard these targets as "challenging" as not all consented renewable energy projects will progress to commissioning and electricity generation.

In January 2017 the Scottish Government consulted on the Draft Scottish Energy Strategy. The draft strategy further cements the government's commitment to renewable energy by suggesting a new 2030 target of 50% of Scotland's energy consumption to be met by renewable energy. In parallel to the Draft Energy Strategy, Scottish Government, in January 2017, consulted on a draft onshore wind policy statement. This recognised the importance of onshore wind to the Energy Strategy and looked for views on a number of ways to support the sector going forward. The draft policy statement reaffirms that the government's policy is to '*support deployment of onshore wind, whilst protecting the environment (landscape and visual, ecological and other environmental impacts); protecting residential amenity; and maximising local benefits, including through promoting shared ownership and community benefits.*'

A draft Climate Change Plan was published by the Scottish Government in January 2017, setting out the policies and proposals for meeting greenhouse gas emission reduction targets from 2017-2032. The Plan recognises the contribution that support for a wide range of renewable technologies can have on meeting reduction targets, especially in relation to the decarbonisation of Scotland's electricity system.

1.2 Wind energy

The Scottish Government's targets are expected to be met from a range of energy sources, including on and off shore wind, hydro, solar, biomass and geothermal.

Guidance on renewable heat generation is provided in separate Supplementary Guidance.

Onshore wind energy is an important part of the energy mix and is an area the Scottish Government is committed to expanding to help meet renewables targets. Whilst no specific targets are set out for the amount of renewable energy the government wants to see derived from wind energy, or indeed any spatial indication of where such development could be accommodated, the Routemap makes clear that onshore wind is a resource that can be deployed at a high rate and that can make a large contribution to the progress towards Scotland's renewable electricity target. As part of the renewables agenda, the Routemap expects the planning system to play its part, by balancing environmental sensitivities with the need to make progress on renewables targets.

SPP (Paragraph's 154 and 155) requires the Council, through the Local Development Plan:

- to support the development of a diverse range of electricity generation from renewable energy technologies - including the expansion of renewable energy generation capacity;
- to guide development to appropriate locations and to advise on the issues that will be taken into account when specific proposals are being assessed.

This will ensure that within East Ayrshire, the full potential for renewable energy generation is achieved; whilst at the same time giving due regard to environmental, community and cumulative impacts.

1.3 Renewable Energy in East Ayrshire

In an East Ayrshire context, similar to much of rural Scotland, the demand for renewable energy production is most clearly seen in relation to onshore wind energy development.

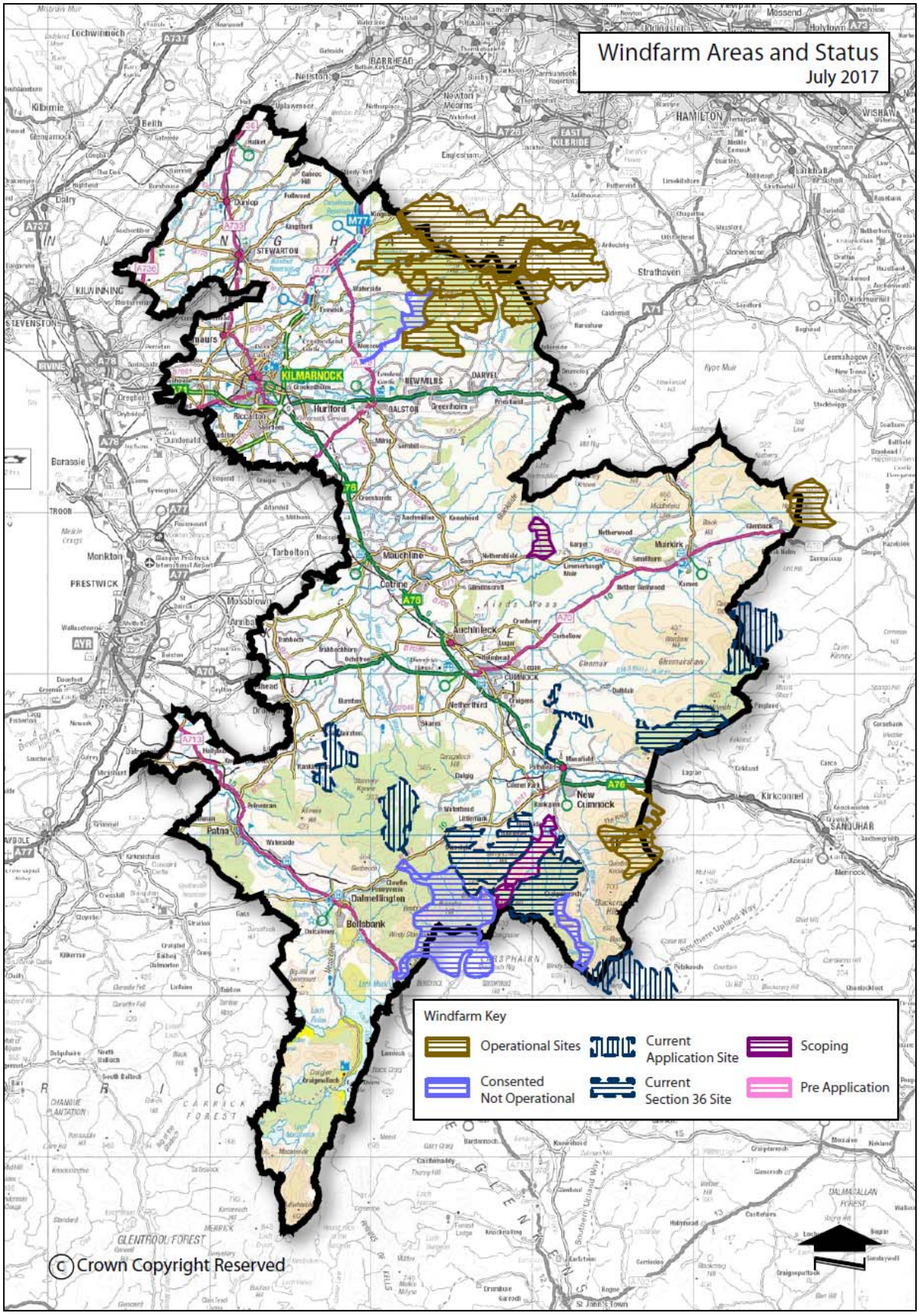
Wind energy has become a major land use in East Ayrshire. With 100 of the 215 turbines that make up Whitelee falling within East Ayrshire, along with the 59 turbine Hare Hill wind farm and extension that provides part of the backdrop to New Cumnock, wind turbines have become a notable feature within the landscape. Further development currently in the pipeline (see table 1 below), has the potential to bring far greater renewable energy development into East Ayrshire. Further wind energy developments will be supported where they can be accommodated in appropriate locations, assessed as acceptable against the Local Development Plan and material considerations.

Stage of development	No. of developments	No. of turbines	Generating capacity (MW)
Approved or operational	9	232	596.95 MW
Applications under consideration (planning and S36 applications, incl. where appeals lodged)	8	108	376 MW
Proposals at pre-application or scoping stage	2	10	29.5MW

Table 1: Developments and proposals in excess of 2 wind turbines, as at 1 August 2017

Spatially, there is a clear pattern of development across East Ayrshire linked to the landscape form, its height and the associated wind speeds. The East Ayrshire landscape is characterised by a broad upland arc running around its eastern and south-eastern edges, which extends into neighbouring South Ayrshire, South Lanarkshire, Dumfries and Galloway and East Renfrewshire. Whilst the Upland areas display distinct variations in terms of landform and scenic qualities, in general terms they form large scale, sparsely settled landscapes, typifying the kind of landscapes that are most commonly associated with wind energy. In contrast, much of the north and western section of East Ayrshire forms a traditional lowland landscape interspersed with river valleys, which provides a smaller scale, intimate landscape that for the most part does not lend itself to large scale wind energy development. As a result, pressure for wind energy is clearly centred on the upland areas around the southern and eastern rim of East Ayrshire.

Map 1 is a visual register of wind energy developments and proposals within East Ayrshire. The visual register is available on the Councils website and is updated monthly. (https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/Visual-registers/Onshore-Wind-Visual-Register.aspx)



Map 1: Wind Energy proposals (July 2017)

In addition to large scale wind energy schemes, developments of one or two turbines have become a feature of the East Ayrshire landscape, most notably to the north and east of Kilmarnock. Whilst these developments have an altogether different impact than the large scale proposals in the upland areas, the introduction of new tall structures into the settled lowland landscape has significant implications for the rural area and amenity of local residents and therefore requires to be carefully managed.

1.4 Purpose of this Supplementary Guidance

On the basis of the level of demand for wind energy developments in East Ayrshire, the need for a robust and clear policy approach for wind energy is a fundamental element of the East Ayrshire Local Development Plan (2017).

In line with the requirements of SPP, this Supplementary Guidance sets out the Council's spatial approach to wind energy development and provides further detail on the criteria against which all medium and large scale wind energy proposals will be assessed, underpinning policy RE3 of the Local Development Plan. The guidance also provides for greater interpretation of policy RE4, by outlining design principles for the siting of small turbines, 50 metres and under in height. This guidance should assist developers in ensuring they submit all the required information to support their planning applications.

2. A Spatial Framework for wind energy

2.1 SPP Methodology

Scottish Planning Policy sets out a clear requirement for Local Development Plans to include a Spatial Framework for onshore wind energy.

SPP requires that spatial frameworks identify certain constraints and effectively divide each authority area into 3 groups as set out in table 2 below.

2.2 Scale of development

SPP requires that Development Plans should indicate the minimum scale of onshore wind development that their spatial framework is intended to apply to. The East Ayrshire spatial framework applies to all wind energy developments over 50 metres in height to blade tip. For clarity, the spatial framework applies to proposals of single or multiple turbines over 50 metres to blade tip. The term wind farm is not used.

