SAC Consulting

Proposed Wind Energy Project and Associated Ancillary Development at Ascog Farm, Bute

Non-Technical Summary

Prepared for: Argyll and Bute Council

On behalf of: Mr A Tear and Ms E McVey

Prepared by: SAC Environment & Design
Pentland Building, Bush Estate
Penicuik, EH26 0PH

Contact details: SAC Environment and Design

Telephone Number: 0131 535 3004

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Introduction

This Non-technical Summary (NTS) has been prepared to accompany an application to Argyll and Bute Council by Mr A Tear and Ms E McVey to construct and operate three wind turbines at Ascog Farm on the Isle of Bute. A planning application has been submitted to Argyll and Bute Council. As required by the Environmental Impact Assessment (Scotland) Regulations 2011, the planning application is accompanied by an Environmental Statement (ES).

The application seeks to obtain consent for three wind turbines and associated ancillary development. The turbines will be no higher than 74 m to blade tip and will have a maximum combined generating capacity of 2.7 MW.

The ES contains all the relevant information that is necessary to assess the Ascog Wind Energy Project application and is structured as follows:

- Volume 1 – Environmental Statement (Written Text);
- Volume 2 – Appendices;
- Non-technical Summary; and
- Planning Statement.

The full ES can be inspected by members of the public at the principal offices of the Argyll and Bute Council at Kilmory, Lochgilphead, Argyll, PA31 8RT as well as on the online planning portal and further electronic copies of the ES can be obtained from the following address:

- SAC Environment & Design, Pentland Building, Bush Estate, Penicuik, Midlothian, EH26 0PH.

Copies of the ES are available from SAC Environment & Design in CD format at a cost of £10. Copies of the NTS can be provided by SAC without charge.

Background and Rationale

This project has evolved largely in response to the renewable energy targets set by Scottish Government as well as the greenhouse gas emission reduction commitment. The Climate Change (Scotland) Act 2009 saw the Scottish Government set an interim target to reduce emissions by 42% by 2020. Furthermore, in 2011 the Scottish Government increased the renewable energy generation target to 100% of Scotland's electricity from renewable sources by 2020[1]. Likewise, the UK national government has committed to increasing renewable electricity generation to 15% of UK electricity consumption by 2020.

[1] 2020 Routemap for Renewable Energy in Scotland, Scottish Government

Why Wind Energy?

Currently there are limited opportunities for other forms of renewable energy at Ascog Farm. Solar energy is not cost effective and there are no hydro opportunities at the site. Using today's technology, the only proven, viable renewable energy source that would provide significant electricity generation in a cost effective way is onshore wind. The proposed site has a significant wind resource and has an unobstructed fetch in the prevailing wind direction. The proposed site of the wind energy project has been designed following an iterative process of feasibility and environmental assessment to represent the best balance between technical feasibility, resource potential and environmental impact.

The site has a high average long term wind speed. A 50 m wind monitoring mast was installed on site in January 2012 and it is anticipated that data on wind speed and direction over a period of 12 months will confirm more precisely the on-site wind resource. To date, over the spring and early summer months, the average wind speed is in excess of 7 m/s. Further, the year-round average figure is expected to increase during the winter months when it is typically windier.

The wind energy project is anticipated to have a maximum installed capacity of 2.7 MW and yield assessments based on the modelled wind resource indicate that up to 8.28 GWh per year of electricity may be generated. This equates to the consumption of approximately 2,133 homes[2] and in turn offsets around 3,612 tonnes of CO_2[3] equivalent emissions each year.

Benefits

The applicants, Mr A Tear and Ms E McVey, purchased Ascog Farm on the Isle of Bute in 2008 where Ms McVey's family have been farming since the early part of last century. From the outset it was clear that the site at Ascog Farm offered a strong wind resource.

The applicants are aware of the need to stimulate the local economy and support the local community. In April 2011, the Scottish Government launched the Community and Renewables Energy Scheme (CARES). This scheme was launched with the aim of generating 500 MW of community and locally owned renewable energy in Scotland by 2020.

