

**ENVIRONMENTAL IMPACT ASSESSMENT (SCOTLAND) REGULATIONS 2011
REGULATION 14
SCOPING OPINION ON BEHALF OF ARGYLL & BUTE COUNCIL
PROPOSED WILLOW WIND FARM, LAND NORTH EAST OF TAYINLOAN**

Scoping report

The content of the 'Scoping Report' dated December 2014 is broadly acceptable. The proposed scope of the Environmental Report detailed therein will form a generally appropriate structure for Environmental Statement (ES) preparation. The following 'Scoping Opinion' should, however, be given cognisance.

Consideration of Alternatives

The EIA Regulations require that all ES's include an outline of the main alternatives studied and indicate the reasons for choosing the selected option. This is not only the case in terms of site selection, but some consideration of alternatives is also required in relation to site layout and design considerations. Site selection should be influenced by all factors considered of relevance to this location, including landscape, visual and nature conservation interests.

Location, Siting & Design

The ES should address all aspects of the proposal including: grid connection; turbines; foundations; ancillary buildings; temporary construction compounds and construction material stockpiles, crane hard standings, water crossings, turning points and passing places associated with on-site access tracks, borrow pits and proposals for site restoration on decommissioning. All access tracks to and from the site should be included along with details of any off-site highway works required to facilitate component deliveries. Forestry operations and compensatory planting for areas to be felled should be detailed. The design process and design iterations should be clearly explained in a separate design statement or a chapter in the ES.

Landscape & Visual Impact Assessment (LVIA)

The LVIA should be carried out in accordance with Landscape Institute Best Practice Guidelines for LVIA and in accordance with Scottish Natural Heritage's recently updated published guidance. It should address all aspects of the proposal (access to the site and within the site, borrow pits, control/transformer buildings, and grid connection route) as well as turbine locations. The assessment of the likely effects on the landscape resource includes consideration of likely changes to individual or combinations of elements (physical as well as perceptual) which make a particular contribution to the character of an area and the key characteristics which create a particular sense of place. Landscape value as identified by statutory and other landscape designations should be addressed. An assessment of visual effects derived from a Zone of Theoretically Visibility and consideration of representative viewpoints should be undertaken, along with an analysis of cumulative effects addressing circumstances where multiple wind farms give rise to simultaneous visibility from key locations or sequential visibility from routes on land and on water.

Study Area

A study area of 35km is appropriate for the LVIA. The cumulative assessment should be based on a 30/60km study area as set out in SNH's guidance 'Assessing the Cumulative Impact of Onshore Wind Energy Developments' (2012).

Visual Receptors

The purpose of the Viewpoints (VPs) is to illustrate the type and scale of impacts which surrounding visual receptors will experience. A baseline survey of the landscape character types and likely receptors should be undertaken to inform the VP selection. The 'Argyll and Bute Landscape Wind Farm Capacity Study' (March 2012) should be used to develop detailed Landscape Character baseline data against which the visual and landscape impacts of the proposal can be assessed.

The selection and direction of viewpoints should be based on the identification of potentially sensitive receptors (people, places and activities) and potentially significant views, locations or landscapes, taking into account the likely impacts of the proposal. Advice on the number of VPs to choose is given in the SNH Visualisation Good Practice Guidance.

Viewpoints for Visual Impact Assessment

The VPs should be presented plotted onto a large format ZTV with a 1:50,000 OS base plan. A supporting table should also include details of prospective VPs that have been screened out and why they were considered unsuitable. VPs for the cumulative assessment should also be suggested. Any VP with a view of the proposed wind farm plus another wind farm should be assessed as a cumulative viewpoint. VP locations should be agreed in advance of ES preparation with Scottish Natural Heritage and Argyll & Bute Council.

Visual Impacts

The consideration of all turbines out to 60km radius, which are either built, approved or are part of a formal scoping process or planning application is recommended in terms of potential cumulative impacts. This wider radius should then be used to identify potential key locations where cumulative impact is likely to be an issue and a more focused 30 km radius can then be progressed. Considering a wider radius in the preliminary stages will ensure that key features and areas where sequential cumulative impact may become an issue, are included in the assessment process.

Should there be a need to install non infra-red aviation obstruction lighting to some or all of the turbines, its visual impact at night should be assessed in the ES.

Cumulative Effects

Consideration of the cumulative effects will be an important aspect of the Landscape & Visual Impact Assessment (LVIA) for this proposal, which is located in close proximity to a number of other wind farm developments/proposals, and sensitive receptors which experience a number of other wind farm developments/proposals.