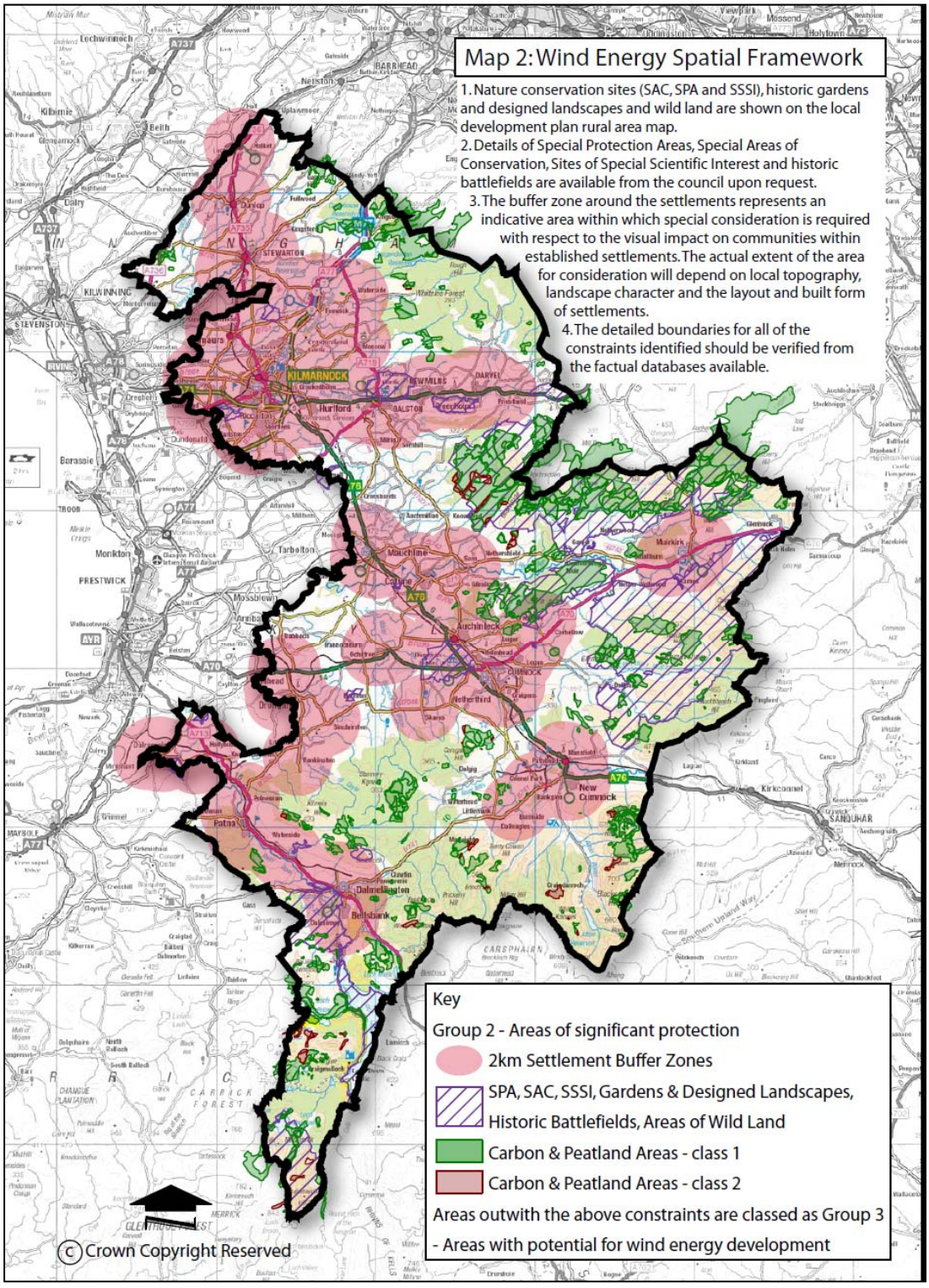
Turbines of 50 metres to blade tip and below have a very different development profile; generally they are proposed as single or small groupings of turbines, within lowland settled landscapes where they are associated with existing farms or settlements. Given the diversity of such landscapes and the different factors that need to be taken into account, it is considered that it is not appropriate to provide strategic guidance in a spatial format for turbines under 50 metres to blade tip. Instead, they are more appropriately assessed against RE4 of the LDP and should be guided by the dedicated design guidance, as summarised in section 4.0 of this document and detailed fully in the East Ayrshire Landscape Wind Capacity Study (2013). In terms of landscape guidance, the scale of development is further broken down into large and medium typologies; over 70 metres to blade tip and between 50 and 70 metres to blade tip, respectively.

Grouping	Description	Constraints to be considered in line with SPP	How do the constraints apply to East Ayrshire?
Group 1	Areas where wind energy (over 50 metres) will not be acceptable	National Parks National Scenic areas	East Ayrshire does not contain any National Parks or National Scenic Areas. East Ayrshire's spatial framework does not include Group 1.

Group 2	Areas of significant protection
	
	Wind energy developments (over 50 metres) may be appropriate where it can be demonstrated that any significant effects on the qualities for which the area is identified can be substantially overcome by siting, design or mitigation
		World Heritage sites
		
		Natura 2000 and Ramsar sites
		
		Sites of Special Scientific Interest
		
		National Nature Reserves
		
		Sites identified in the Inventory of Gardens and Designed Landscapes
		
		Sites identified in the Inventory of Historic Battlefields
		
		Areas of wild land
		
		Carbon rich soils, deep peat and priority peatland habitat
		
		An area not exceeding 2km around cities, towns and villages.
			The Group 2 area in East Ayrshire is made up of the following designations and assets:
			
			• Muirkirk and North Lowther Uplands Special Protection Area
			• Merrick Kells Special Area of Conservation
			• Airds Moss Special Area of Conservation
			• 20 Sites of Special Scientific Interest (see list in appendix)
			• Designed landscapes and Gardens
			  o Caprington Castle, by Kilmarnock
			  o Dumfries House, by Auchinleck
			  o Loudoun Castle, by Galston
			  o Lanfine, by Newmilns and Darvel
			  o Rowallan, by Kilmarnock
			  o Skeldon House, by Dalrymple
			  o Craigengillan, by Dalmellington
			• Battle of Loudoun Hill battlefield
			• A small area of Wild Land to the south of Loch Doon
			• Areas mapped as Class 1 (Nationally important carbon-rich soils, deep peat and priority peatland habitat and areas likely to be of high conservation value) and Class 2 (Nationally important carbon-rich soils, deep peat and priority peatland habitat and areas likely to be of high conservation value and restoration potential) as defined within SNH Carbon and Peatland Map 2016

			• A 2km indicative separation distance around each of the LDP's identified settlements for visual impact purposes
Group 3	Areas with potential for wind energy development (over 50 metres)	No recognised constraints. Applications will require to be assessed against the criteria identified in section 4.	

Table 2: Methodology for Spatial frameworks set out in SPP



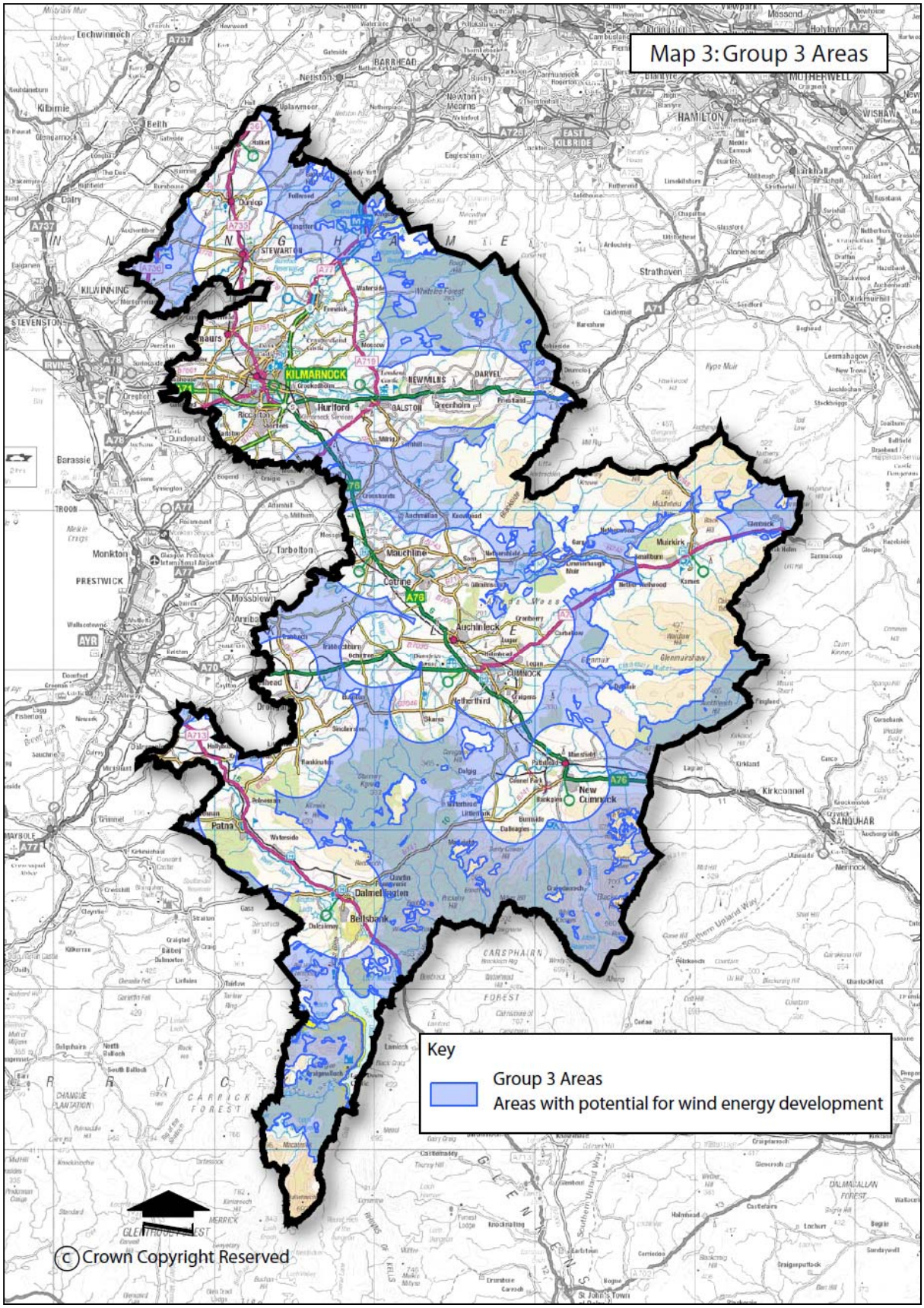
Map 2: Spatial framework for wind energy development over 50m in height.