An application was made to Community Energy Scotland (CES) who administer CARES on behalf of the Government and following detailed assessment the Ascog

[2] 3,880 kWh/house/year. Strathclyde University Figures
[3] 1,693 kg CO_2/year. Strathclyde University Figures

Wind Energy Project was awarded a CARES loan. The loan helps landowners and/or community groups by partially under-writing the considerable pre-development costs of planning such as compiling an Environmental Impact Assessment. If planning is granted the loan is repaid so that it may benefit another local project. Furthermore, under CARES, the local community will benefit directly from the scheme, with payments made to a local organisation for disbursement. In the case of the Ascog Farm Wind Energy Project, a minimum of £10,000/MW of installed capacity per year for 20 years would be given to the applicant's chosen local partner Towards Zero Carbon Bute (TZCB), a subsidiary of registered Scottish Charity, Fyne Futures, for them to administer and invest for the benefit of all those on Bute.

Environmental Impact Assessment

Environmental Impact Assessment (EIA) is a process by which information about the environmental impacts (both negative and positive) of a proposed development is collected and addressed. The processes and outcomes of the assessments are presented in a single document, known as an Environmental Statement.

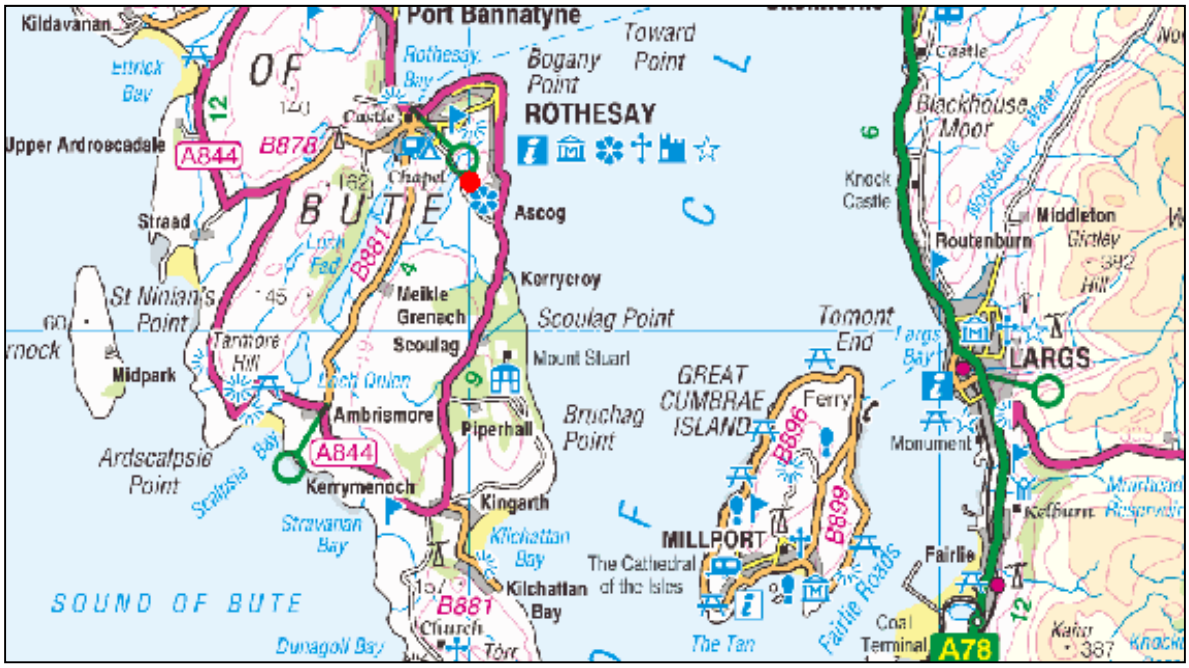
The scope of the EIA has been established through a pre-application consultation with Argyll and Bute Council and other stakeholders. The EIA has been completed in accordance with Environmental Impact Assessment (Scotland) Regulations 2011[4] which amends the former Environmental Impact Assessment (Scotland) Regulations 1999.

The ES identifies, predicts, evaluates and reports the environmental effects of the development at Ascog Farm in order to inform Argyll and Bute Council of these effects prior to determining any development consent. The assessment process is also intended to improve the environmental design of the project through identifying the need for, and incorporating suitable mitigation measures into the project.

The Proposed Development

The proposed site for the three wind turbines is located on an elevated ridge of land known as the Hill of Ascog whose slope is orientated approximately north west to south east. The site lies approximately 2 km south of the town of Rothesay and is indicated by the red dot on the following map.

