



Kilbraur Wind Farm Section 36 Extension

Non - Technical Summary



INTRODUCTION

The Environmental Statement (ES) supports an application by Kilbraur Wind Energy Ltd to The Scottish Government for consent under Section 36 of the Electricity Act 1989 for the construction of a eight turbine extension to the Kilbraur Wind Farm on elevated moorland 9km to the north west of Golspie, Sutherland in The Highlands of Scotland. The National Grid Reference for the centre of the site is 278894, 907579.

West Coast Energy (WCE) has been responsible for the planning and design of the Kilbraur Wind Farm Extension and for the preparation of the ES. WCE is a company specialising in renewable energy development, which is based in North Wales. The Company has successfully managed both on-shore and off-shore wind farm projects and are acting as agents and project managers for the proposed development.

The scope of the ES has been based on previous correspondence with the Scottish Government, The Highland Council and other statutory and non-statutory agencies, and provides environmental information in the process of the determination of the wind farm proposals.

The ES has been prepared in three volumes as follows: -

Volume 1 contains the text of the environmental impact assessment and relevant appendices;

Volume 2 contains the appendices to the reports in Volume 1

Volume 3 contains the maps, figures and drawings that support the assessment presented in Volume 1;

A Non-Technical Summary of the submitted environmental information contained in Volumes 1, 2 and 3 is also included.

Copies of the Non-Technical Summary are available free of charge from the Highland Council or West Coast Energy Ltd.

Copies of the ES can be purchased at cost from West Coast Energy Limited for £150.00. or in CD format for £20.00. Contact: Simon Green, West Coast Energy Ltd, The Long Barn, Waen Farm, Nercwys Road, Mold Flintshire CH7 4EW. (Tel: 01352 757604, e-mail simon.green@westcoastenergy.co.uk)

SITE SELECTION

The proposed wind farm extension is located approximately 9km to the north west of Golspie on a moorland plateau on the western flank of a range of hills including Meall Odar, Ben Horn and Meall Horn. The eight turbines will be located amongst the nineteen consented turbines which comprise the existing Kilbraur Wind Farm.

Access to the site for construction vehicles is via the modified junction at Drummuie on the A9 just to the west of Golspie. Forest tracks lead to the Golspie Burn crossing before rejoining the public road in the Dunrobin Glen. Access to the main wind farm site is at Farlary. The application boundary, identified on Figure 3, of approximately 230 hectares is located within the boundaries of East Sutherland region of The Highland Council. The application area is mostly within the boundary of the Sutherland Estates although one private landowner is also involved. Six of the proposed turbines are located on crofted land comprising the Sutherland Estate. The application area is subject to rough grazing for deer and sheep. The Sutherland Estate manage the sporting rights over all of the land.

The following criteria were assessed in relation to the proposed extension site:- The wind resource, the connection to the local electricity distribution system, national and local planning policy, nature conservation, landscape designations, proximity of

dwelling, existing transmission and microwave links, highway access, archaeological features, historic buildings, hydrological and hydrogeological issues, landowner participation and safety considerations.

The design evolution of the Kilbraur Wind Farm Section 36 Extension site has been influenced by a number of environmental factors. Although it is acknowledged that, in practice, every wind energy project has some impact on the locality, it was considered that the Kilbraur Wind Farm Section 36 Extension turbines offered the following environmental and economic benefits in its favour:

- The site is not subject to any national designations for landscape or ecological reasons and there are no Scheduled Ancient Monuments within the development area.
- On site wind resource analysis has confirmed the suitability of the site for a commercial wind farm.
- A 275kV grid network runs through the site and the grid sub station already exists in close proximity of the extension site.
- Detailed environmental assessment studies have not identified any overriding constraints which cannot be dealt with by appropriate mitigation.
- Significant efforts have been made to ensure that the project design reflects the findings and recommendations of the extensive consultations and assessments. In addition, due consideration has been given to National and Local Planning policies, and the need to mitigate against any significant environmental effects.



