

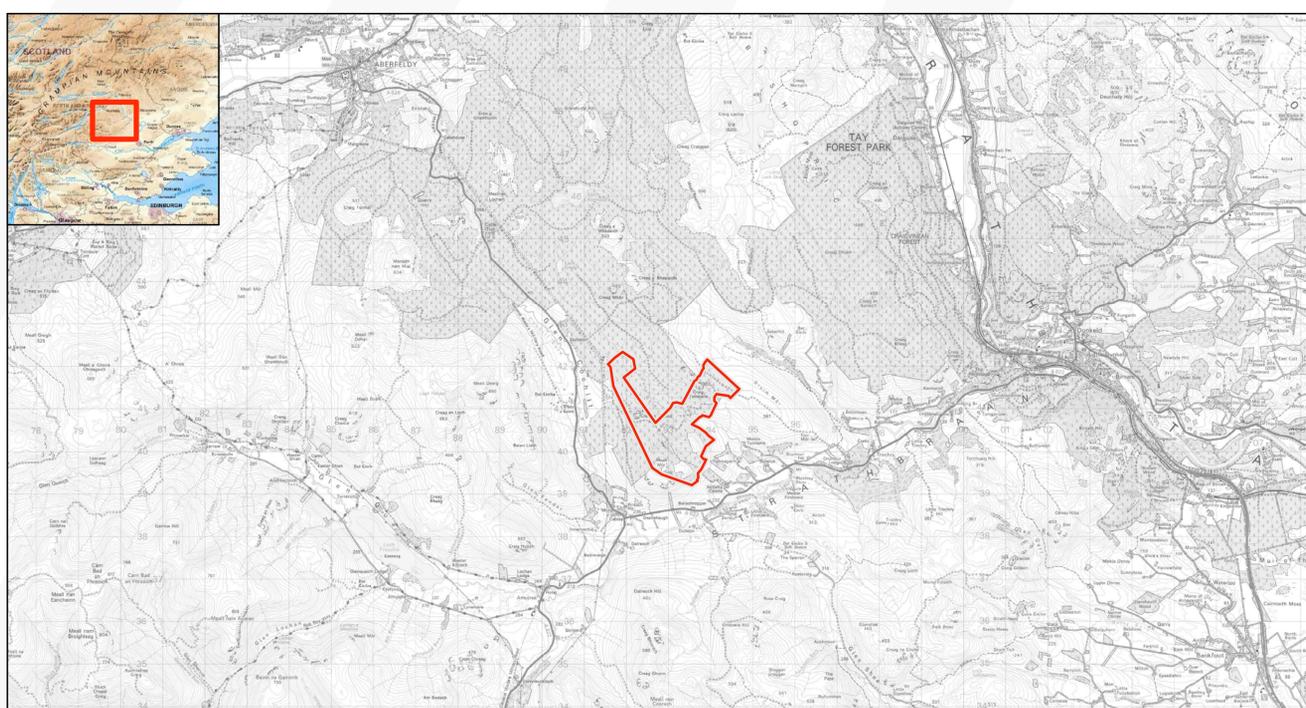
# CREAG A' BHÀIRD WIND FARM

## WELCOME TO OUR EXHIBITION

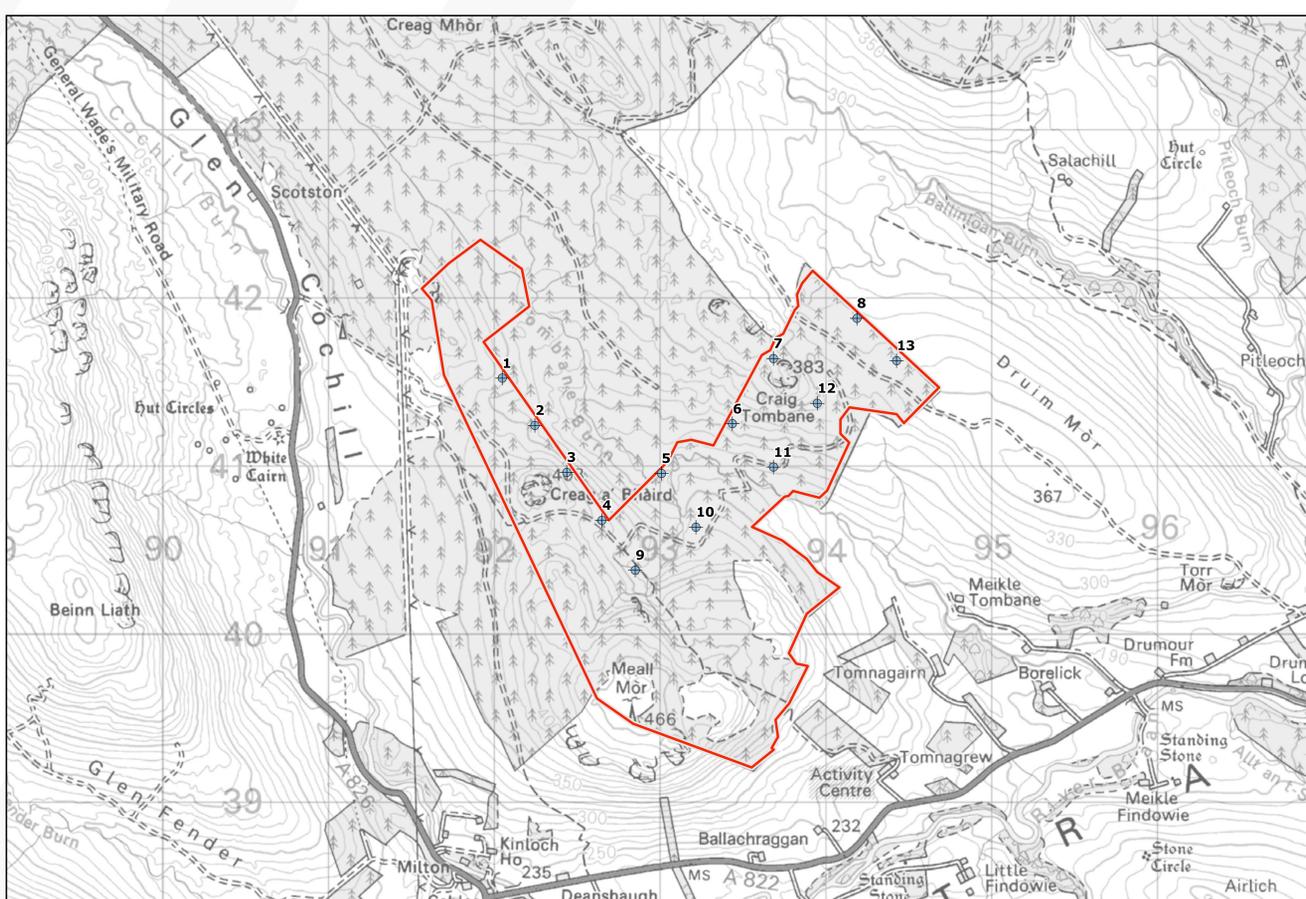
Welcome and thank you for taking the time to learn more about our proposals for a wind farm in Perth and Kinross. Force 9 Energy is a successful UK based developer that is seeking to develop up to 13 turbines 1km north of Milton; approximately 6km west of Dunkeld and 8.5km south-east of Aberfeldy. The proposed Creag a' Bhàird Wind Farm has been carefully selected following a lengthy and detailed site selection process, which has involved the examination and balancing of a number of technical, environmental and planning issues.