2.3 What does the spatial framework mean for East Ayrshire?

Map 2 shows the spatial framework for all wind energy development over 50 metres in height. Only in group 1 areas, should there be a presumption against wind energy developments. As noted in table 2 and Map 2, East Ayrshire does not contain any areas that fall within group 1. As per SPP and policy RE3, whilst group 2 areas are to be given significant protection, there may be some circumstances where wind energy developments may be appropriate.

For ease of reference, Map 3 shows land classified as Group 3. Within these areas proposals will be supported where it can be demonstrated that they are acceptable in terms of the criteria listed in Schedule 1 of the Plan and detailed in Section 3 below.

Any developer exploring opportunities for wind energy developments in East Ayrshire should give due attention to the spatial framework, recognising that any development within an area requiring significant protection (i.e. within a group 2 area) will only be supported where it can be demonstrated that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation, through the planning application and EIA processes as appropriate, taking on board the considerations outlined in Schedule 1 of the LDP and described in detail below.



Map 3: Group 3 areas

2.4 Where are East Ayrshire's areas of strategic capacity?

SPP states that the LDP should identify where there are areas of strategic capacity for wind energy development within East Ayrshire.

The Whitelee wind farm and adjacent areas within the core of the upland area are identified in the LDP as East Ayrshire's only area of strategic capacity. However, this is subject to further work to ascertain the exact boundary of the area of strategic capacity, which will be undertaken as part of the preparation for Local Development Plan 2 (LDP 2). Any proposals for further wind energy development around Whitelee will continue to be assessed against the spatial framework, all relevant LDP policies and this supplementary guidance as well as the landscape wind capacity study. Repowering will, in principle, be supported in the existing Whitelee wind farm area, subject to the site specific detail of the proposal and an assessment of the associated impacts.

The Council will also undertake further work to assess the strategic capacity of other parts of East Ayrshire, including the potential for repowering. This will include assessment of Group 2 and Group 3 areas, and cross-boundary assessment through joint working with adjacent planning authorities. All proposals, irrespective of whether or not they are in an area identified as having strategic capacity, will be assessed against the LDP policy framework and the provisions of this SG.

3. Considerations to apply to all wind energy developments over 50 metres

SPP makes clear that decisions on wind energy proposals should take account of the spatial framework, but should also be assessed against identified policy criteria. The policy criteria are listed in Schedule 1 of the Plan. This section of the guidance provides further detail on the Schedule 1 criteria, providing guidance on what information should be submitted for developments over 50 metres and outlining how applications will be assessed.

3.1 Environmental criteria

3.1.1 Landscape and Visual Impacts

The landscape and visual impacts of a development will be carefully assessed for every application. The level and extent of landscape and visual assessment required will depend on the scale of development proposed.

As part of the application process, a detailed Landscape and Visual Impact Assessment (LVIA) should be prepared to clearly demonstrate the landscape and visual effects of any proposal. Landscape impacts comprise of the potential change that will take place to the physical landscape, including impact on landscape character and impact on prominent landscape features and their setting. Visual Impact Assessments consider the potential changes to available views in a landscape that will arise as a result of a development proposal and the resultant effect on visual amenity and peoples responses to such changes.

A Zone of Theoretical Visibility map (ZTV) should be used as a starting point to identify appropriate locations for viewpoints, selecting points where the development is likely to be most visible and where there are appropriate receptors. The list of viewpoints must be agreed with the Council and, in respect of large scale schemes, should be subject to consultation with SNH. Therefore, early discussions with SNH and the Councils specialist Development Management Energy Team are encouraged. Viewpoints should comprise a variety of local and long range views and should include, but not be restricted to, the following receptors:

- Settlements from where the development will be visible.
- Important heritage designations, including listed buildings, scheduled monuments and designed gardens and landscapes where there setting may be affected.
- Strategic walking routes, including the Southern Upland Way and the River Ayr Way, core paths and rights of way.
- Landmark Hills comprising Auchenroy Hill, Benquhat Hill, Blackcraig Hill, Craigbraneoch Rig, Hare Hill, Corsencon Hill, Wardlaw Hill, Cairn Table, Blackside, Loudoun Hill and Carrick Forest Hills.
- Wild Land and the Sensitive Landscape Area.
- Tourist Routes, A Roads and other relevant local roads.
- Gateways into East Ayrshire.

As required through policies RE3 and Schedule 1, all proposals will be required to consider fully the landscape impacts. The applicant should be able to demonstrate an understanding of the key sensitivities of the landscape area in which their development is proposed and

show how they have responded to these sensitivities in their site selection and design process.

East Ayrshire Council has approved as non-statutory guidance a landscape capacity study for wind energy development. The guidance is a material consideration in the determination of planning applications and the Council will use the landscape sensitivity maps and detailed sensitivity assessments within the landscape capacity study to help assess all applications for wind energy development. The study is under review and when updated, the Council will seek to approve the update and use in relation to all relevant proposals. The landscape capacity study must be supplemented, through the LVIA, by more detailed site specific information submitted by the applicant, which will fully demonstrate how the specific development fits into the landscape.

For information, box 1 below highlights some of the key findings and conclusions from the landscape wind capacity study. The full study is available on the Council's website.

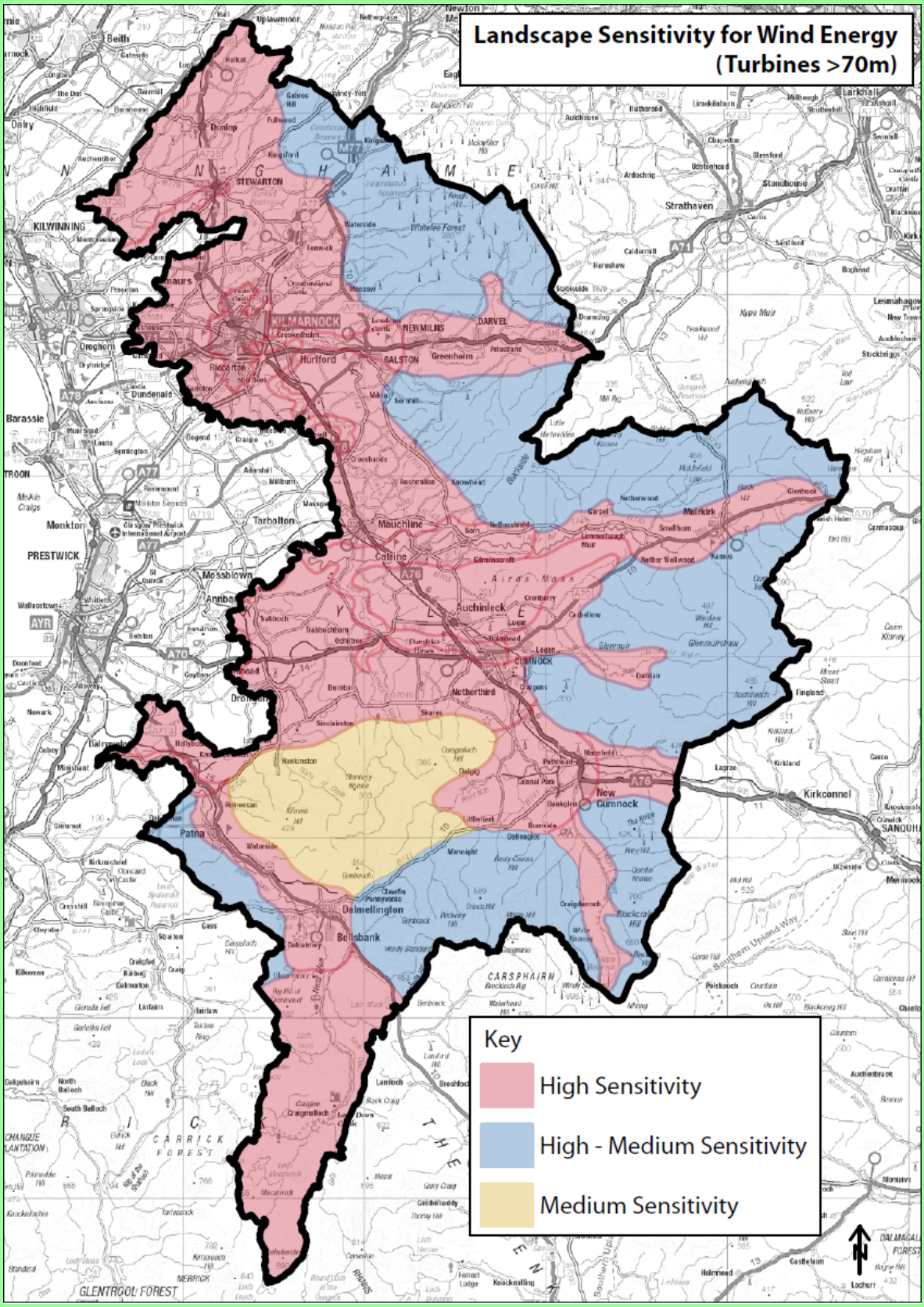
Box 1. East Ayrshire Landscape Wind Capacity Study (EALWCS) and key landscape constraints

The landscape capacity study was commissioned by SNH, along with East, South and North Ayrshire Councils to assess the sensitivity of the landscape to further wind energy development. This study was approved by East Ayrshire Council in July 2013 as non-statutory guidance and is available on the Council's website. The main study and the more detailed appendix should both be referred to.