PLANNING POLICIES

Consideration of current planning policy indicates:

- No conflicts between the Development Plan Policies, issued by The Highland Council, and the proposed development are anticipated;
- No national or local statutory designations are directly affected by the proposed development ;
- There is minimal additional visual and landscape impact to the permitted Kilbraur Wind Farm, with the additional benefit of minimal cumulative effect compared with other schemes.
- The existing on-site compound, sub - station and access tracks at the permitted scheme will be utilised thereby minimising disturbance on the extension site.
- The extension allows for the maximum generation capacity from the site to be transmitted from the site via the 275kV grid connection
- There is minimal additional impact on the ecology, ornithology, archaeology, noise and hydrology at the site.
- There are no additional impacts on electromagnetic interference at the site from the permitted Kilbraur Wind Farm.
- The proposal complies with relevant planning guidance and policy

Taking into account the National and Local policy context which seeks to promote renewable energy, the extension to the Kilbraur Wind Farm proposal will make a notable contribution to Scottish Executive and UK Government renewable energy targets, as well as being of potential socio - economic benefit to communities within the Highlands region.

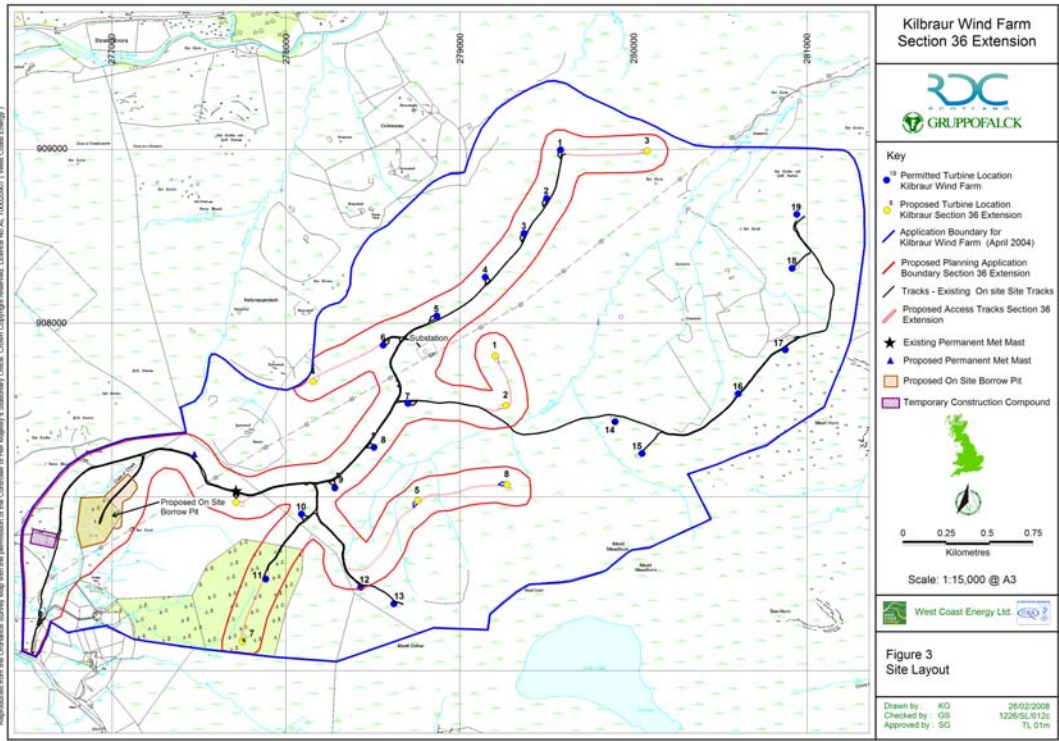
PROJECT DESCRIPTION

The proposed Section 36 Extension to the permitted Kilbraur Wind Farm will comprise of 8 additional wind turbines of modern design, each having a three bladed rotor of 90 metres (297 feet) in diameter supported on a tapered cylindrical tower to give a height of 80 metres (262 feet) to the rotor hub and maximum 125 metres (410 feet) to the blade tip. Each wind turbine has a maximum power output of approximately 2.5MW. All of the turbines comprising the permitted wind farm, first extension and this proposal are identical in nacelle and blade design. The hub heights vary between the various phases. The original nineteen towers are 70 metres to hub. This extension will incorporate 80 metre high towers.

The topographical, technical, planning and environmental considerations of the application site have resulted in the wind farm design as shown on the site layout plan. The wind turbines are spaced so as to minimise energy loss due to wind turbulence and to avoid areas of ecological and hydrological sensitivity.