The proposed turbines would have a maximum tip height of 115m. Overall the installed capacity of Creag a' Bhàird Wind Farm, as proposed, would be 29.9 Mega Watts ('MW') based on 13 x 2.3MW turbines. Using an established methodology it is estimated that the wind farm could generate enough power to meet the annual domestic energy requirements of 16,178 homes.<sup>1</sup>

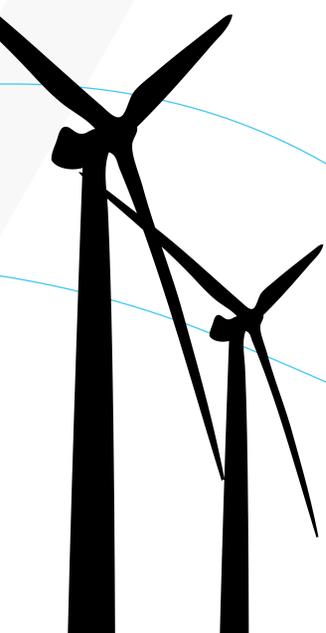
<sup>1</sup> Please note that this figure is based on 13 turbines with a rated capacity of 2.3MW operating at 26.35% capacity (long term average capacity factor for onshore wind from Digest of UK Energy Statistics) and assuming 4,266 is the average UK household electricity consumption in kW hours (based on DECCs publication URN:12D/468).