[4] Hereafter referred to as the EIA Regulations.



The project comprises the construction of three wind turbines that would be 50 m high to hub and 74 m high to blade tip. In addition to the wind turbines, associated infrastructure would include:

- Temporary storage compound used for office and welfare facilities, storage and assembly of turbine components and containerised storage for tools and small parts;
- Access tracks;
- Turbine foundations and crane hardstanding;
- Site control building; and
- On-site electrical and control network.

The wind energy project has a design life of 25 years after which it is anticipated that either an application would be submitted for re-fitting of turbines or the site would be decommissioned.

Planning Policy Context

The proposed development for three turbines at Ascog Farm has been examined and assessed against numerous planning policies and guidance documents. The proposed Ascog Farm Wind Energy Project is clearly in accordance with the aims of these documents, thus lending strong support to the proposal. The project will provide significant environmental, economic and social benefits to the local community. In addition it will also contribute towards achieving the Scottish Government's 100% renewable energy generation target by 2020. A Planning Statement has been produced to accompany the ES; the purpose of this is to explain the planning policy and other technical issues relating to the proposal.

Environmental Effects

The environmental topics considered in the ES are as follows:

- Ecology;
- Ornithology;
- Landscape and visual effects;
- Cultural heritage;
- Land use and agriculture;
- Geology, soils and hydrology;
- Noise;
- Access and transport;
- Socioeconomics and community issues; and
- Other technical issues.

The scope of each assessment was determined through a combination of desk study, site visits and consultation with relevant organisations.

The following sections provide a brief summary of the key findings of the environmental assessments as set out in greater detail in the ES.

Ecology

This assessment sought to identify the habitats and species on or near the proposed site which have protected status under UK or EU law.

The site has an agricultural use throughout, with habitats reflecting this managed and highly modified land use. The field compartments are comprised of improved grassland, predominantly grazed by cattle with abundantly managed hedgerow boundaries and irrigation ditches. There are extensive areas of dense and scattered gorse scrub.

There are habitats of low conservation value within the turbine site development area and any habitat loss will be minimal and not significant. Loch Ascog SSSI is also likely to be unaffected by the construction of the wind energy project, as standard best practice mitigation measures to minimise potential pollution impacts are to be implemented.

There is current evidence of an active otter territory at Loch Ascog which is likely to be used as a feeding and foraging area. No evidence of the species was located within 30 m of the site development area and was assessed as providing low habitat value for foraging, resting and sheltering. Standard best practice mitigation measures to minimise potential impacts are to be implemented.

One species of bat, soprano pipistrelle, was found on site during surveys. With the proposed turbine layout it is considered very unlikely that any impacts will occur on local bat populations. Standard best practice mitigation measures to minimise potential impacts are to be implemented.

As a result no significant impact on the local bat population is expected.

Overall the development is not expected to have a significant effect on any ecological components.

Ornithology (Birds)

The potential impact of the development on the ornithology of the site has been assessed. Due to the proximity of the site to the Central Lochs, Bute SSSI which is designated for its internationally important concentration of non-breeding Icelandic Greylag Geese, particular attention was paid to potential impacts on this site. The following ornithology surveys were agreed with Scottish Natural Heritage (SNH):

- Goose surveys – to monitor the activity of geese within 500 m of the proposed turbines to assess the potential collision risk that might exist following construction;
- Breeding bird survey – to assess the breeding birds that may be at risk of displacement during construction or during operation; and
- Vantage point surveys – to monitor the activity of other flying birds.

During a total of 48 hours observation, 1,556 Greylag Geese were recorded flying within 500 m of the proposed turbines (mostly associated with feeding flocks close to the Loch), but only two flocks, totalling 23 geese flew within 250 m of the turbines. The potential collision risk was determined to be only 0.128 collisions per annum.

In addition to the geese, very small numbers of low and medium sensitivity non-breeding species (45 Lapwings, 4 Mallards and 3 Oystercatchers) were recorded flying over the site during winter and summer vantage point surveys with no higher sensitivity species flying at potential collision risk height.

No Schedule 1 species were breeding within 500 m of the site. Six species of UK BAP priority species showed evidence of breeding within the study area however, all of which were 200 m or more from the proposed development.