Each turbine will be linked by an access track. The additional access track required will be approximately 3.14 km long and 5 metres wide. The turbines will be connected by underground cables, which will take power from each turbine which will then be transmitted to the wind farm control building where it would then be distributed to the Scottish and Southern 275kV electricity distribution system.

It is estimated that the total permanent land take associated with the additional 8 extension turbines, site tracks and hardstandings will be approximately 2ha.



LANDSCAPE & VISUAL ASSESSMENT

The landscape and visual assessment has assessed the potential effects of the proposed eight turbine extension to Kilbraur Wind Farm on landscape and visual receptors within the region. This assessment has established that the proposed extension to the consented Kilbraur Wind Farm will be viewed as part of the consented array not resulting in significant effects on the landscape and visual baseline conditions during construction and operation phases of the wind farm save for localised effects upon landscape character in the immediate vicinity of the proposed turbines. The direct effects on landscape fabric as a result of the proposed extension are not considered to be significant.

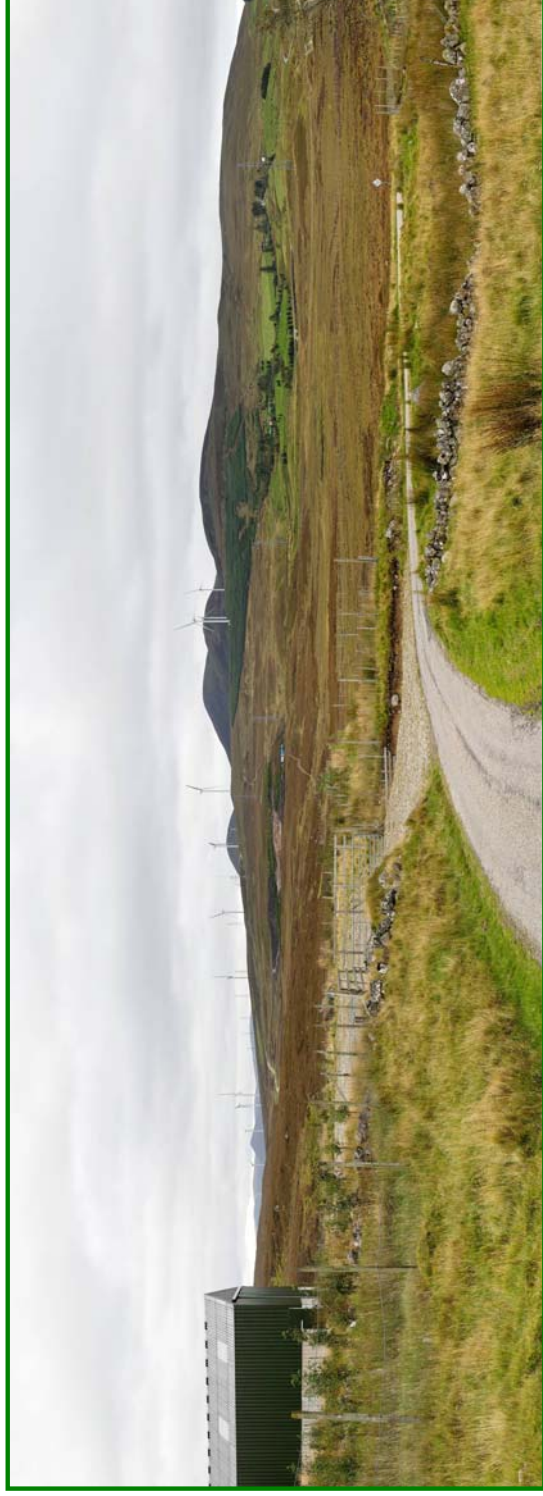
The proposed wind farm extension has been designed to incorporate standard mitigation measures in relation to the design of the turbines and site-specific mitigation measures and has been designed to compliment and be seen as part of the same development as the adjacent consented Kilbraur turbines. The layout has been optimised in respect of technical, economic and environmental constraints including landscape and visual amenity considerations.

The proposed wind farm extension is considered to be well sited with due consideration to landscape and visual effects in relation to the other environmental constraints.

Having carefully examined the potential effects on landscape and visual amenity associated with the proposed Kilbraur Wind Farm Extension and the creation of a larger wind farm development, it is considered that the proposals are acceptable in this location in landscape and visual terms.