Site location



Site layout



## WHY DEVELOP A WIND FARM?



The Scottish Government has set an ambitious and challenging target to deliver at least 100% of our electricity needs from renewable sources by 2020. Reaching this target will help Scotland simultaneously reduce emissions to tackle climate change, increase our energy security and create a vibrant renewable energy industry supporting thousands of jobs.

Scotland has the potential to become a world leader in renewable technology due to the vast availability of natural resources including wind, tidal and wave. Scotland is one of the windiest countries in Europe and therefore has the opportunity to capitalise on this natural advantage: with the right investment wind energy has the potential to provide the majority of Scotland's, and indeed the UK's, renewable electricity.



### Benefits of wind energy

- ✓ Wind power is completely renewable. Using renewable energy makes our current lifestyle more sustainable and will help to preserve a high standard of living for generations to come.
- ✓ Wind power produces no harmful waste such as carbon dioxide and offsets the emissions of generating electricity from other energy sources. This means that sourcing our energy from wind power instead will assist with the pressing global need to tackle CO<sub>2</sub> emissions to prevent climate change.
- ✓ Wind energy is a reliable, cost-effective, pollution free and secure source of energy.
- ✓ Wind energy is compatible with other land uses and can serve to boost rural economic development.

## FREQUENTLY ASKED QUESTIONS

### How efficient are wind turbines?

A modern wind turbine is a highly developed machine that is extremely efficient at converting the kinetic energy of the available wind into electricity. Wind farms generate electricity around 80-85%<sup>2</sup> of the time, and power is converted to electricity without any of the thermal waste and emissions inherent in fossil fuel plants. Of course the wind does not blow 100% of the time and wind speeds do vary. Wind turbines accordingly generate varying outputs of energy depending upon how windy it is. Overall, wind power is an efficient way to generate electricity, employing a free energy source that is also renewable.

### Why can't all wind turbines be offshore?

Onshore wind turbines are currently significantly more economical than offshore wind turbines. Offshore wind farms also take considerably longer to develop and require a significant maintenance regime once operational. Given these factors it would be impractical at the present time to place all wind farms offshore. As the technology develops offshore wind farms are likely to become more competitive; however on-shore wind will always be more economic, quicker to deploy and easier to maintain.

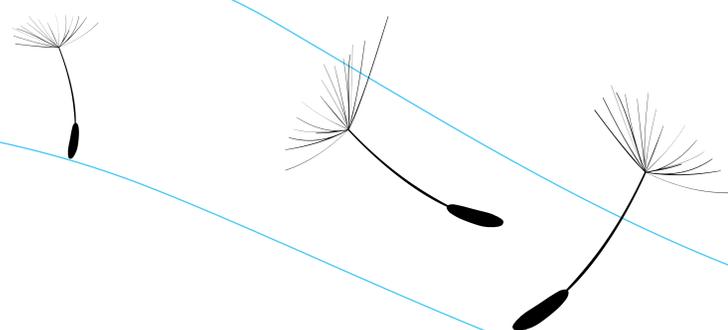
### Will a nearby wind farm affect the value of my property?

The Centre for Sustainable Energy (CSE) cites several studies in its recent publication 'Common concerns about wind power', (published May 2011) regarding the relationship between the proximity of wind turbines and the value of property. In this publication they state that in the most comprehensive study done to date on the issue, the main findings were summarised as follows:

*Specifically, neither the view of the wind facilities nor the distance of the home to these facilities is found to have any consistent, measurable and statistically significant effect on home sales prices.*<sup>3</sup>

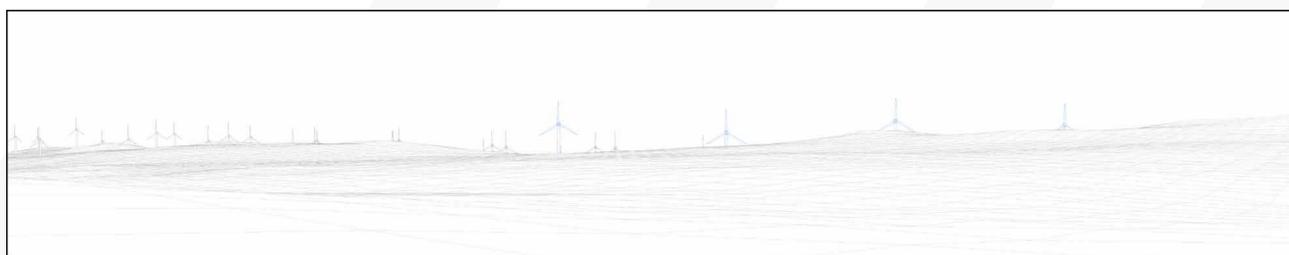
<sup>2</sup> Centre for Sustainable Energy, "Common Concerns About Wind Power," May 2011 [www.cse.org.uk](http://www.cse.org.uk), p5