With such low numbers of a low range of high or very high sensitivity species, any potential collision risk or displacement impacts on birds at this site are likely to be of low or very low significance. The risk of nest destruction during the construction phase of the development would be mitigated by the timing of operations such as scrub or tree removal.

Landscape and Visual Assessment

The objective of this assessment is to determine the landscape and visual effects of the Ascog Farm Wind Energy Project on the existing landscape resource and visual amenity. The scope of this assessment was based on discussions with Argyll and Bute Council and SNH while the assessment followed SNH Guidance.

The proposed wind energy development is located within Lowland Rolling Farmland with Estates Landscape Character Type. The turbines would be situated on a localised hill (Hill of Ascog, 104 m AOD).

The pattern of visibility is sporadic and accounts for 15 % of the total study area. The pattern of theoretical visibility within the 35 km study area found that visibility was predicted to be concentrated within the Isle of Bute with the exclusion of much of the northern part of Bute and the settlement of Rothesay. The potential visibility extends to the coastline of surrounding mainland and island edges.

Twenty one viewpoints were selected and assessed within the ES. The analysis indicates that significant effects would be limited to an area of approximately 3 km distance from the nearest proposed wind turbines.

The cumulative study area extended to a 70 km radius however only developments within a 35 km radius were included in the assessment. The cumulative viewpoint assessment indicates that there would be no significant cumulative effects (with the exception of one viewpoint), with many viewpoints recording little or no cumulative wind farm visibility, resulting from the proposed Ascog Wind Energy Project in combination with other existing, consented or application stage wind farms.

The assessment concluded that any significant effects would be mostly localised and largely limited to the immediate vicinity of the proposed turbines.

No significant visual effects were identified on nationally designated landscape character areas and other landscape designations.

Cultural Heritage

The potential effects of the proposed development on the historic built environment, including archaeological remains, have been assessed through a desk study and site walkover and assessment.

No adverse direct effects are considered likely to arise from the proposed development. There is no evidence for any past activity within the site other than post-

medieval agriculture. Suggestions that a tree ring at the summit of the Hill of Ascog may enclose a mound of early-medieval or earlier date remain conjectural and against the indications of more recent Gaelic place-name studies and the physical appearance of the mounds. The tree ring appears to be a Romantic addition to the landscape, set in place in a wider context of agricultural improvement. In any event, this feature is unlikely to be affected; particularly once mitigation proposals to prevent inadvertent damage are in place. There is no evidence for any previously unrecorded archaeological features to be present on the site, and aerial photography, the underlying geology and topographic situation suggest that this absence of evidence derives from a real absence of past activity rather than any absence of previous study.

The potential for significant indirect effects is largely conditioned by the topography of the study area, the extent of planting on the lower slopes of the coastal hill side and the focus of settlement along the coastal strip from Ascog north through Rothesay and into Port Bannatyne. These factors combine to restrict the settings of the identified designated heritage assets and to reduce visibility of the proposed turbines from these assets. In general, views to the turbines from designated assets would be restricted to filtered or distant views of turbines in the periphery of minor views to and from designated assets. No significant adverse effects are expected to arise.

Landuse and Agriculture

The proposed development site crosses land designated as Sensitive Countryside and land designated as Rural Opportunity Area in the Argyll and Bute Local Plan. The proposed wind turbines would be located within the land holding of Ascog Farm on a site occupied by the Hill of Ascog. The proposed site extends across two fields currently used for occasional cattle grazing and an area of unimproved grassland to the north of these fields. The construction activities, permanent change in land use associated with the wind turbine development and its operation are not predicted to have significant environmental effects on land use, recreation or agriculture.

Geology, Soils and Hydrology

The proposed wind turbine development site is located on the Hill of Ascog which comprises a flow of igneous rocks overlying sandstones and mudstones. The soils on the site are generally free draining brown forest soils and in places these are underlain by drift deposits of glacial till. There are no surface watercourses within the site, the nearest feature being a small burn 100 m to the north which forms the

outflow from Loch Ascog, a drinking water supply loch. Whilst there are productive aquifers beneath the site, these are overlain by the generally impermeable basaltic rocks which characterise the Hill of Ascog.