Viewpoint 3: Knockarthur Existing View



Viewpoint 4: Roadway Near Scibberscross Existing View



ECOLOGICAL ASSESSMENT

This chapter provides an assessment of the ecological impacts of the Section 36 Extension to the consented Kilbraur Wind Farm.

Desk and field studies were completed to identify the main ecological receptors within and around the site. Desk studies included consultation with a range of consultees, including Scottish Natural Heritage, Highland Biological Recorder, Fisheries Research Services, River Brora District Fishery Board and the Highland Council Biodiversity Officer. Field surveys completed within the development site and its surroundings included surveys for botany/habitats, otter, water vole and reptiles, and habitat-based evaluations for bats and amphibians.

There are no statutory designations within the proposed development area; however the Lairg and Strath Brora Lochs Special Protection Area (SPA) is located close to the application site.

The botanical community assemblages within the proposed development area are dominated by blanket bog with a mosaic of dry and wet heath on the better drained areas of the site. An area of coniferous plantation surrounds the proposed turbine 7. The impact of the scheme following mitigation would result in a Slight Adverse impact on all habitats with the exception of the coniferous planted woodland which would be Neutral.

Following mitigation Slight Adverse impacts are predicted on water vole, fish and , freshwater pearl mussels whilst Neutral impacts are predicted on otter, reptiles, bat, amphibians and deer..

Following implementation of the proposed mitigation measures, the conclusion of the Ecological Impact Assessment is that no significant impacts are predicted on fauna and habitats identified within the extension development site, whether during construction, operation or decommissioning.



ORNITHOLOGICAL ASSESSMENT

This provides an assessment of the impacts of the proposed Kilbraur Wind Farm Section 36 Extension on ornithology.

Desk and field studies were completed to identify the main ornithological receptors within and around the site. Desk studies included consultation with a range of consultees, including Scottish Natural Heritage and the RSPB. Ornithological surveys completed within the application boundary were carried out in between March 2008 and February 2009. Informal breeding bird studies had been completed in 2004, 2005, 2006 and 2007.

There are no statutory designations within or adjacent to the site, but it is situated close to the Strath Brora Lochs Special Protection Area (SPA) which is an internationally important sites for breeding black-throated diver. The development will have no impact on the integrity of the SPA site or either of these species.

Five avian species of high conservation concern were found to occasionally utilise the Kilbraur Wind Farm study area including golden eagle, hen harrier, merlin, red throated diver and golden plover. Two raptors of high conservation concern, peregrine an osprey, were occasionally recorded. No significant adverse impacts are anticipated for any of the above species as a result of the construction, operation, and decommissioning of the extension turbines.



ARCHAEOLOGICAL ASSESSMENT

This chapter provides a survey of sites of cultural heritage significance for the proposed extension to the windfarm at Kilbraur in Sutherland, together with an assessment of the potential impacts of the development on these sites.

- The extension is located entirely within the area of the consented application. Four sites of cultural heritage interest are located within 100m of the proposed extension turbines or their associated tracks. None of these has a formal cultural heritage designation. Three of the sites are sufficiently distant to be avoided by a programme of marking-out and subsequent avoidance. Part of the fourth (a line of shooting butts) may be impacted. No significant direct impacts on known sites, however, have been identified.
- Given the level of archaeological monitoring previously undertaken on the site during the original phase of construction, it is clear that the potential for unknown, below-ground archaeology across most of the proposed extension is negligible to low. No mitigation is judged to be warranted.
- However, the potential for previously unrecorded archaeology rises in the area of proposed Turbine 7 and its associated access track where the presence of any surviving remains is obscured by dense forestry. Removal of the trees will be archaeologically monitored and a post-felling survey undertaken, leading if necessary to a further programme of works.
- There are 9 Scheduled Ancient Monuments and 60 Highland Council Non-Statutory Register 'sites of schedulable quality' within 5km of the proposed windfarm extension that fall within the ZVI and will therefore potentially be intervisible with the windfarm extension.
- The significance of the original wind farm's impact on the setting of cultural heritage features was assessed as of no greater than minor significance and therefore was not considered significant in terms of the EIA (Scotland) regulations. The additional turbines of the proposed extension will be integrated with the layout of the built windfarm. On completion of the extension it will not be possible to differentiate between the original windfarm and the extension turbines. The data within the original ES does not suggest that the impact on any of these sites was border-line with a higher level of impact significance. Our conclusion therefore is that the additional turbines of the extension will not alter the significance of impact on the setting of the sites within the 5km boundary. As these setting or operational impacts are temporary and entirely reversible, no further mitigation is proposed

GEOLOGY, HYDROLOGY, HYDROGEOLOGY AND SOILS

Construction of the wind farm involves several phases and activities which may potentially affect the hydrology, hydrogeology and soils of the receiving environments. These activities have been identified and an assessment of their potential effects made.