<sup>3</sup> Centre for Sustainable Energy, "Common Concerns About Wind Power," May 2011 [www.cse.org.uk](http://www.cse.org.uk), p18





Viewpoint 03: A826 within Glen Cochill

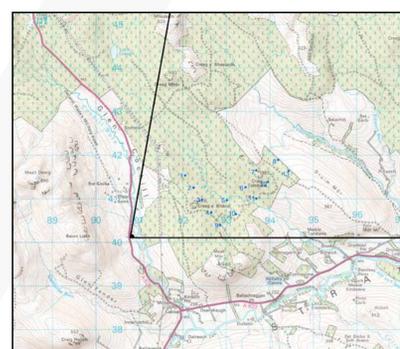


Wireframe Viewpoint 03

## FREQUENTLY ASKED QUESTIONS

### Do wind farms affect tourism?

Tourism is often important for rural economies and, because wind farms are usually located in rural areas, impacts upon visitor numbers are a common concern. A number of in-depth studies into the impact of wind farms on tourism have been undertaken including independent reviews by the Scottish Government and Visit Scotland. These studies have shown that the impact of wind farms on tourism is likely to be minor. Indeed, wind farms can become tourist attractions in their own right. Wind farms can also contribute positively to business, leisure and tourism in rural areas. A report produced in November 2012 by the Scottish Parliament's Energy, Economy and Tourism Committee into the "Achievability of the Scottish Government's Renewable Energy Targets"<sup>4</sup> stated that "no witness provided the Committee with robust, empirical evidence that tourism is negatively affected by the development of renewable projects".



OS Grid Reference: 290795, 740097  
Horizontal field of view: 80°  
Bearing to centre of view: 50°  
Recommended viewing distance: 50cm

The above is also in line with findings by VisitScotland in 2011 – where 83% of Scottish residents stated that their decision about which area to visit or stay whilst on a Scottish break would not be affected by the presence of a wind farm.<sup>5</sup>

In March 2013 Scottish Renewables commissioned YouGov to carry out a poll which revealed that 64 per cent of those who took part in the survey said they supported the 'continued development of wind power as part of a mix of renewable and conventional forms of electricity generation.'<sup>6</sup>

### Are wind farms noisy?

One of the most common concerns that people have about wind turbines is how much noise they will make. Almost everything with moving parts will make some sound and wind turbines are no exception. However modern wind turbines have been developed to minimise mechanical and wind noise and it is perfectly possible to stand underneath a turbine and have a normal conversation without raised voices. Force 9 takes the issue of noise very seriously and takes care to ensure that our projects do not adversely affect residents living near to its proposed developments. It is also important to note that noise assessments are a key part of the planning process and that any potential noise impacts will be considered in full by the relevant Planning Authority.

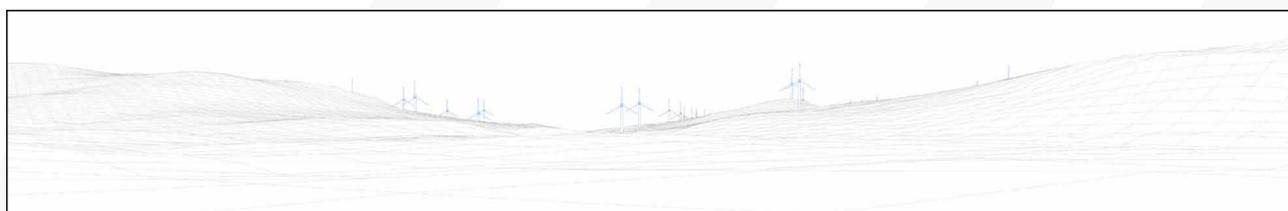
<sup>4</sup> [www.scottish.parliament.uk/S4\\_EconomyEnergyandTourismCommittee/eeR12-07.pdf](http://www.scottish.parliament.uk/S4_EconomyEnergyandTourismCommittee/eeR12-07.pdf)

<sup>5</sup> [www.visitscotland.org/pdf/Revised%20Oct%2012%20%20Insights%20Wind%20Farm%20Topic%20Paper.pdf](http://www.visitscotland.org/pdf/Revised%20Oct%2012%20%20Insights%20Wind%20Farm%20Topic%20Paper.pdf)