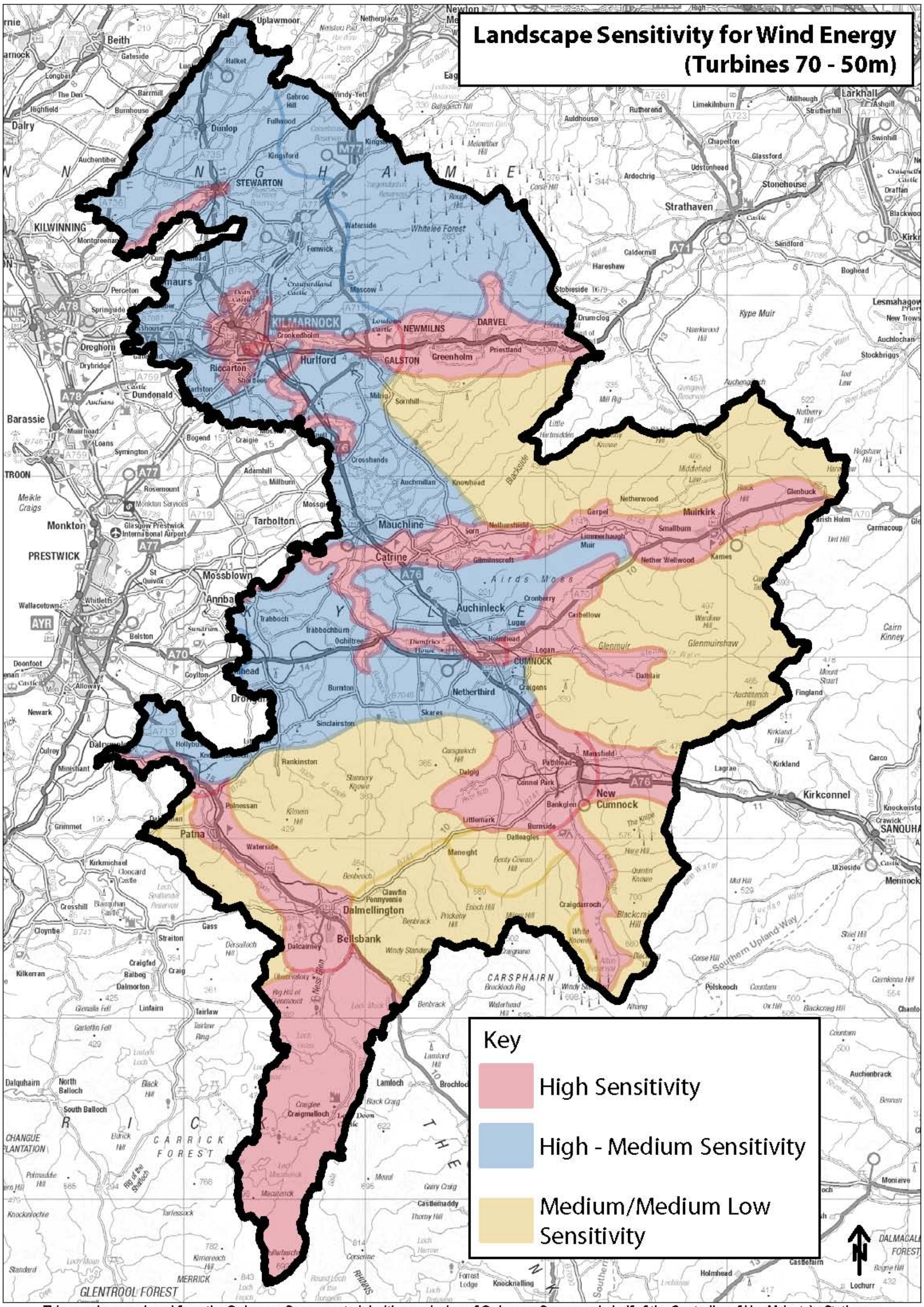
The Capacity Study provides a detailed and robust analysis of the special landscape features and characteristics of particular landscape areas and assesses the sensitivities of such landscape areas to wind energy developments.

The Capacity Study assesses the sensitivity of each of East Ayrshire's landscape character areas to varying heights of turbine. The results of this assessment are shown strategically on maps 4 and 5 for turbines over 70 metres and turbines between 50 and 70 metres respectively. It is recognised that standard turbine heights now far exceed 70 metres, which will be taken into account in the review of the study. Nevertheless, the sensitivity maps provide a useful illustration of the sensitivity of East Ayrshires different landscape character areas to wind energy development.

Based on landscape sensitivity, the study makes conclusions about the scale of development that can or cannot be accommodated within the landscape character areas. These conclusions are fully detailed in the study. These conclusions, and maps 4 and 5, are based only on landscape factors and will be used in the consideration of development proposals alongside all other relevant policy criteria and material considerations.



Map 4: Landscape sensitivity for turbines over 70 metres



Map 5: Landscape sensitivity for turbines between 50 and 70 metres

SNH has prepared several pieces of guidance in relation to expressing and assessing the landscape impacts of wind energy developments. Developers should in the first instance refer to the SNH website to access the full range of guidance available.

The impact of turbine lighting should be considered within the LVIA process. Turbines in excess of 150 metres, and in some cases smaller than this, are required to have lighting for aviation safety purposes. When such lighting is required the potential effects should be fully examined and steps taken to minimise the landscape and visual impacts.

The effects of turbine lighting are likely to be more significant in areas with less existing artificial lighting, such as the Dark Sky Park and Wild Land areas. In these areas, it should be demonstrated that the proposal will not have an unacceptable significant adverse impact on the qualities of Wild land, the quality of the Dark Sky or the operation of the Dark Sky Observatory. Should any impact be identified, possible mitigation measures should be explored. Any proposal within the Dark Sky Park and surrounding transition zone must conform to the Councils Dark Sky Park Lighting Supplementary Guidance.

3.1.2 Cumulative impact

Cumulative impacts are the additional changes caused by a proposed development in conjunction with other developments i.e. the combined impact of more than one development. Cumulative impact assessments most frequently involve landscape and visual impacts as well as natural and cultural assets and aviation interests. They may also be required for noise, shadow flicker and transport. Given the scale of wind energy development proposed in East Ayrshire as well as in neighbouring authorities, the cumulative impact of a proposal is likely to be relevant to all wind energy proposals.

Specific to landscape and visual impacts, the assessment of cumulative impacts should form a key part of LVIA's submitted alongside any application. Key issues to be addressed in the assessment of cumulative impacts include:

- Accuracy: Given the number of different wind energy proposals moving through the consents procedures, the cumulative impact of developments is continually evolving. In preparing cumulative assessments, therefore, all operational and consented wind energy developments as well as those at the planning and Section 36 application stage should be taken into account. The Council also considers it good practice for applicants to consider other developments in close proximity, where the scoping stage has been undertaken, as these may get to the application stage quicker than the applicants own submission. Whilst it is accepted that these schemes may evolve as they move through the planning system, they are nevertheless relevant when considering cumulative impact.

- Comprehensiveness: Assessment should take account of wind energy developments and proposals in East Ayrshire and surrounding authorities. The cumulative Zone of Theoretical Visibility (ZTV) should consider all such developments/proposals within a 35km buffer of the proposed site.

- Views: Cumulative impact assessment should consider sequential views i.e. an assessment of how views in all directions are affected when travelling through the landscape from both within and outwith East Ayrshire rather than just at one fixed point.

- Other land uses: Cumulative impact should not be limited to other wind energy developments, but should also consider other land use and features, including surface coal mining and overhead transmission lines where relevant.

The assessment of cumulative impacts should take on board the guidance and methodologies included within:

- The East Ayrshire Landscape Wind Capacity study, and any update to it, which highlights particular cumulative issues in relation to each landscape character area within East Ayrshire.

- 'Assessing the cumulative impact of onshore wind energy developments' (SNH – March 2012) http://www.snh.gov.uk/docs/A675503.pdf

3.1.3 Carbon-rich soils

Scotland's peatlands soils play an important role in driving towards a low carbon future. The carbon stored in Scotland's soils is equivalent to over 180 years of greenhouse gas emissions from Scotland at current emission rates.

Areas of carbon rich soils, deep peat and priority peatland habitats are identified within the spatial framework as areas requiring significant protection (Group 2 areas). In line with Policy RE3 of the LDP, any proposal within these group 2 areas will only be permitted where any significant adverse effects on the environmental quality of such soils can be substantially overcome by siting, design or mitigation.

Taking account of the spatial framework, a detailed site survey and, if appropriate, an EIA will be required at the development management stage in order to assess in greater detail the presence and extent of carton rich soils, deep peat and priority peatland habitats. Any proposed wind energy development must confirm whether existing peatlands will be disturbed. It is essential that wind energy proposals are accompanied by robust data from desktop studies and on-site peat probing.

It is essential that the scope for avoiding the extraction of peat is explored and alternative options are identified that minimise risk in terms of carbon release, human health and environmental impact. Where some disturbance is unavoidable, measures should be taken to minimise the extent of disturbance. When all options to avoid and minimise have been exhausted, opportunities to undertake enhancements to the remaining peat resource and carbon rich soils should be explored, in order to mitigate the overall impacts of the removal of peat.

It must be recognised that there are difficulties re-using excavated peat and with waste peat disposal. Schedule 1 requires that the re-use of excavated peat is considered in proposals.

It is important for wind energy developers to have waste management measures to deal with surplus peat as set out within SEPA's Regulatory Position Statement - Developments on Peat. SEPA has advised that landscaping with surplus peat (or soil) may not be of ecological benefit and consequently a waste management exemption may not apply. In addition, the disposal of a significant depth of peat is considered landfilled waste and this may not be consented under SEPA's regulatory regimes. Further guidance on development on peatlands can be found on SEPA's website and within the Guidance on the assessment of peat volumes, reuse of excavated peat and minimisations of waste.

3.1.4 Natural heritage, biodiversity and wild land

East Ayrshire benefits from significant areas of recognised natural heritage, which include a Special Protection Area and Special Areas of Conservation (commonly known as Natura 2000 sites), SSSI's and, as identified on the 2014 SNH map of wild land areas, a small area of Wild Land. These areas are granted significant protection within the spatial framework (Group 2) and developments within these areas will only be acceptable under LDP policy RE3 where significant adverse impacts can be substantially overcome by siting, design or mitigation. Any such proposals would require to be accompanied by supporting information, to the satisfaction of the Council in consultation with SNH. Where a proposal may impact on a Natura site, developers will be required to carry out a site based Appropriate Assessment, under the Habitats Regulations.

Outwith the above recognised areas, developers will be expected to fully assess the natural attributes of the sites in terms of biodiversity and natural heritage and to assess the impact of the proposal on existing habitats and species. This should include consideration of the impact on locally designated sites, including potential wildlife sites, local geodiversity sites and local nature reserves. As far as possible, mitigation measures should be identified for any predicted adverse impacts.

Wind energy developments can present particular risks to birds and bats, through displacement, collision with turbine blades or direct habitat loss through the construction of wind energy infrastructure. The RSPB has prepared a map indicating the areas across Scotland where wind energy developments would pose the biggest risk to important bird populations. Developers should consider this map in developing wind energy proposals. An assessment of the potential impacts that a wind energy development may have on birds should be included as part of the application submission, in line with guidance published by SNH.