The cumulative landscape assessment should consider the impact of the additional wind farm upon landscape character. The cumulative visual assessment should consider how various wind farm developments would be seen together from key viewpoints.

The cumulative LVIA should include, and specifically should distinguish between the following: cumulative landscape effects; cumulative visual effects; static combined effects; static successive effects; and, sequential effects. Routes to be assessed should be selected and verified following consideration of the cumulative ZTVs. Please refer to SNH's guidance, 'Assessing the Cumulative Impact of Onshore Wind Energy Developments' (2012) for SNH's recommended approach to considering likely effects upon landscape and upon views and visual amenity.

It will be very important for the proposal to be planned and designed in the context of existing/approved development. SNH's guidance 'Siting and Designing Wind Farms in the Landscape' should be consulted in this respect. The choice of cumulative VPs for the illustration of these effects should be based upon the Zone of Theoretical Visibility (ZVT) produced for the proposal in combination with other operational, consented and scoping stage wind farms.

Landscape Character

The LVIA should make use of relevant Landscape Character Assessments (LCAs). It should be noted that the 'Argyll and Bute Landscape Wind Energy Capacity Study' (March 2012) further sub-divides LCT's defined in SNH's 'Landscape Assessment of Argyll and the Firth of Clyde' (1996) in respect of their sensitivity to wind farm development. Where the proposal lies close to a boundary between two or more LC types (or sub-categories of the same landscape character type) the LVIA must consider the sensitivities of and impacts upon any such adjacent LCTs. In addition SNH would recommend, in accordance with LVIA Best Practice Guidance, that a detailed local landscape character assessment is undertaken, based on the Regional LC type to provide a detailed baseline against which to assess the proposal.

Landscape Capacity Study (LCS)

It appears that this proposal will impact on the 'Upland Forest Moor Mosaic' (6) landscape character type (LCT) as identified in the LCS. However given the site is so close to the coastal edge of the 'Rocky Mosaic' (20) and 'Coastal Plan (19) its influence is likely to be significant on the coastal edge. The LCS states that this LCT has 'medium' landscape sensitivity and a 'high-medium' visual sensitivity for the size of turbines which are currently proposed (130m). Following initial consideration of the LCS in relation to this proposal SNH expect landscape issues to be complex and there appears to be potential for these impacts to be significant especially given that most wind farms in the UFMM are in the interior of the LCT reducing their impact on the more sensitive coast. Particular attention should be given to the sections relevant to the sensitivities, opportunities, constraints and cumulative impacts with regard to LCTs.

Assessment Methodology

The LVIA should be undertaken in accordance with Landscape Institute guidance and have regard to relevant Landscape Character Assessments (LCAs), the conclusions of the 'Argyll & Bute Landscape Wind Farm Capacity Study', and National Scenic Area (NSA) descriptions (Special Qualities are identified in the SNH commissioned report no.374) along with other relevant landscape designations including regionally important local plan delineated Areas of Panoramic Quality.

The assessment should include consideration of Scottish Government best practice and policy guidance ('Onshore Wind Turbines') and SNH renewable and landscape policy and guidance available on the Renewable and Landscape pages of their website.

Ecological Impact

Desk Study

The National Biodiversity Network Gateway should be contacted for any animal and plant species records that there might be for this area.

Impact on Vegetation & Habitats

The ES should include a Phase 1 habitat survey of the site alongside a NVC survey of any important semi-natural habitats encountered on the site. Any rare or nationally scarce higher and lower plant species within the survey area should be identified and proposals presented for any necessary mitigation. It is important to ensure that vegetation survey is carried out at the right time of year. The NVC results should be screened, by an invertebrate specialist, against potential important habitats for invertebrates (food plants), especially butterflies such as Marsh Fritillary so that micro-siting and mitigation can be put in place. Screening for invertebrates against the NVC results will negate the need for any specific invertebrate survey work.

If peat land vegetation / areas of remnant peat land habitat are recorded for this site, then further consideration should be given to the underlying depth of peat on the site.

Any secondary effects on vegetation interests should be considered and mitigation proposals presented in the ES. This includes any changes to land management practice resulting from the presence of the proposal such as: changes in grazing, sporting or muirburn practice.

Impacts on Species

Surveys should be conducted to record the distribution of protected animal species, including species listed on Annex IV of the Habitats Directive (European Protected Species (EPS) and species listed on Schedule 5 of the Wildlife and Countryside Act (1981). Mitigation of impacts should be addressed for species of note. Any UK Biodiversity Action Plan (BAP) species recorded during the mammal survey should be given consideration.