The identified sensitive receptors are surface watercourses, groundwater, drift deposits of peat, private water supplies and fisheries.

Groundwater is a very sensitive receptor because flow is through fractures only and there is little opportunity for attenuation of contaminants. However, the bedrock is of relatively low productivity as an aquifer, so the volumes of groundwater present are likely to be generally low.

The drift deposits of peat, with depths averaging 1.0m across the site, are considered, following the recommended mitigation, to be at a negligible to low risk of instability from construction and operation activities.

The payback time for CO₂ emissions from peat oxidation is estimated at between 1.8 years and 3.6 years, which is significantly less than the 25 year life time of the development.

The Brora River is an important salmon fishery and salmon are also known to be present in the lower reaches of Scottarie Burn. Trout are likely to be present throughout the Scottarie Burn catchment. These fisheries interests will be sensitive to any sediment and chemical contamination originating from the wind farm development site.

Mitigation measures have been proposed which will reduce the likelihood and magnitude of the potential effects on all of the sensitive receptors, such that any adverse residual effects are assessed as being of minor significance or lower. These effects are not considered significant in terms of the EIA regulations. In order to ensure that these mitigation measures are carried out, environmental specifications and objectives will be included in the tender documents so that all contractors can allow for mitigation measures in their tender costs. A Construction Method Statement will be drawn up and on-site supervision put in place to ensure that the mitigation measures are adhered to by all site contractors. Continued consultation with SEPA will be carried out in order to ensure on-going agreement regarding the proposed mitigation measures.

INTERFERENCE WITH RADAR, FLIGHT SAFETY, TELEVISION, RADIO AND MICROWAVE PATHS

Our research has revealed that there will be no conflict with military or civilian radars or regulated aircraft flight corridors. The site is not within any military flight training area and interference with navigational equipment is not anticipated. There is a likelihood that some of the turbines will require lighting at hub height to ensure the safety of mountain rescue flights at night.

A report was commissioned by JWD Ltd to assess the effects of the permitted Kilbraur scheme on national UHF domestic television reception. This report concluded that there was likely to be no effect on surrounding properties because the existing signal was already poor and unusable due to the topography. That position is unlikely to change for the eight extension turbines since they are generally lower on the slope. Kilbraur Wind Energy Limited will, however, bear the cost of further investigations, if necessary, to establish the extent, of any interference and to expedite appropriate remedial action. These matters can be controlled by appropriate conditions or by legal agreement.

Through consultation with communications agencies, it is predicted that there will be no disturbance to other communication systems, including those used by the emergency services, utility operators and mobile telephone service providers. We have identified one potential issue with an existing link to the new sub station but we are working with the owner to establish suitable mitigation by means of re-siting the receiver.



NOISE ASSESSMENT

An assessment has been completed on the noise effects that are predicted to occur due to the construction and operation of the proposed Section 36 Extension to the Kilbraur Wind Farm in combination with the nineteen consented turbines.

The assessment has taken account of current guidance which is contained in Planning Advice Note (PAN) 56: 'Planning and Noise', Planning Advice Note (PAN) 45: 'Renewable Energy Technologies', ETSU Report ETSU-R-97: 'The Assessment and Rating of Noise from Wind Farms' and relevant British Standards and other documents relating to noise and its effects upon humans.

This noise assessment shows that the cumulative noise effect from the permitted wind farm and the proposed second extension, assuming that all turbines are operating at normal speed at the same time, would not exceed any of the target criteria defined in ETSU-R-97, controlled by the current Planning Condition issued by the Highland Council. Separate target criteria have been developed for both night-time and daytime periods in order to protect both the sleep of local residents and to protect the outdoor amenity of the area.

Predicted levels from candidate turbines at the identified sensitive receptors are below these criteria during day and night, ensuring an acceptable level of protection to the amenity of local residents.