<sup>6</sup> [www.scottishrenewables.com/news/new-poll-scots-twice-favourable-wind-than-nuclear/](http://www.scottishrenewables.com/news/new-poll-scots-twice-favourable-wind-than-nuclear/)



Viewpoint 05: A822 Near Borelick

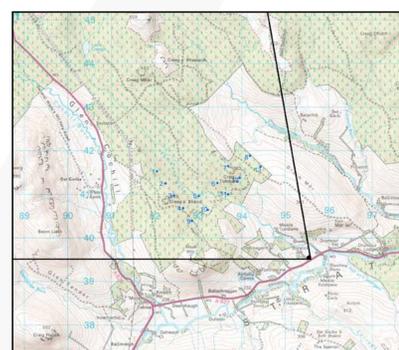


Wireframe Viewpoint 05

## ENVIRONMENTAL IMPACT ASSESSMENT

As part of the development of Creag a' Bhàird Wind Farm a comprehensive Environmental Impact Assessment ('EIA') is being undertaken. The EIA will identify the existing conditions for a range of technical subjects that need to be considered to allow the potential impact of the wind farm on the surrounding environment to be assessed.

Where potentially significant effects are identified the design of the project will be adjusted to reduce or avoid effects where possible and mitigation measures proposed. A Scoping Request, setting out the environmental effects which Force 9 Energy considers ought to be considered in the EIA, was submitted to Perth and Kinross Council in March 2013. The final EIA will be based upon the Council's formal response to that Scoping Request. The main topic headings for the proposed EIA are detailed below.



OS Grid Reference: 295591, 739506  
Horizontal field of view: 80°  
Bearing to centre of view: 310°  
Recommended viewing distance: 50cm

### Landscape and Visual

A comprehensive assessment is being undertaken to examine visual impacts of the proposal including the character and appearance of the surrounding landscape, views from residential properties and recreational areas, as well as public rights of way and transport routes.

Areas within a full 35km of the proposed development have been taken into account in scoping its visual effects and the landscape context.

### Noise

Strict guidelines exist on wind turbines and noise emissions. The potential noise effects to be considered include construction traffic noise along the public road, construction plant on the wind farm site and from the wind turbines and substation once these are operational.

### Ecology and Ornithology

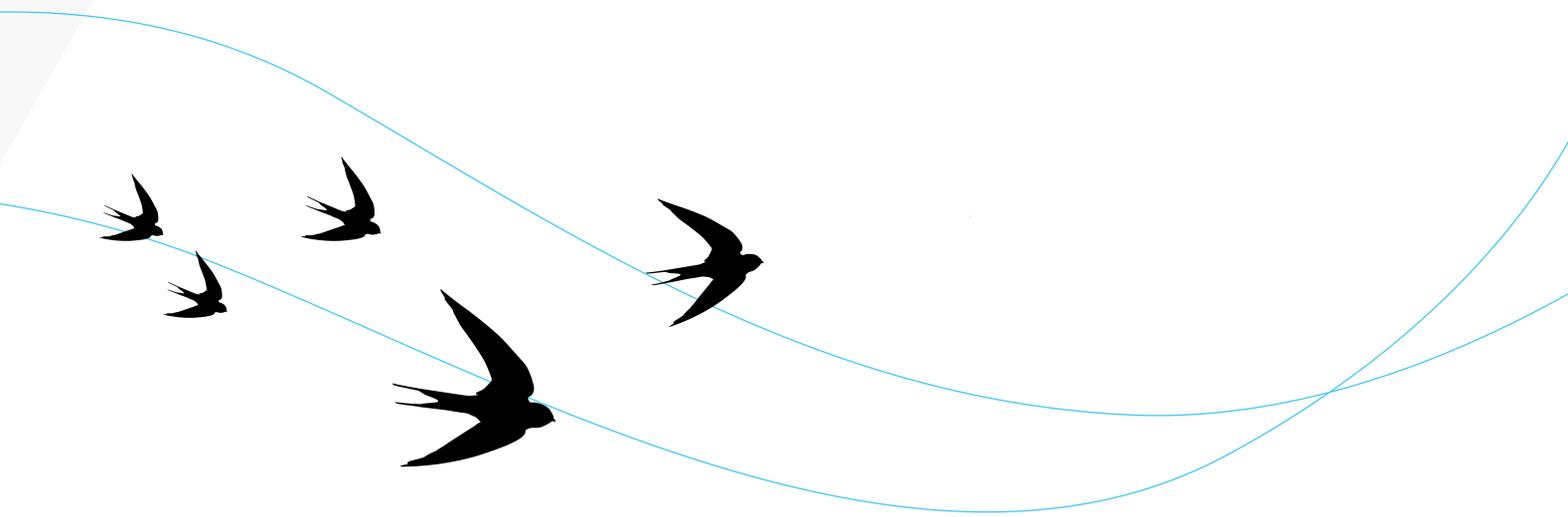
The ecological and ornithological assessment has included a review of relevant existing ecological information for the development area and surrounds. Bird surveys began in March 2011 and continued until the end of the 2012 breeding season. This included surveys for breeding birds, raptors and black grouse. A habitat survey, and surveys for a range of protected species including bats, pine martin, otter and badger, have also been carried out.