Species that could potentially be present include otter, wildcat, water vole, badger, bats and fresh water pearl mussel (FWPM). The ES should present: likely "key" species which may be adversely affected; possible reasons why the species may be affected; indicative timescale of fieldwork, identifying the timings of surveys; and, outline survey methodology for each species.

European Protected Species (EPS)

Otter, all bat species and wildcat are listed on Annex IV of EC Directive 92/43/EEC on the "Conservation of Natural Habitats and of Wild Flora and Fauna ('Habitats Directive')" as species of European Community interest in need of strict protection.

The species of animals listed in Annex IV (a) of the Habitats Directive, whose natural range includes any area in Great Britain, are also listed in Schedule 2 of the Habitats Regulations as 'European Protected Species of Animals' (EPS) and are fully protected.

Full consideration of the proposal upon EPS recorded in, and adjacent to, the site must be included as part of the ES covering short and long term impacts. Experienced surveyors must undertake survey work for EPS. Depending on the methodologies applied they may require a licence from SNH. The site and associated habitats must be fully surveyed. As well as the results and the assessment, the ES should include details such as surveyor experience, survey methodology applied, dates and weather conditions of each survey and confirmation of the areas and habitat surveyed. Surveys must be undertaken at optimum times.

The ES should state the significance of the site for EPS in terms of the abundance and distribution of populations, frequency of use and identification and significance of important sites. Records should be identified upon a map no greater than 1:10,000 scale. Alternative solutions and mitigation must be identified where the assessment indicates that EPS may be affected.

Protected Species & LBAP Species

Water Vole - A survey for water voles should be carried out and an assessment made of the impacts of the proposal on any recorded water vole populations in the area. As well as the results and the assessment, the ES should include details such as surveyor experience, survey methodology applied, dates and weather conditions of each survey and confirmation of the areas/ habitat surveyed. The ES must include an impact assessment of any development related work upon any recorded water vole populations and identify detailed mitigation and alternative solutions.

Badgers - Badgers and their setts are protected in Great Britain by the Protection of Badgers Act 1992, as amended by the Nature Conservation (Scotland) Act 2004, whereby it is an offence to willfully take, kill or injure a badger: to obstruct, destroy or damage a sett or to disturb a badger whilst occupying a sett, with intent or recklessly. A sett is defined in the Act as any structure or place, which displays signs indicating current use. The 1992 Act provides for licenses to be issued for certain activities which would otherwise be prohibited. SNH is the licensing authority for sett interference or disturbance to a sett, which may result from development.

Fresh Water Pearl Mussel - This species is listed under Annex V of the Habitats Directive and is protected under Schedule 5 of the W&CA 1981. It is recommended that all burns be screened for suitable FWPM habitat and, should suitable habitat be found, actual FWPM surveys undertaken. This species is particularly susceptible to sedimentation of water courses so all water courses downstream and off site need to be screened as well as those on site.

Wild Fish - Brown trout are an LBAP species and can have genetically distinct populations in some areas, especially when found in small upland streams. There is no



requirement for surveys to be undertaken. However, it is recommended that Argyll Fisheries Trust are consulted regarding brown trout and appropriate mitigation is identified, especially in terms of avoiding sedimentation through run off and crossing points on burns.

Ornithology

Construction may impact on nesting birds and the operation of the development may lead to displacement and pose collision risk. All birds' nests are fully protected from damage, destruction or interference under the Wildlife & Countryside Act 1981 (as amended) whilst they are in use or being built. The ES needs to provide detailed information on any mitigation measures proposed with respect to nesting birds. The implications of any change in land management practice should be considered and presented in relation to the bird species that breed within or use the site.

Desk Study

Contact should be made with the RSPB and local Raptor Study Group for available information on this area and any records of important bird species, including Annex 1, Schedule 1 and Red-listed Birds of Conservation Concern.

SNH Bird Guidance

Bird survey work should follow the methodology outlined in guidance note 'Survey Methods for use in Assessment of the Impacts of Proposed Onshore Wind farms on Bird Communities'.

Three approaches should be combined towards forming a view on the bird populations on the site and their likely sensitivity: desk-based study of existing information; appraisal of habitats and species likely to be present; and, reconnaissance survey. The objective of all three approaches is to provide a picture of the level of bird interest on the site, in order to inform the scale and type of observation and survey effort which will be necessary to conduct an adequate assessment of those impacts likely to be of significant environmental effect.

The guidance should be followed regarding survey requirements, survey methodology, any collision risk analysis and also regarding the presentation of this work in any ES. It is essential that the record of the survey work which has been undertaken is presented clearly and in a transparent manner. Likewise the full workings of any collision risk analysis should be presented clearly in the ES. Maps should be clearly laid out, and flight-line maps and maps recording the locations of breeding birds should be marked with the finalised wind farm layout.