3.1.5 Historic Environment

East Ayrshire's historic environment plays an important role in establishing a sense of place and local distinctiveness.

All wind energy proposals will be required to assess the impact of development on the following historic features, including their setting (which may extend significantly the area

incorporated in any assessment):

- Listed buildings
- Conservation areas
- Scheduled monuments
- Battlefields
- Designed Gardens and Landscapes
- Archaeological resources

A number of factors may be relevant to the assessment of setting, dependent on the site specific circumstances. Consideration should be given to whether the asset was located specifically to be seen from distance or viewpoints; whether it was intended for the asset to benefit from long ranging views; what its contribution to the landscape is and the effect the surroundings have on the landscape.

The Council will be unlikely to support a development that would result in an unacceptable significant adverse impact on a recognised historic asset, in particular one of national interest.

There are a range of non-designated heritage assets and areas of historical interest, such as ancient woodlands and archaeological sites, which do not have statutory protection, but are nevertheless an important part of the areas heritage. The Council will require wind energy developers to demonstrate that they have considered the impact of their proposal on any non-designated historic assets and their settings. In this respect, all applications will be assessed in line with the relevant environmental policies of the LDP, including ENV2 and ENV9. Developers may consult the West of Scotland Archaeological Service (WOSAS) for further advice. The Council, in consultation with WOSAS, may apply conditions to protect non statutory assets as well as statutory ones.

Any works directly affecting a designated Scheduled Monument requires Scheduled Monument Consent (SMC) which is obtained from Historic Environment Scotland. Advice on the SMC process and their requirements should be sought at an early stage from Historic Environment Scotland.

3.1.6 Effects on hydrology, the water environment and flood risk

Wind energy developments require to be carefully considered and monitored especially at construction stage, to avoid any pollution or disruption of watercourses, groundwater and private water supplies and to ensure the ecological status of waterbodies is not adversely affected. An assessment of both the risks to water quality and any increased risk of flooding as well as any mitigation measures proposed, should be carried out through the EIA process, or if no EIA then through a hydrology study, and will be subject to detailed consultation with SEPA and SNH.

The water environment includes rivers, lochs, burns, groundwater resources (including acquifers) and reservoirs. During the assessment process, the applicant will require to demonstrate that the design process (inclusive of ancillary works) of the wind energy

development has made a concerted effort to leave the water environment (including the natural flow of the water throughout the site) in its natural state. As a general rule all turbine bases and associated infrastructure should be set back a minimum 50m from watercourses.

Furthermore, surface water within the site should be controlled at source and the inclusion of construction SUDS should be used where necessary.

It should also be ensured that, in accordance with paragraph 255 of SPP, any engineering works, for example, culverts, bridges, water course diversions, bank modifications, dams and so on are avoided unless there is no practical alternative. In situations where a watercourse crossing cannot be avoided, the developer should ensure that bridging solutions or bottomless or arched culverts, which do not affect the bed and banks of the watercourse, are used. The developer should refer to SEPA's website for guidance.

The Water Framework Directive specifically protects Groundwater Dependent Terrestrial Ecosystems (GWDTE), which are types of wetland, and groundwater abstractions.

In terms of GWDTE, a habitat survey should be carried out for the whole site and the guidance: A Functional Wetland Typology for Scotland should be used to identify all wetland areas. National Vegetation Classification (NVC) should be completed for any wetlands identified. If GWDTEs are located within 100m of excavations shallower than 1m, such as tracks, roads and cable trenches, or 250m from features with excavations deeper than this, then further assessment will be required. The results of this further assessment and proposed mitigation measures should be included in the ES or appropriate study. Further guidance can be found on the SEPA guidance note: Planning guidance on on-shore windfarm development available on SEPAs website.

With regard to ground water or acquifer abstractions, these can be disrupted and impacted upon by roads, foundations and other works associated with wind energy developments. To address this risk, all groundwater or acquifer abstractions both within and outwith the site boundary should be identified, risk assessed and any appropriate mitigation measures and contingencies set out. Further guidance can be found on the SEPA guidance note: 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)

Wind energy developments should ensure that there are no unacceptable adverse impacts on Scottish Water telemetry systems and below ground assets, as well as, drinking water quality and quantity. Where impacts are anticipated, mitigation measures should be outlined. Scottish Water will be consulted on all applications for wind energy developments.

Depending on the size of the site, it may be necessary for developers to apply to SEPA for a construction site licence under the Water Environment (Controlled Activities)(Scotland) Regulations 2011 (as amended) for water management across the whole construction site. Applicants should seek the advice of SEPA directly on relation to this.

3.1.7 Forestry and Woodlands

Trees and woodland make an important contribution to East Ayrshire's environment and economy and account for a substantial proportion of the area's land cover. In particular ancient woodlands and well established deciduous woodlands contribute to landscape character and should be retained where ever possible.

The Scottish Government Policy on 'The Control of Woodland Removal' recognises the value of woodlands and seeks to reduce the impact of development on woodland resources by requiring compensatory planting for woods lost to development.

The Ayrshire and Arran Forestry and Woodland Strategy (2013), which forms non-statutory guidance to the LDP, aims to steer appropriate compensatory planting to areas where a wide range of benefits can be delivered. The strategy sets out the priorities for woodland expansion within spatially defined landscape zones. These provide a starting point for identifying appropriate sites for compensatory planting. Where woodland is to be removed in Ayrshire and Arran to facilitate development, the first preference should be to replace with onsite planting. Where this is not appropriate, the associated compensatory planting should also be provided within East Ayrshire and if this is not possible within the boundary of Ayrshire and Arran.

Wind energy developments that involve the removal of woodland cover will be required to provide a phased deforestation plan and details of compensatory planting proposals. This information should be provided, where possible, as part of any application or, where necessary, as part of the environmental impact assessment. Proposals should pay due regard to the Forestry and Woodland Strategy and should be prepared in consultation with the Forestry Commission Scotland.

Where it is proposed to fell significant quantities of trees during the construction of wind energy developments, development should be undertaken with a view to preventing and reducing waste arising from the felling of the trees. Schedule 1 of the LDP requires that consideration be given to the re-use of forest waste. Wind energy developers should refer to SEPA's guidance on the Management of Forestry Waste.

3.1.8 Effect on greenhouse gas emissions

Applications should be accompanied by an estimate of the total annual and lifetime CO^2 savings that would be derived from the proposal. This should be weighed against the carbon footprint associated with all elements of the wind energy developments construction, in order to indicate the 'CO^2 payback period' i.e. the time required for the development to generate enough electricity to offset its own carbon footprint. In order to make this assessment, applications should be accompanied by evidence that the proposal has been assessed for carbon losses and savings using the Scottish Government's published carbon calculation method.

Where the proposal will affect established peatlands or woodland/forestry, the Council will expect the CO^2 payback period to take into account the carbon losses resulting from the loss of peat or woodland/forestry. Carbon losses arising from the disturbance of the peat must be

balanced against the carbon gains that would come from the renewable energy output of the proposed wind energy development.

3.2 Local economy and community criteria

3.2.1 Effect on communities and individual dwellings

Wind energy developments, if not carefully sited and designed, have the potential to have a significant impact on the amenity of communities and residents living close by, both on their own and cumulatively. The Council would recommend that wind energy developers notify as many residents as possible at each stage of the application process. As good practice, the Council encourages developers to notify all residential properties located within 2km of the proposal or within an alternative range appropriate to the geography and location of the specific development. Where properties within 2km are not notified, the Council would expect the applicant to provide reasoned justification for this.

A key role of the planning authority in determining and responding to applications for wind energy developments will be to examine the likely impact on residential amenity, including the cumulative impact on residential amenity. The anticipated impact of the development on the quality of life of local residents will be a significant consideration in the determination of wind energy applications. The Council expects applicants to take a robust and comprehensive approach to assessing how their proposals will impact or otherwise on local communities and residents. Residential amenity will be assessed in terms of four key respects:

- Noise

  The noise associated with wind turbines is a common concern raised in relation to wind energy developments. Two distinct types of noise are generated by turbines; mechanical noise, associated with the gearbox and generator and aerodynamic noise, produced by the blades moving through the air.

  Any adverse noise impacts, including cumulative noise impacts, are most effectively eliminated through ensuring wind energy proposals are sufficiently remote from communities and residential properties. All proposals for turbines of over 50 metres to blade tip should be accompanied by a full detailed assessment of the noise impacts of the proposal, in line with ETSU-R-97 standards, which outlines a framework for measuring noise. Applicants should refer to the Institute of Acoustics '*A Good Practice Guide to the Application of ETSU-R-97 For the Assessment and Rating of Wind Turbine Noise',* (May 2013). The Council will only support proposals where it can be clearly evidenced that the noise levels will not significantly impact on residential amenity. As part of any planning consent granted, there may be a requirement, based on the site specific circumstances, for regular noise monitoring to be undertaken for a limited period to demonstrate that the wind energy development is complying with its conditions in terms of noise.

- Shadow flicker

  Shadow flicker is caused by low sun passing behind the rotating blades of a turbine. The movement of the turbine blades can cause light and dark shadows to be to be cast over properties, creating a strobe light effect. Where there are narrow window openings in a property this flickering between light and dark can cause considerable disturbance and annoyance.

  Shadow flicker can generally be avoided by ensuring there is an adequate separation distance between turbines and properties. Depending on topography and particular site specific circumstances, careful siting of turbines may be required to reduce or eliminate the potential for shadow flicker. When shadow flicker is likely to occur a shadow flicker assessment should be submitted, including mitigation measures that can be implemented to ensure no shadow flicker impacts occur.

- Visual dominance

  Any wind energy development proposed within 2km of a settlement will require to be given special consideration in respect of the visual impact on the local community. Developers should refer to the LDP's maps for the exact settlement boundaries.

  As stated in relation to Landscape and Visual Impact Assessment, all proposals for turbines over 50 metres to blade tip should be accompanied by a clear and robust assessment of how the development will be viewed from nearby settlements and other relevant locations. Such locations should be agreed in conjunction with the Planning Authority.