No significant impacts on geology and soils are predicted during construction, operation or decommissioning provided best site construction practices are followed. There would be no direct impacts from the wind turbine development on water resources. No significant indirect effects on water quality of surface or ground waters are predicted provided that sustainable drainage measures are installed during construction to limit run-off of surface waters and the mitigation measures outlined in this chapter are adopted to prevent spillage of potentially polluting materials during construction, operation and decommissioning.

Noise Assessment

The noise assessment considered whether the levels of noise during operation of the proposed Ascog Farm wind turbines would apply with the applicable noise limits. The operational noise assessment of the proposed turbine was undertaken in accordance with Scottish Planning Policy and assessed by means of a desk study based on an onsite background noise survey at the closest sensitive receptor.

The assessment indicates that the acceptability criteria for turbine noise in ETSU Guidelines (1997) are met at all receptors considered. As there are no other wind turbines in the area there are no cumulative turbine noise impacts at these receptors.

Access and Transport

There would be three types of vehicular traffic during the construction of the proposed wind turbines:

- Exceptional loads;
- Conventional HGV movements delivering stone, steel reinforcing et cetera; and
- Vans and cars used by construction staff and deliveries.

It is thought that the turbine delivery vehicles would travel via the ferry from the Scottish mainland to Rhubodach on the Isle of Bute (approximately 11 miles by road north of Ascog Farm). The vehicles would then travel along the A844 and leaving the A844 at the junction with an unclassified road near Ascog, then turning right and heading northwest towards the site. A right turn onto the proposed access track would complete delivery of the turbines to site. This is only an indication of a potential route and the applicant would ensure that the vehicles would be routed as agreed with Argyll and Bute Council

Roads Department to minimise disruption and disturbance to local residents.

Construction activities and their potential for risks to the environment would be controlled through the application of a construction environmental management plan (CEMP). This document would ensure best site practices are adopted on site and would include specific mitigation measures identified in this ES.

No significant residual effects are predicted as a result of transport and access during the construction, decommissioning or operation of the wind turbines.

Socioeconomics and Community Issues

It is considered that the overriding socioeconomic impacts are positive as are the potential benefits for local tourism. The development represents a strong example of farm diversification. In addition, under the terms of the Scottish Government's Community and Renewable Energy Scheme the Wind Energy Project would contribute a minimum of £10,000/MW of installed capacity per year (for 20 years) to the local group Towards Zero Carbon Bute. This income would be used for the benefit of all those on Bute. For further details relating to socioeconomics see Section 3 of the accompanying Planning Statement.

Other Technical Issues

All aviation and radar stakeholders consulted had no objections to the proposed development therefore no significant residual effects on civil aviation and radar are predicted during the construction, operation or decommissioning of the wind energy project.

There is no stated concern with this development and communication links in the area.

The maximum distance that ice is likely to be thrown by the Ascog turbines (if at all) would be 147 m. There are no buildings or paths within 147 m of the proposed Development.

With respect to shadow flicker, of the eight houses that are located within 10 rotor diameters and have been assessed, six residences may have a shadow flicker impact, one of which is the applicant's own residence. Modelling has shown that the maximum amount of hours/year this could be an issue at any residence is 40 hours. The turbines will be programmed to turn off during these times when shadow flicker might be an issue. No significant residual effects from shadow flicker are predicted during the construction, operation or

decommissioning of the wind energy project.

The turbines are considered to be a suitable distance from all roads and routes to avoid any residual concerns regarding safety.

Conclusion

The proposed Ascog Farm Wind Energy Project is clearly in accordance with the principals of sustainability and will provide significant environmental, economic and social benefits to the local community.

The EIA process indicates that the proposed development will have a relatively low impact on the immediate and wider environment. As with any scheme of this nature, there will be a change to the landscape, but if Government and regional targets for renewable energy from onshore wind are to be met, it must be accepted that wind turbines do have a place within the landscape and countryside.

The wider environmental and economic benefits of renewable energy schemes, whatever their scale, are a material consideration which, according to Government advice, should be given significant weight in the decision making process,

On balance, weighing up all of the above factors, it is considered that the environmental and economic benefits of the proposed development outweigh its relatively low impact on the immediate and wider environment. It is considered that the proposed wind turbines would have few significant adverse effects on the local environment, these being limited to localised landscape and visual effects.