The ES should ultimately include full details of the methods employed, including the amount of hours of watches, start/finish times, dates, weather conditions, access routes taken to VPs and the surveyor's initials. Any departures from SNH guidance should be highlighted, explained and fully justified. The ES should include maps showing the extent of the site visible from each vantage point and provide the area (ha) visible from each vantage point and the area (ha) visible within the turbine envelope including a 500m buffer from the turbine envelope. A cumulative impact assessment should be carried out to identify whether any notable species would be significantly affected by this proposal. Wind farms within the formal planning system and those with planning permission must be included in the assessment or any other wind farm proposal currently being investigated.

Golden Eagles - This site is within the core range of golden eagle hunting territory. As such a detailed assessment of impacts upon golden eagle is required as part of the ES.

The ES should consider cumulative impacts on the golden eagle population in Natural Heritage Zone 14 (NHZ14). The NHZ productivity is known to have dropped since the last national golden eagle survey in 2003 and SNH are concerned about potential additional constraints brought about by this proposal which might reduce the population further as well as affect the distribution of the species within the NHZ.

The ES should address cumulative impacts on transient birds. Transient mature individuals and young golden eagles are opportunistic in terms of taking up a territory to replace old, infirm birds. These transient birds are likely to occupy the periphery of occupied territories and areas of suitable habitat without territorial eagles.

Black Grouse – are known to be in this area and therefore the ornithological assessment should have particular regard to the interests of this species, along with any other species of identified conservation importance.

Greenland White Fronted Geese - It should be noted that transiting GWFG considered in the context of the Kintyre Goose Roosts SPA have previously presented an impediment to wind turbine development in this area, with *Waddensee* principles having been invoked in circumstances of residual conflict between applicants and SNH/RSPB, on the basis of *reasonable scientific doubt*. *Waddensee* principles are non-negotiable for the Council in terms of its role as competent authority, and hence it would be unadvisable to pursue development in the face of any anticipated objection from SNH on European interest grounds. You are strongly advised to address the likely consequence of the development upon European interests with SNH at the outset.

Hydrological & Soil Impact

There are watercourses and water bodies which could potentially be affected by this proposal, which will need consideration under the EIA process. It is recommended that technical advice on freshwater interests is sought from the SEPA, including the adequacy of any hydrological work undertaken.

If wetland or peat land systems are present, the ES should demonstrate how the layout and design of the proposal, including any associated borrow pits, hard standing and roads, avoid impact on such areas.

A Phase 1 habitat survey should be carried out for the whole site and the guidance 'A Functional Wetland Typology for Scotland' should be used to help identify all wetland areas. NVC should be completed for any wetlands identified. Results of these findings should be submitted, including a map with the proposal overlain to clearly show which areas will be impacted.

Groundwater Dependent Terrestrial Ecosystems (GDTEs)

GDTEs are protected under the Water Framework Directive (WFD). Consideration should be had of both the results of the NVC survey and Appendix 2 of SEPA's planning guidance on 'wind farm developments' to identify if wetlands are GDTEs. The route or location of roads, tracks or trenches within 100 m, or borrow pits or foundations within 250 m, of GDTEs should be reconsidered. If infrastructure cannot be relocated out with the buffer zones of these ecosystems then the likely impact of these features will require



further assessment. This assessment should be carried out whether or not the features occur within or out with the site boundary in order that the full impacts are assessed. The results of this assessment and proposed mitigation measures should be included in the ES.

Engineering Operations

In order to meet the objectives of the WFD of preventing any deterioration and improving the water environment, the proposal should be designed to avoid engineering activities in the water environment wherever possible. The water environment includes burns, rivers, lochs, wetlands, groundwater and reservoirs. SEPA require it to be demonstrated that every effort has been made to leave the water environment in its natural state. Engineering activities such as culverts, bridges, watercourse diversions, bank modifications or dams should be avoided unless there is no practicable alternative. Where a watercourse crossing cannot be avoided, bridging solutions or bottomless or arched culverts which do not affect the bed and banks of the watercourse should be used. Further guidance on the design and implementation of crossings can be found in SEPA's: 'Construction of River Crossings Good Practice Guide'.