  The LVIA should consider fully the visual impact of the proposed development on individual properties within the vicinity of the development, through a Residential Visual Impact Assessment. Whilst no standard separation guidelines are suggested in specific reference to visual impacts, applicants are expected to make a comprehensive assessment of the visual effects of the proposed development on all residential properties within 2km of the proposed turbines. If there is a settlement or cluster of properties within 2km, it will be appropriate to agree representative viewpoints within the settlement or cluster from which to assess visual impact, as opposed to every residential property. The scope of the Residential Visual Impact Assessment should be agreed with the Council prior to it being undertaken.

  The Council will only support applications when the applicant can demonstrate that the proposal will not result in a visual impact that is of such a magnitude that the affected properties change from being satisfactory places to live to unsatisfactory places in which to live. This will be an important consideration in coming to a balanced determination on all applications.

- Private Water Supplies

Some individual dwellings have private water supplies (PWS) and these water supplies may be impacted by wind energy development. Proposals should consider any impacts of a development on the quantity and quality of any private water supply assessed to be at risk from the development. Where it can be established that private water supplies will be affected by a development, proposals should be accompanied by a private water supply risk assessment which should include appropriate mitigation and contingency measures commensurate with the assessment of risk for each property. The full and detailed PWS risk assessment should be submitted with the planning application or where requested by the planning authority.

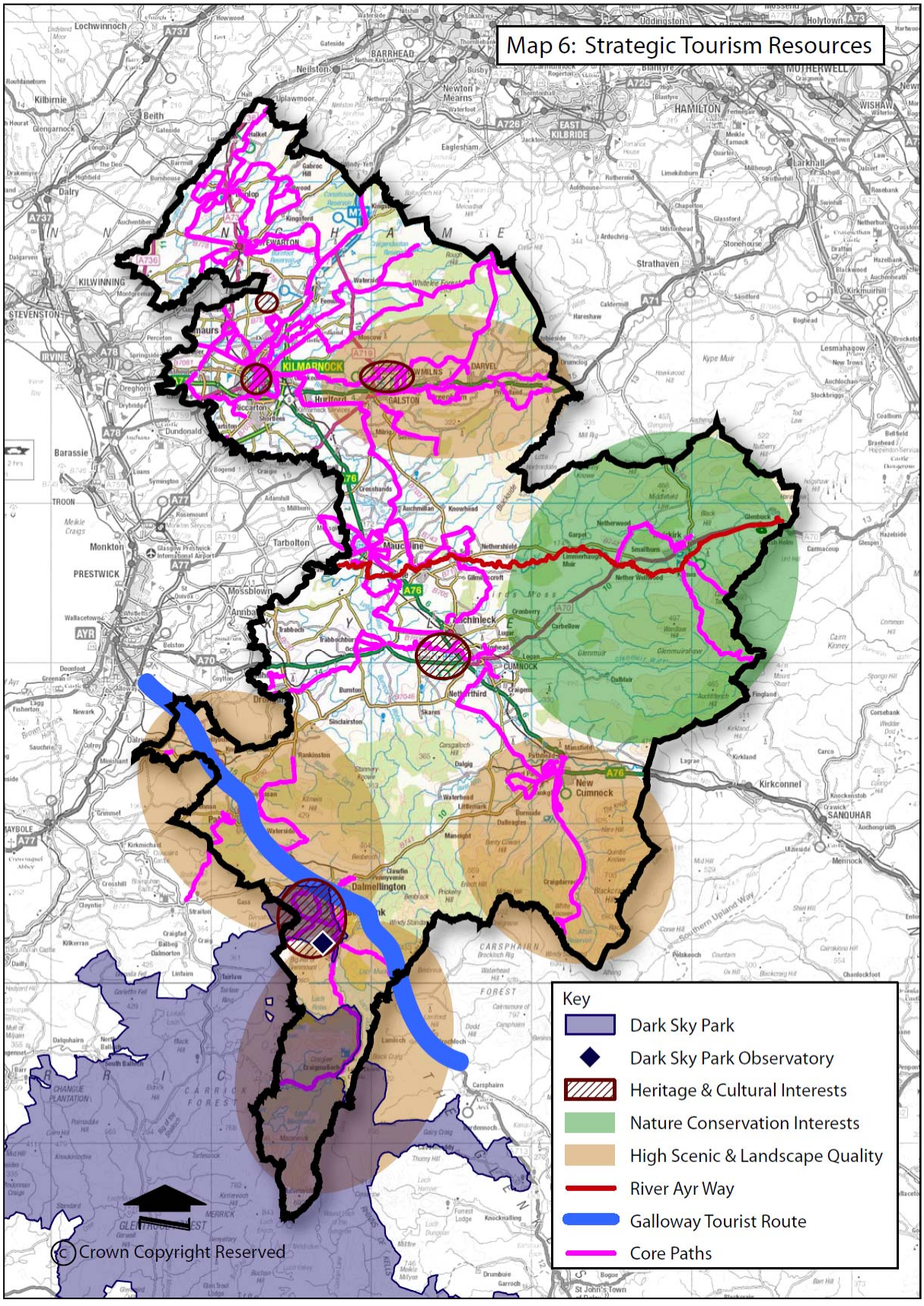
Applicants should also consider the impact of their proposal on common interest communities, such as business, sports or heritage groups. In particular, the impact on any communities that may use sites for outdoor recreation should be examined and proposals should, where possible, minimise any impact on such communities.

3.2.2 Tourism, recreation and public access

An important role of the Local Development Plan is to support the development of tourism in East Ayrshire as a key element of the wider local economy. Wind energy applications should provide an assessment of any potential impacts of the development on any relevant tourism resources, including, but not exclusively:

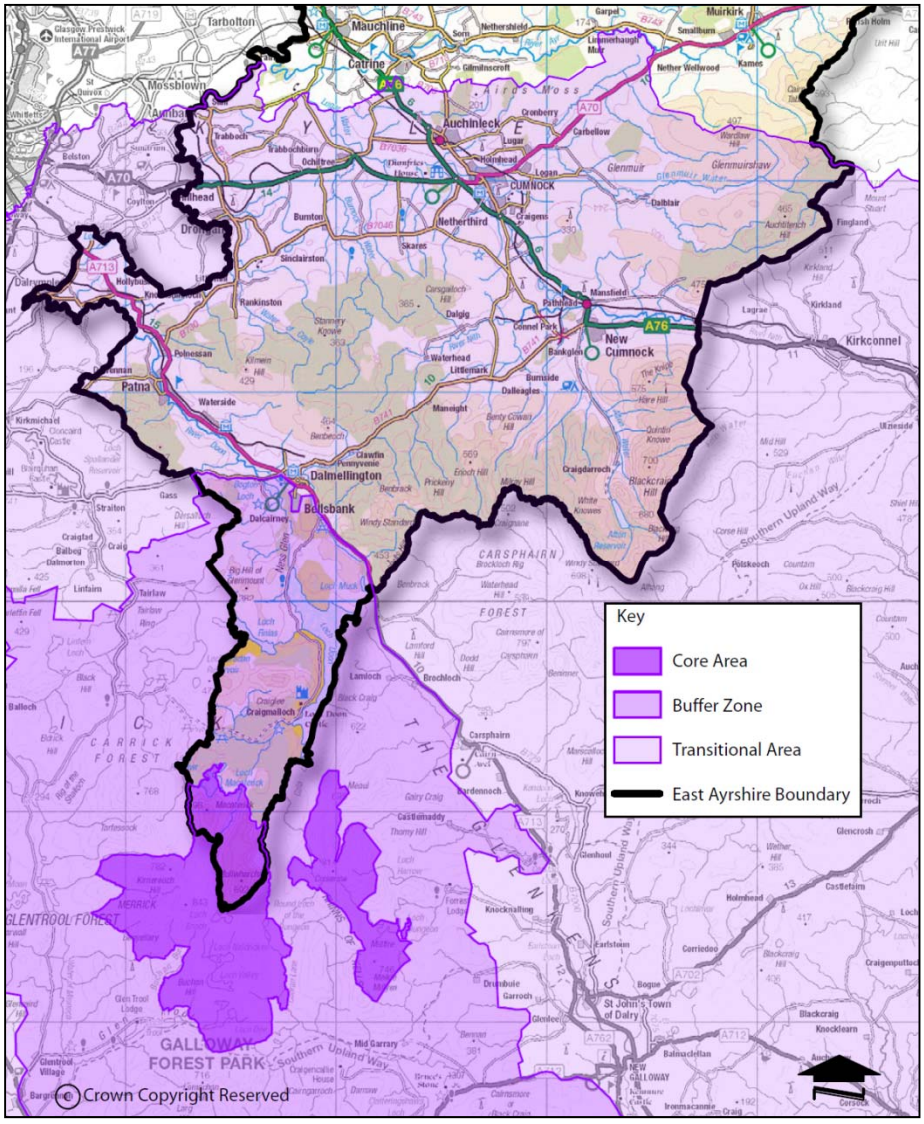
- The Dark Sky Park and Scottish Dark Sky Observatory
    - The Galloway Dark Sky Park forms a unique tourist attraction for South West Scotland. The associated observatory on Craigengillan Estate, provides the ideal platform from which to view the dark sky in this area. Any wind energy proposal within the Dark Sky Park will be expected to demonstrate that the turbines will not have a significant adverse impact on the quality of the Dark Sky or the operation of the observatory, at construction, operational and decommissioning stages of the development as well as assessing the impact of aviation lighting on the Dark Sky, to ensure that this also does not significantly affect the quality of the night sky in this area.
- Heritage and cultural attractions, and their settings;
- The high scenic and landscape quality of the Irvine and Doon Valleys, Loch Doon and Glen Afton and associated hill tops and viewpoints.
- The nature conservation interests of the Muirkirk Uplands and River Ninth areas
- Important strategic routes, into, out of and through East Ayrshire including the River Ayr Way and the Galloway Tourist Route
    - NPF 3 identifies a National Long Distance Cycling and Walking Network as a National Development. A 20km route linking Muirkirk and Darvel is among the routes selected for national development status. The development of this important route, linking the Irvine Valley to the River Ayr Way, will be taken into account in the assessment of any relevant wind energy proposal, in terms of any possible impacts.
- The core paths network and rights of way, including end destinations.

Map 6 provides an indication of the tourism attractions detailed above.