In terms of construction noise, the distances from the proposed working area to the nearest properties are large, so the likelihood of disturbance due to construction noise to be very small. Guidance given in BS5228: 1997 will be used to ensure that best practicable method of minimising noise on the site will be adopted.

The distances between the proposed wind farm and the nearest residential properties to the north, south and west of the site are large enough that there will be no significant vibration impacts. .

As a result, it is not anticipated that there will be any significant disturbance from noise or vibration at properties within the vicinity of the proposed extension.



COMMUNITY BENEFIT

Economic benefit will be provided to the local area during the construction and operation of the wind farm, but in addition, in order to provide additional community benefit, Kilbraur Wind Energy Limited proposes to work with the local community to expand the existing community wind farm trusts. This will enable support to be given to local social, educational and environmental initiatives. A wind farm co-operative has been established with Energy4All. The co-operative attracted investments of over one million pounds for the existing scheme. This is also likely to be extended for the extension turbines.

OVERALL CONCLUSIONS

UK Government and Scottish energy policy provides for a presumption in favour of renewable energy projects unless a particular proposal would cause demonstrable harm to interest of acknowledged importance.

In the case of the Kilbraur Wind Farm Section 36 Extension it is submitted that the main issue to be considered is the desirability and benefits to be gained from exploiting a clean sustainable energy resource, weighed against any perceived material impact on landscape character, visual amenity and nature conservation and ornithological interests.

The Development Plan in this case consists of the Highland Structure Plan and the Golspie and Lairg Local Plan, North West Sutherland Local Plan and South West Sutherland Local Plan with Supplementary Planning Policy comprising the Highland Renewable Energy Strategy and Planning Guidelines. Both the Structure Plan and the Local Plan support the generation of electricity from renewable sources and seek to provide for wind farm development within areas which are least constrained in planning terms. In terms of emerging policy the Deposit Draft of Sutherland Local Plan was issued in November 2008 and will eventually replace Golspie and Lairg Local Plan, North West Sutherland Local Plan, South East Sutherland Local Plan. The Environmental Impact Assessments reported on in this Environmental Statement have provided detailed information to conclude that there are no significant conflicts between the development and the relevant policies of the Structure and Local Plan.

Importantly, the proposed wind farm development site is of a high quality design and has been carefully sited within the landform. The Highland Structure Plan Policy E1 refers to Distributed Renewable Energy Development and Policy E2 refers to Wind Energy Development and supports developments such as this. The development complies with the requirements of this policy.

The proposed Section 36 Extension to Kilbraur Wind Farm lies outwith any landscape character designations. The proposed extension will not affect archaeological sites or any other Listed Buildings or Conservation Areas or Historic Gardens and Designed Landscapes. Impacts upon nature conservation resources will be minimal and enhanced where possible.

Independent consultants have carried out a detailed comprehensive assessment of the environmental effects of the development. This assessment as reported in the E.S. has concluded that there will be no significant effect in relation to noise, cultural heritage, safety and physical (including access) effects of construction. There will be some effects on the local landscape character, on visual impact and in terms of local recreational amenity. In addition there will be some minor impacts on nature conservation and ornithological interests but it is submitted that these impacts can be

mitigated by good construction management procedures secured by legal agreement and suitable conditions.

It is accepted that there will be some minor 'very' localised effects relating principally to visual impact and effect on landscape character. However the E.S. demonstrated that these effects are not unacceptably adverse, and as such the development is in accord with the Development Plan. If the alternative view is taken then significant material weight must be attached to UK Government and Scottish energy policy and the desirability and benefits to be gained from the additional generation of clean green energy from the Kilbraur Wind Farm Section 36 Extension.

Valency is a way of describing whether people are in favour of wind energy development (positive valency) or are opposed to wind energy developments (negative valency). Valency can be influenced by aesthetic, perceptual and financial considerations, and also the understanding of the performance of a wind turbine.

Time is an important factor as public perception, or valency, can vary over time, particularly as the result of changes to people's understanding of a subject or their increasing familiarity with a particular scenario.

It is considered that the proposal can provide significant environmental and economic benefits to the local area and is in accord with the principles of sustainability. The E.S. has demonstrated that the proposal will not cause demonstrable harm to interests of acknowledged importance and therefore when all material planning factors are taken into account it is hoped that planning permission will be granted for the Section 36 Extension to the Kilbraur Wind Farm.