Flood Risk

The proposal should be assessed for flood risk from all sources. SEPA's Indicative River & Coastal Flood Map (Scotland) is available to view online and further information and advice can be sought from the Council's Flood Alleviation Officer. If a flood risk is identified then a Flood Risk Assessment (FRA) should be carried out following the guidance set out in the Annex to the SEPA-Planning Authority flood risk protocol. SEPA's technical flood risk guidance for stakeholders outlines the information required to be submitted as part of a FRA, and methodologies that may be appropriate for hydrological and hydraulic modelling.

If engineering works are likely to result in increased flood risk to people or property then a flood risk assessment should be submitted and SEPA should be consulted. A site survey of existing water features and a map of the location of all proposed engineering activities in the water environment should be included in the ES. A systematic table detailing the justification for the activity and how any adverse impact will be mitigated should be included. The table should be accompanied by a photograph of each affected water body along with its dimensions. Justification for the location of any proposed activity is a key issue for SEPA to assess.

Where proposals cover a large area, there will usually be opportunities to incorporate improvements in the water environment required by the WFD within and/or immediately adjacent to the site either as part of mitigation measures or as compensation for environmental impact. Opportunities to avoid or offset environmental impacts are encouraged. Improvements which might be considered could include the removal of redundant weirs, the creation of buffer strips and provision of fencing along watercourses.

Water Abstraction and Impact on Water Supplies

Where water abstraction is proposed the ES, should detail if a public or private source will be used. If a private source is to be used the following information should be included: source e.g. ground water or surface water; location e.g. grid reference and description of site; volume e.g. quantity of water to be extracted; timing of abstraction e.g. will there be a continuous abstraction; nature of abstraction e.g. sump or impoundment; proposed operating regime e.g. details of abstraction limits and hands off flow; survey of

existing water environment including any existing water features; and, impacts of the proposed abstraction upon the surrounding water environment. If other developments are present or proposed within the same water catchment then consideration should be given as to whether the cumulative impact upon the water environment needs to be assessed. The ES should contain a justification for the approach taken.

Any existing private water supplies within influencing distance of the development should be identified, likely consequences assessed and mitigation measures advanced.

All aspects of site work should be identified that might impact upon the environment; potential pollution risks associated with the proposals and identify the principles of preventative measures and mitigation. This will establish a robust environmental management process for the proposal. A draft Schedule of Mitigation should be produced as part of this process. This should cover all the environmental sensitivities, pollution prevention and mitigation measures identified to avoid or minimise environmental effects. Details of the specific issues expected to be addressed are available on the 'Pollution Prevention and Environmental Management section' of SEPA's website.

Construction Environmental Management Document (CEMD)

The principles of the CEMD should be set out in the ES outlining how the draft Schedule of Mitigation will be implemented. This document should form the basis of more detailed site specific CEM Plans which, along with detailed method statements, may be required by planning condition or, in certain cases, through environmental regulation. This approach provides a useful link between the principles of development which need to be outlined at the early stages of the project and the method statements which are usually produced following award of contract. Best practice advice prepared by SNH, SEPA and the wind farm industry Good Practice during Wind farm Construction should be referred to.

Forestry

Any forestry operations within and outwith the application site should be identified and reviewed as part of the ES having regard to the attached consultation advice from FCS in terms of forest operations and compensatory planting and having regard to SEPA's comments on forest waste. Replanting off-site should meet the requirements of FCS and the Scottish Government's policy on 'The Control of Woodland Removal'. It should be noted that FCSs preferred choice is to retain planting on site rather than compensatory planting elsewhere.

Peat

Regard should be had to the enhanced status of Carbon Rich Soils established by Scottish Planning Policy 2014 and to the carbon soils mapping and guidance recently issued by SNH for consultation purposes. Any development proposal should be assessed for its carbon implications by means of the Carbon Balance Calculator.

The ES should include preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, drainage channels, cable trenches, or the storage and re-use of excavated peat. A detailed peat management scheme setting out these measures may be required through a planning condition to ensure that the carbon balance benefits of the scheme are maximised.

If any remnant areas of peat land/peat land soils are found on-site then these should be clearly mapped (depth, nature, hydrology and condition) and used to inform the routing of tracks (whether excavated or floated), and the siting of turbines and other

infrastructure. Areas of deep peat should be avoided. If peat land/peat land soils are encountered on-site during survey then the Scottish Government guidance in respect of peat slide hazard risk assessment should be checked.

For areas where avoidance is impossible, details of how impacts upon wetlands including peat lands are minimised and mitigated should be provided within the ES. Impacts that should be considered include those from drainage, pollution and waste management. This should include preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, dewatering, excavations, drainage channels, cable trenches, or the storage and re-use of excavated peat. A detailed peat management scheme setting out these measures may be required through a planning condition to ensure that the carbon balance benefits of the scheme are maximised. Any mitigation proposals should also be detailed within the CEMP.