Map 6: Strategic Tourism resources

The Galloway and Southern Ayrshire Biosphere is an important UNESCO designation that aims to support the understanding and enjoyment of the area as a world class environment. The boundary of the biosphere is shown on Map 7 below. Each of the three zones contribute to the overall aims and functions of the biosphere. The Council expects applicants to consider how their proposals can make a positive contribution to the biosphere, with particular reference to opportunities to increase enjoyment of the area as a world class environment and to enhance the tourism resource in the area.



Map 7: UNESCO Galloway and Southern Ayrshire biosphere

The Council recognises that wind energy developments themselves can make a positive contribution to the local tourism offer, as demonstrated at Whitelee with its dedicated visitor centre. Developers are encouraged to incorporate within their proposals, measures to promote their site as part of East Ayrshires tourism offer. Such proposals will form part of the assessment of the proposals economic impact.

East Ayrshires upland areas are an important recreational resource for locals and visitors. A range of formal and informal access routes are supported as well as natural assets found in the landscape such as crags and water bodies, which support a range of pursuits, including walking, mountain biking, climbing and canoeing.

The impact of any proposal on the recreational use of the landscape should be considered by the applicant. The applicant should maintain formal and informal recreational assets and access routes and, where possible, explore whether their development could enhance the recreational use of the site, in recognition that wind energy developments provide good opportunities to enhance outdoor access.

3.2.3 Economic impact of proposal

Wind energy developments have the potential to contribute positively to the local economy. Wind energy proposals should be accompanied by detailed information outlining the economic benefits of the development for the local area and at a regional and national level. As a minimum, this should detail:

- Direct job creation associated with construction and operation
- Indirect job creation and supply-chain opportunities for local businesses
- Wider benefits to the local economy pertaining to any particular recreational / public access features that the proposal may include

Developers will be asked to provide a post-construction economic monitoring report, demonstrating the actual economic impact of the development.

Where justification for a wind energy proposal is in part or in full to financially support a local business, the Council will require full financial details of the proposal and a business plan which shows exactly how the proposal will cross fund and/or be invested into the business, to enable these matters to be assessed and balanced with other benefits and adverse impacts.

The Scottish Government has set a target that by 2020 at least half of newly consented renewable energy projects will have an element of shared ownership. The Council supports the principle of community and shared ownership as a way of helping local communities to tap into and benefit from the wind resource in their local area. In considering a proposal, the socio economic benefits of a community ownership or shared ownership scheme will be fully taken into account and balanced against all other matters, as outlined in Schedule 1 of the LDP. Best practice advice and guidance on community and shared ownership is available on the Local Energy Scotland website.

3.3 Infrastructure criteria

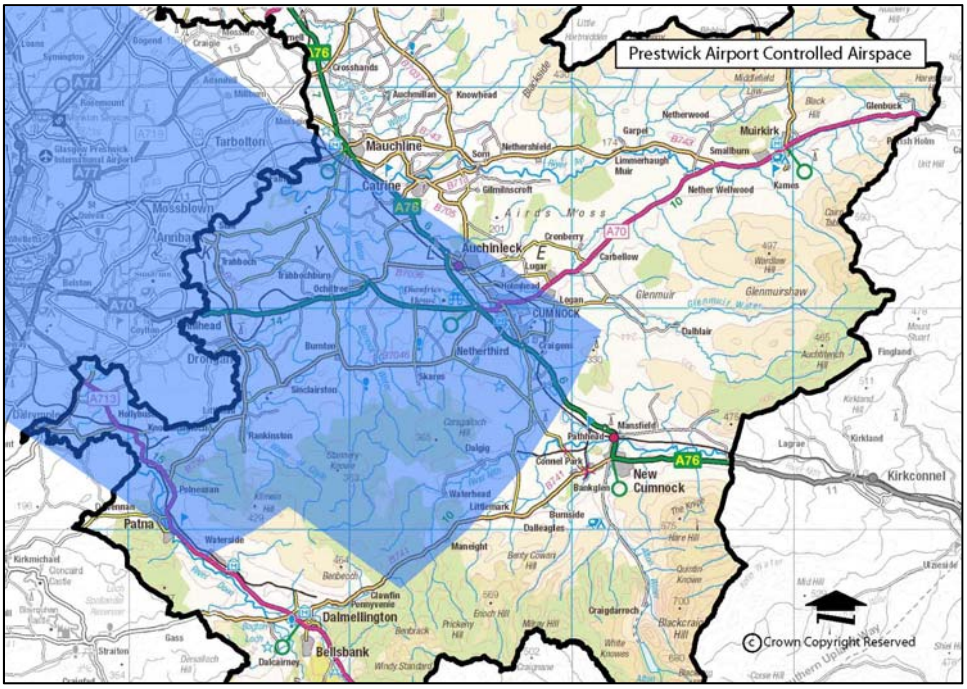
3.3.1 Aviation and defence

Aviation issues represent major considerations in terms of wind energy development within East Ayrshire. The consultation zone for Prestwick Airport takes in the vast majority of East Ayrshire, with the exception of the southern part of the Doon Valley, whilst the consultation zone for Glasgow Airport takes in the northern part of East Ayrshire.

The presence of Prestwick Airport raises two key constraints in relation to wind energy development in East Ayrshire.

(i) the impact of wind energy on radar equipment – wind turbines can interfere with radar equipment. Significant work and research has been undertaken to develop new technologies to resolve radar issues at Prestwick, which has now allowed several aviation objections to be lifted. All new applications in the consultation zone will need to be considered by Prestwick Airport on a case by case basis.

(ii) the controlled airspace - An area around Prestwick Airport, known as the 'Controlled Airspace' is the most critical part of airspace for the airport and is established for the protection of aircraft during the most crucial phases of flights. The Controlled Airspace takes in a large section of East Ayrshire, from the western boundary across to Cumnock to the east, Mauchline to the north and Dalmellington to the south. (See map 7 below). Prestwick Airport has advised that wind turbines under the controlled air space could compromise the safety of the Air Traffic Service and therefore development in this area may attract an objection from the airport on safeguarding grounds. The airport authority will be consulted on all applications, to assess the impact of turbines on communications, navigation and surveillance systems, on a site specific basis. Whilst the controlled airspace forms a significant constraint to development, the Council will take the advice of Prestwick Airport as to any instances where development can be safely accommodated within the area, including instances where mitigation should be utilised. Any request from the Airport Authority for additional information to ascertain if an objection should be maintained or removed, should be fulfilled by the applicant.



Map 8: Extent of Prestwick Airport Controlled Airspace

The safety of air travel is considered to be of paramount importance in the assessment of applications for wind energy developments. Developers are expected to engage directly with Prestwick Airport, as well as the other relevant aviation authorities (NERL, CAA, Glasgow Airport, Maritime and Coast Guard Agency and the Emergency Service Helicopter Support Unit) at the early stages of assessing the feasibility of proposals.

Consultations with the Ministry of Defence

The Ministry of Defence will be consulted on relevant applications and should be satisfied that no material impact will occur, or that a technical solution will be put in place to mitigate any issue raised.

It is recognised that there are circumstances in which the MOD, or the Civil Aviation Authority will require lighting to be installed on turbines. This should be established prior to submission of an application, so this can be considered as part of the application as a whole. The impact of turbine lighting should be assessed through the LVIA process.

Consultations with National Air Traffic Services (NATS)

NATS En-Route (NERL) is the sole provider of En-route air traffic services in the UK through its licence granted through the Transport Act 2000. The En-route environment is where aircraft are flying in the cruise mode and are not approaching or departing from airfields. Under the Safeguarding Direction 2002 and the Town and Country Planning Act, NATS is a statutory consultee and as such is required to assess the impact of wind turbines on its technical sites, infrastructure and operations.

NATS's infrastructure comprises Primary and Secondary Surveillance Radars (PSR and SSR), navigation aids (DVORs) and Air-Ground-Air communication sites (AGA); as such its formal opinion on any impact is solely restricted to these aspects. NATS's position will be

unrelated to that of other stakeholders such as Prestwick or Glasgow airport. It should be noted however, that NATS may also utilise third party infrastructure to provide an Air Traffic Control service, and as such may also object on these grounds.

NATS provides an air traffic service from the Air Traffic Control at Prestwick. The NATS Prestwick Centre, which is unrelated to the airport operation, utilises the following equipment which is of relevance to applications in East Ayrshire: NATS's Lowther Hill radar, the primary radar located at Glasgow airport and potentially the radar at Cumbernauld.

NATS provides a chargeable pre-planning service as well as free self-assessment maps. The Council encourages early investigation into any aviation impact through the use of the self-assessment maps. NATS advice is for developers to familiarise themselves with the aviation aspects of wind farms and to include any evidence of assessments in their documentation. It would also advise developers to engage with NATS should they anticipate any issues, at the earliest opportunity. For more information, refer to NATS website

3.3.2 Road and traffic implications, including trunk roads

During construction, wind energy developments have the potential to generate significant levels of traffic, including abnormal loads associated with transporting the turbine components. The Council expects all proposals to fully consider the impact of the development on East Ayrshire Council's road network and trunk roads in terms of the structural and physical ability of both roads and bridges to accommodate the additional traffic generated and the need to minimise any disturbance to local communities. Cumulative impacts should be fully assessed, in terms of the suitability of roads to accommodate traffic from other development and the need for any subsequent phasing of construction traffic. Should turbine transportation routes require to cross third party land, the applicant should ensure that appropriate agreements are in place to allow access to be achieved.

Early contact should be made with the Ayrshire Roads Alliance in terms of the scope and extent of a Transport Assessment and Construction Traffic Management Plan, which would be required to address issues such as routeing, timing of deliveries, community liaison and road infrastructure improvements, and the possible requirement of legal agreements.

3.3.3 Broadcasting Installations

Wind energy developments have the potential to impact upon existing broadcasting installations. Applicants should consult with appropriate network operators to confirm the existence of any infrastructure and to assess whether the proposal would be likely to result in any interference to broadcasting. Where any such interference is likely, the applicant should put forward a technical solution to resolve the issue.

The Council may consider the addition of a planning condition to resolve any issues of interference that may occur after construction. Where considered necessary, the impact on the reception of satellite or other TV broadcasts in individual homes should also be assessed.

3.3.4 Siting and design of turbines and ancillary works

In addition to the turbines themselves, wind energy developments routinely comprise additional works, the impact of which will be assessed alongside the impact of the turbines. Such works will commonly include access tracks, borrow pits, temporary construction compounds and sub-stations.