The peat depth survey should include details of the basic peat land characteristics. By adopting an approach of minimising disruption to peat land, the volume of excavated peat can be minimised and the commonly experienced difficulties in dealing with surplus peat reduced. The generation of surplus peat is a difficult area which needs to be addressed from the outset given the limited scope for re-use. The ES should detail the likely volumes of surplus peat that will be generated, including quantification of catotelmic and acrotelmic peat, and the principles of how the surplus peat will be reused or disposed of.

There are important waste management implications of measures to deal with surplus peat as set out within SEPA's 'Regulatory Position Statement - Developments on Peat'. Landscaping with surplus peat (or soil) may not be of ecological benefit and consequently a waste management exemption may not apply. In addition, disposal of significant depth of peat is considered to be landfilled waste, and this again may not be consentable under SEPA's regulatory regimes. Experience has shown that peat used as cover can suffer from significant drying and oxidation, and that peat re-deposited at depth can lose structure and create a hazard when the stability of the material deteriorates. This creates a risk to people who may enter such areas or through the possibility of peat slide.

It is essential that the scope for minimising the extraction of peat is explored and alternative options identified that minimise risk in terms of carbon release, human health and environmental impact. Early discussion of proposals with SEPA is essential, and an overall approach of minimisation of peat land disruption should be adopted. If it is proposed to use some excavated peat within borrow pits or bunding then details of the proposals, including depth of peat and how the hydrology of the peat will be maintained, should be outlined in the ES. Should survey findings call for the need for a peat management strategy, a peat management plan would be required for this site. SEPA's 'Planning and Energy webpage' provides links to current best practice guidance on peat survey, excavation and management.

Archaeology, Built & Cultural Heritage

Direct impacts (e.g. proposals which directly impact on scheduled monuments, category A listed buildings and gardens and designed landscapes appearing in the Inventory) and indirect impacts (e.g. those proposals impacting upon on the way in which the surroundings of a cultural heritage feature contribute to how it is experienced, understood and appreciated) should be assessed in the ES. All elements of the proposal should be planned to avoid adverse direct and indirect impacts on these features.

Although the West of Scotland Archaeology Service (WoSAS) has not responded to date, given experience with nearby sites, it is likely that they will expect a full desk-based assessment, which should be supplemented by a walkover survey, with the aim of identifying any additional features whose presence could not be deduced from desk-based sources alone, as well as assessing the current condition and sensitivity to construction impacts of any previously recorded sites

Given the rich deposits of archaeology in this area, it is recommended that there should be early dialogue with WoSAS and Historic Scotland, particularly to establish whether any of the assets likely to be impacted upon by the development should be the subject of wire frames or photomontages to demonstrate the historic environment implications of the development upon the settings of such assets.

Tourism, Recreation and Countryside Access

Areas that are important for recreation should be represented in the choice of VPs used for the LVIA. The ES should address the following matters in respect of recreation and access: the effect on the enjoyment of any pedestrian and cycle access routes in the area and the Kintyre Way. The ES should outline provisions made regarding public access, having regard for the requirements of the Land Reform (Scotland) Act 2003, clarifying the extent of any access restrictions proposed, if any, during construction or operation, and indicating any new facilities for access to be provided on or off site and how current and future recreational use is likely to be affected during construction and subsequent operation of the wind farm.

Transport & Access Issues

The proposal will be accessed directly from the A83(T) with traffic having used the trunk road network, hence proposals will need to satisfy both the Council as local roads authority and Transport Scotland as trunk road authority. Detailed information will also be required in relation to the suitability of the off-site access route and constraints and improvements required, the layout, geometry and construction of the proposed junction on the A83(T), and the construction of the access route to the site to ensure that it is fit for purpose.

The ES should provide information with regard to the construction phase including the preferred route options for the movement of heavy loads, and any anticipated construction staff movements via the trunk road network during the construction period along with an estimate of vehicle trip generation from the site and an indication of distribution/assignment of these trips.

A route assessment study which considers the movement of abnormal loads including swept path analysis, measures requires including the temporary removal of street furniture, any proposed junction widening, traffic management etc. to ensure the transportation of abnormal loads will not have any detrimental effect on structures within the route path should be undertaken. Potential trunk road related environmental impacts such as safety and driver delay etc. should also be considered and assessed.

In the case of the ES, the methods adopted to assess the likely traffic and transportation impacts on traffic flows and transportation infrastructure should comprise: determination of the baseline traffic and transportation conditions, and the sensitivity of the site and existence of any receptors likely to be affected in proximity of the trunk road network; review of the development proposals to determine the predicted construction and operational requirements; and assessment of the significance of predicted

impacts from these transport requirements, taking into account impact magnitude (before and after mitigation) and baseline environmental sensitivity.

Impacts to sensitive receptors associated with noise and vibration arising from the proposal during the construction and operational phases should be considered. Operational traffic noise and construction traffic noise should be assessed by considering the increase in traffic flows and following the principles of CRTN. The ES should consider potential impacts to any identified trunk road receptors, in terms of: predicted noise levels from construction traffic; and any increases to road traffic attributed to the proposal

Where a significant change in road traffic characteristics has been identified as a result of the proposal, changes in air quality at a worst case sensitive receptor adjacent to the trunk road will require further assessment. The criteria considered to identify significant traffic changes with the potential to affect air quality are as follows: The first criteria for identifying roads with a significant traffic change is defined in the ES Protection UK "Development Control: Planning for Air Quality" publication: A change in the annual average daily traffic (AADT) flows of more than 5% or 10% (depending on local circumstances) on a road with more than 10,000 Annual Average Daily Traffic (AADT). The second set of criteria is taken from the Design Manual for Roads and Bridges Air Quality Screening Criteria: road alignment will change by 5m or more; or daily traffic flows will change by 1,000 AADT or more; or heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or daily average speed will change by 10 kilometres per hour (KM/hr) or more; or peak hour speed will change by 20 km/hr or more.

It should be noted that in the light of past experience, where turbine consents have proven incapable of implementation due to constraints imposed by the construction of existing approach roads or the inability to secure third party land for improvements required, it is now the Council's practice to require that all access information be supplied at application stage to the satisfaction of consultees, and it will not normally agree to such matters being detailed and approved via conditions at the post-consent stage.

Infrastructure

There are no known infrastructure assets likely to be affected by the development. Roads, foundations and other construction works associated with large scale developments can disrupt groundwater flow and impact on groundwater abstractions. To address this risk a list of groundwater abstractions both within and outwith the site boundary, within a radius of i) 100m from roads, tracks and trenches and ii) 250m from borrow pits and foundations should be provided. If groundwater abstractions are identified within the 100m radius of roads, tracks and trenches or 250m radius from borrow pits and foundations, then either the route or location of engineering operations should avoid this buffer area or further information and investigations will be required to show that impacts on abstractions are acceptable. Further details can be found in Appendix 2 of SEPA's: 'Planning guidance on wind farm developments'. Hydrological assessments should be carried out to determine the effects upon local water courses. The assessment should include sources serving any affected local private water supplies.

Noise (operational & construction)

The Scoping Report states that a desk top study will be used to predict the likely impact the proposal could have upon the nearest noise sensitive property. This study should be carried out using recognised methodology (ETSU-R-97). The outcome of this desk top study will determine if further background noise assessment will be necessary.

An assessment should be carried out of the likely noise generated during the construction phase of the proposal. Measures should be adopted to ensure that noise generated by the construction activities will meet national standards. The Environmental Health Officer has confirmed that the assessments proposed will provide sufficient information to assess the application.

It is considered that the following information is relevant to the preparation of the ES: the Hayes McKenzie report on wind turbine noise and the Wind Farm Noise Statutory Nuisance Complaint Methodology report.

Shadow Flicker

An assessment over the possible effects of shadow flicker in nearby properties should be undertaken as part of the ES submission.

Air Quality

The Council is the responsible authority for local air quality management under the Environment Act 1995 and it is recommended that Environmental Health are consulted in this regard. They can advise on the need for this proposal to be assessed alongside other developments that could contribute to an increase in road traffic. They can also advise on potential impacts such as exacerbation of local air pollution, noise and nuisance issues and cumulative impacts of all development in the local area. Further guidance regarding these issues is provided in NSCA guidance (2006) entitled Development Control: Planning for Air Quality. A copy of SEPA's response is enclosed for your attention.

Aircraft, Aerodromes and Technical Sites: Safeguard Zones and Electro-Magnetic Interference

The siting of wind turbines can have implications for flight paths of aircraft (including helicopter flights paths), airport radar and communications (civilian or military) and weather radar stations. They can potentially interfere with electromagnetic transmissions of aviation operations, depending on their size, shape, construction materials and location. Their support structure and rotating blades can have an effect on communication, navigation and surveillance by giving off false radar returns and masking (shadowing) genuine aircraft returns. The consequences of the proposal for military and civil aviation should be assessed along with impacts upon radar. Consultations with Defence Estates, the Civil Aviation Authority, and National Air Traffic Services are appropriate in this regard.