The overall impact of the proposal can be largely influenced by its design; the detailed siting of turbines and ancillary works, the colour, style and size of turbines and any proposed lighting should all be considered. The design of the site should take full account of the land conditions, topography, landscape features and historic environment designations, as well as surrounding uses including existing and proposed wind energy developments. Ground stability, especially in areas where coal or minerals are present or have been previously worked, should be fully considered at an early stage, in order that any implications can then be taken on board in the design process.

In developing proposals, developers should consider the principles and guidance outlined in the SNH document '*Siting and Designing Windfarms in the Landscape'* (February 2017) as well as the East Ayrshire *'Landscape Wind Capacity Study'* (July 2013).

The connection of the wind energy development to the national grid will normally require additional infrastructure to be put in place, by way of underground cabling or overhead power lines. Whilst it is recognised that such works fall within a separate regulatory process, applicants should, where possible, demonstrate within their supporting information the likely method of connecting to the grid and the proposed route that this will take, allowing a more comprehensive assessment to be made of the overall impacts of the wind energy development. There is a potential for archaeology to be found when undertaking these works. Advice should be sought from WOSAS or if directly affecting a scheduled monument, Historic Environment Scotland (HES).

3.3.5 Borrow Pits

There has been a rise in the use of borrow pits within wind energy developments for the extraction of materials to be used in the construction of crane pads, access routes and so on. Borrow pits within a wind energy development site can take up extensive areas and require to be properly assessed as part of the wind energy proposal.

Paragraph 243 of SPP states that borrow pits should only be permitted where there are significant environmental or economic benefits compared to obtaining material from local quarries. It advocates an approach which time limits their use and ties them to a particular project whilst also ensuring appropriate reclamation measures are in place.

The Council is of the view that environmental benefits may ensue due to a reduction in HGV movements transporting to site via local roads. However, the developer will have to fully justify the use of borrow pits within the application in order to satisfy the requirements of SPP.

The EIA report or supporting information should include specific details of borrow pits including location, size, design, volumes, depth, drainage, indicative working method statement, restoration measures and any proposed habitat or biodiversity enhancements associated with the borrow pits. Restoration measures should also include proposals for temporary access tracks, required for construction, but no longer necessary when the development moves into the operational phase.

The location of borrow pits should take account of any environmental constraints. Borrow pits should be sited well away from watercourses, groundwater abstractions and GWTEs Furthermore, the impact of borrow pits (including dust, blasting and impact on water) must be assessed in accordance with Planning Advice Note PAN50 Controlling the Environmental Effects of Surface Mineral Workings (Paragraph 53).

3.3.6 Decommissioning, Restoration and Aftercare (DRA)

As per SPP, areas identified for wind farms should be suitable for use in perpetuity. However, wind energy developments are normally granted consent for an operational period of 25 years. After which, unless a subsequent application for continued use or repowering has been made, all apparatus should be removed and sites returned to a natural condition, to be agreed by the Council and the restoration plan. All applications should be accompanied by a restoration programme outlining, to the satisfaction of the Council, the extent of works that will be undertaken. The DRA programme should include sufficient detail and relate to the turbines, foundations, borrow pits, access tracks and all other associated infrastructure. The DRA will be secured through an appropriate planning condition and/or Section 75 Obligation. In addition, all decommissioning proposals should consider waste management implications in line with SEPA's requirements.

As per policy RE5, in order to ensure restoration and aftercare requirements are met in full, the Council will require financial guarantees to be put in place for wind energy developments of a significant scale and complexity. Separate supplementary guidance has been prepared, detailing the Council's requirements for financial guarantees with the overarching purpose of ensuring that guarantees are maintained at a sufficient value over the lifetime of the development. The Council will usually also require proportionate financial guarantees for small and single turbine developments.

Consented wind farms will require to be monitored in compliance with the planning conditions attached to any consent. The Council will appoint an independent compliance monitoring officer, the Planning Monitoring Officer (PMO), who will be involved in assessing the information submitted for the discharge of the environmental planning conditions and will monitor compliance of planning conditions during the construction of the wind farm and also at the decommissioning and restoration phase of the wind farm. Through the development management process, it will be normal practice for the Council to seek the costs involved in the duties undertaken by the PMO to be met in full by the wind farm developer and the preferred mechanism to achieve this is by way of an obligation secured by legal agreement. Unless otherwise agreed with the Council, the PMO shall visit the wind farm site at least once a month, during construction, and also prepare a monthly compliance monitoring audit

report and a quarterly report which shall be circulated to the developer and the Council for approval and will then be published on the Council website.

Should any turbine cease operating and supplying electricity without there being a clear commitment to repair or replace the turbine, the Council will require the turbine to be removed. Unless otherwise agreed with the planning authority, 6 months is considered a reasonable timeframe in which to either repair or commence removal. Appropriate planning conditions or legal obligations will be put in place to secure this.

Any application for repowering will be assessed against the relevant LDP policies and on the basis of detailed site specific information. The current use of the site as a wind farm will be a material consideration, however, it will be necessary for a full assessment of impacts, including cumulative impacts, to be made, taking particular account of any proposed increase in turbine height and numbers.

3.3.7 Contribution to renewable energy generation targets

The Scottish Government has set ambitious targets for the generation of renewable energy. However, no regional targets have been identified to apportion how and where the national targets should be met. It is expected that all local authorities adopt a positive approach to renewable energy and support proposals that can help contribute to the national targets without resulting in unacceptable adverse impacts.

All proposals should provide details of the extent to which the turbines will help to meet government targets for renewable energy generation. These details will form part of the Council's consideration on any application.

3.3.8 Energy Storage

Energy storage is an important element in ensuring a reliable and secure energy supply. The Council recognises that technologies are continuing to evolve and that flexibility will be required in terms of location, size and layout of infrastructure. The Council will support the inclusion of energy storage infrastructure within wind energy developments where these can be appropriately sited within development sites and where the visual and environmental impact of them is acceptable.

4. Design principles for small scale wind energy developments

4.1 Background

Smaller scale turbines comprise turbines of 50 metres to blade tip or below in height. This scale of turbine is generally proposed as a single structure or sometimes in small groupings of 2 or 3 turbines. These turbines are generally associated with quite different geographical and topographical areas than the large or medium scale developments, and therefore require a different assessment process.

Proposals for turbines 50 metres to blade tip and under in height will be assessed against policy RE4 of the LDP, which outlines 5 criteria against which developments will be assessed. Proposals will be supported where they:

(i) Do not result in unacceptable landscape or visual impacts
(ii) Do not result in unacceptable impacts on residential properties, in terms of noise, visual dominance or any other nuisance;
(iii) Do not result in unacceptable impacts on the built and natural environment;
(iv) Do not create unacceptable cumulative impacts when viewed in conjunction with other operational and approved turbines;
(v) Are acceptable in terms of aviation interests and all other infrastructure requirements.

In order to support the assessment against criteria (i) and (iv) above the Ayrshire Landscape Wind Capacity Study 2013 contains detailed design guidance for accommodating wind turbines of 50 metres to blade tip and below in the landscape. All applicants of this scae pf development should refer to the landscape wind capacity study, which is intended to help applicants take on board local landscape characteristics and features, helping to ensure that submitted proposals can fit sensitively into the landscape.

4.2 Categories of smaller turbines

The height of turbines relative to other structures in the landscape is a key consideration in terms of landscape 'fit'. With this in mind, three types of 'smaller' turbines are considered as follows:

- Micro-small wind turbine — 15m and under to blade tip
- Small or small-medium wind turbine — <15m – 30m to blade tip
- Small-medium or large wind turbine — <30m – 50m to blade tip

The landscape study identifies the character types in which these scales of turbine are likely to be appropriate and outlines the key considerations, relative to the different scales of turbine, which should be taken on board to achieve the best design and landscape fit.

4.3 Design considerations

The key design considerations, detailed fully in the landscape capacity study include:

- Turbine height in relation to the scale of the landscape, including consideration of

    - Topography
    - Farmland features
- Existing development pattern
- Landform shape
- Settlement and land use pattern and features
- The visibility of turbines
- Potential cumulative issues, including
    - landscape clutter
    - relationships with other turbines

5. Required information checklist

All applications for wind energy developments will be required to be accompanied by clear and robust supporting information, to allow the Council to make an informed assessment of the application against this supplementary guidance and all other relevant LDP policies.

- All statutory requirements for planning applications, including location plan, site plan and scaled plans and elevations of turbines and all associated infrastructure
- Environmental Statement as required by the Town and Country Planning (Environmental Impact Assessment)(Scotland) Regulations 2017 – Dependent on outcome of a screening request
- Landscape and Visual Assessment, including cumulative assessment in compliance with current SNH guidance*
- Assessment of impact on natural heritage and biodiversity (flora and fauna). Any protected species information must be provided in a confidential annex, clearly marked as such.*
- Assessment of impact on soils and demonstration of carbon calculation*
- Assessment of impact on waterbodies and ground water (including flood risk, wetlands, GWDTE and private water supplies)*
- Assessment of impact on cultural heritage and archaeology*
- Assessment of the impact on existing peatlands and a calculation of the CO2 payback period (including impacts of associated with waste peat)*
- Deforestation phasing plan and details of compensatory planting proposals if the development will remove existing woodlands
- Borrow pit scheme and details of import of construction materials
- Noise Assessment, including cumulative assessment*
- Residential Visual Impact Assessment (this may form part of the LVIA)*
- Shadow Flicker Assessment and proposed mitigation scheme*
- Analysis of any implications for existing tourist facilities and the wider tourist market
- Details of anticipated economic impact benefits of the proposal
- Evidence of dialogue with the relevant aviation bodies and confirmation of any agreements reached.
- Transport Assessment, Construction Traffic Management Plan and Turbine Transportation Plan
- Assessment of impacts on broadcasting installations
- Design Statement
- Access Management Plan, where rights of way or core paths will be affected
- Details of decommissioning (including details of how waste generated through decommission will be dealt with), restoration and aftercare arrangements and confirmation of proposed financial bond
- Analysis of how the proposed development will contribute to national renewable energy targets

(*In many cases, these issues will be explored through the EIA process)

Should the applicant be of the view that any of the above requirements are not relevant to their particular proposal, this should be clearly explained and justified within the submission.

East Ayrshire Council
Comhairle Siorrachd Àir an Ear

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