In order to promote a consistent nationwide approach, you should refer to NATS self-assessment maps to determine whether the proposal is likely to fall within an area of radar coverage or other safeguarded zone. Should this be the case, NATS advice would be to undertake their pre-planning assessment in order to engage with them early in the process. Should an application fall outside the radar or other safeguarded zone, it is unlikely that NATS would object during the planning process.

The principal safeguarding concerns of the MOD with respect to this type of proposal relates to its potential to create a physical obstruction to air traffic movements (physical obstructions and low flying), and cause interference to Air Traffic Control, Meteorological and radar installations. The impact of the proposal upon aviation and defense interests should be assessed and the MOD should be contacted at an early stage to identify concerns and potential mitigation in accordance with "wind energy & aviation interest's interim guidelines". Account should be taken of MOD aviation and radar operations in completing the EIA particularly in confirming the suitability of the site and the



dimensions of the turbines that are to be installed.

Electro-Magnetic Interference (Communications Systems) and Television Reception

Turbines produce electro-magnetic radiation, which can interfere with broadcast communications and signals. It is impossible to obtain a definite picture of all the transmission routes across any proposed site due to the large number of bodies who use communication systems. Television reception can also be affected by turbines. This is of a predictable nature, and can be alleviated by installing or modifying the local repeater station or some cable connection. It is advisable that applicants contact other authorities or bodies which use communication systems such as Ofcom, the Joint Radio Company, the BBC, police, and utility companies, who have not been consulted as part of the scoping process.

Restoration & Decommissioning

Wind turbines are temporary structures, with an estimated life span in the region of 25 years; therefore the environmental impact of decommissioning should be considered and included in the ES. Environmental conditions, laws and techniques will invariably change during the time between construction and decommissioning. It is strongly recommended that an additional consultation is carried out with SNH well in advance of the year of decommissioning to ensure all natural heritage considerations are taken into account. Further survey work may be required a year or more prior to decommissioning to fully assess the likely impacts and ensure compliance with the relevant legislation.

Grid Network

The ES should confirm that the connection from the turbines to the control building will be laid underground. Furthermore, as a minimum, the ES should identify the route corridor for the s37 grid connection, which will be the subject of a separate application, and state whether this connection will be underground or overhead.

Borrow Pits

Where borrow pits are proposed as a source of on-site aggregate, information should be provided regarding their location, size and nature. Whilst the borrow pits should be considered as part of the EIA process and included in the ES, it is the policy of Argyll & Bute Council that they be dealt with as separate mineral consent applications in the event the wind farm is consented. Ultimately, it would be necessary to provide details of the proposed depth of the excavation compared to the actual topography and water table, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement, and details of the proposed restoration profile. The impact of such facilities (including dust, blasting and impact on water) should be appraised as part of the overall impact of the working. Information should cover the requirements set out in 'PAN 50: Controlling the Environmental Effects of Surface Mineral Workings'. In relation to groundwater, information only needs to be provided where there is an abstraction or groundwater dependent terrestrial ecosystem within 250 m of the borrow pit.

Carbon Balance

An appropriate carbon balance calculation in accordance with the government's carbon calculator should be included within the ES. SEPA have indicated their requirement to have sight of a carbon balance calculation, having regard to all elements of the proposal and consequent peat disturbance

Socio-economic effects

An assessment of the contribution which the development will make to the local economy both during the construction/decommissioning phases and the operational life of the wind farm should be submitted as part of the ES.

Macro environmental effects

The anticipated generation potential of the site and the contribution which it could be expected to make in addressing the consequences of climate change and to meeting national renewable energy targets and international obligations should be detailed.



Richard Kerr
Major Applications Team Leader

19th June 2015

List of consultation bodies having provided responses during the consultation period:

Scottish Natural Heritage (08/06/2015, 12/06/2015)
Forestry Commission (12/06/2015)
Scottish Environment Protection Agency (20/05/2015)
A&BC Environmental Health Officer (01/06/2015)
A&BC Area Roads Engineer (29/05/2015)
A&BC Biodiversity Officer (18/06/2015)
Historic Scotland (26/05/2015)
Transport Scotland (01/06/2015)
Ministry of Defence (05/06/2015)
Joint Radio Company (27/05/2015)
National Air Traffic Services (26/05/2015)

Consultation bodies whose responses were outstanding at the time of the scoping opinion:

A&BC Core Paths
West of Scotland Archaeology Service
Highlands and Islands Airports Limited
RSPB
CSS Spectrum Management
Scottish Water
Ofcom