### Shadow Flicker

Shadow flicker can occur where sunlight shines from behind a turbine and the rotating blade creates a flicker effect. It is only likely to be a significant issue within 130 degrees either side of north and within 10 rotor diameters of the wind farm. Any shadow flicker effects on properties which fall within these criteria will be considered in detail and suitable mitigation incorporated into the design and operation of the wind farm.

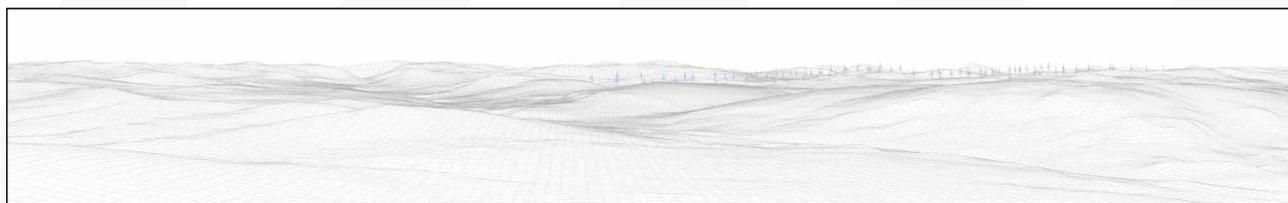
### Geology, Hydrology, Hydrogeology and Peat

An assessment of potential effects of the proposed wind farm on geology, hydrology, hydrogeology and peat during both construction and operation is being carried out. There are a limited number of watercourses on site and the underlying groundwater is classified as of 'Good' status by SEPA. A peat depths survey has been undertaken to investigate the presence and extent of peat on site.





Viewpoint 10: Kings Seat, Birnham



Wireframe Viewpoint 10

## ENVIRONMENTAL IMPACT ASSESSMENT

### Cultural Heritage

An assessment of effects on cultural heritage is being carried out in line with relevant heritage protection legislation, standards and guidance. The study area for the identification and assessment of potential physical effects comprises the area within the site boundary and this is extended to cover an area up to 10km from the site boundary in terms of potential effects on the settings of designated heritage assets.



OS Grid Reference: 303203, 740174  
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 Bearing to centre of view: 275°  
 Recommended viewing distance: 50cm

### Traffic and Transport

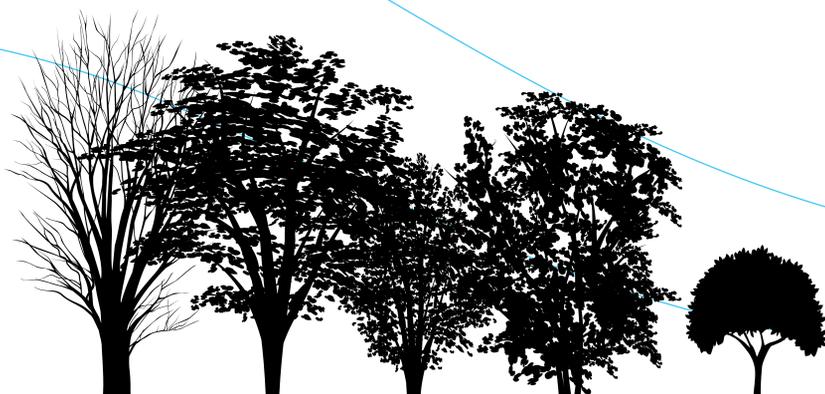
An assessment is being undertaken to identify the preferred route for access to the site and will consider the potential effects of traffic generated during construction and operation of the proposed wind farm, including identification of possible measures to minimise any disruption to the public road network.

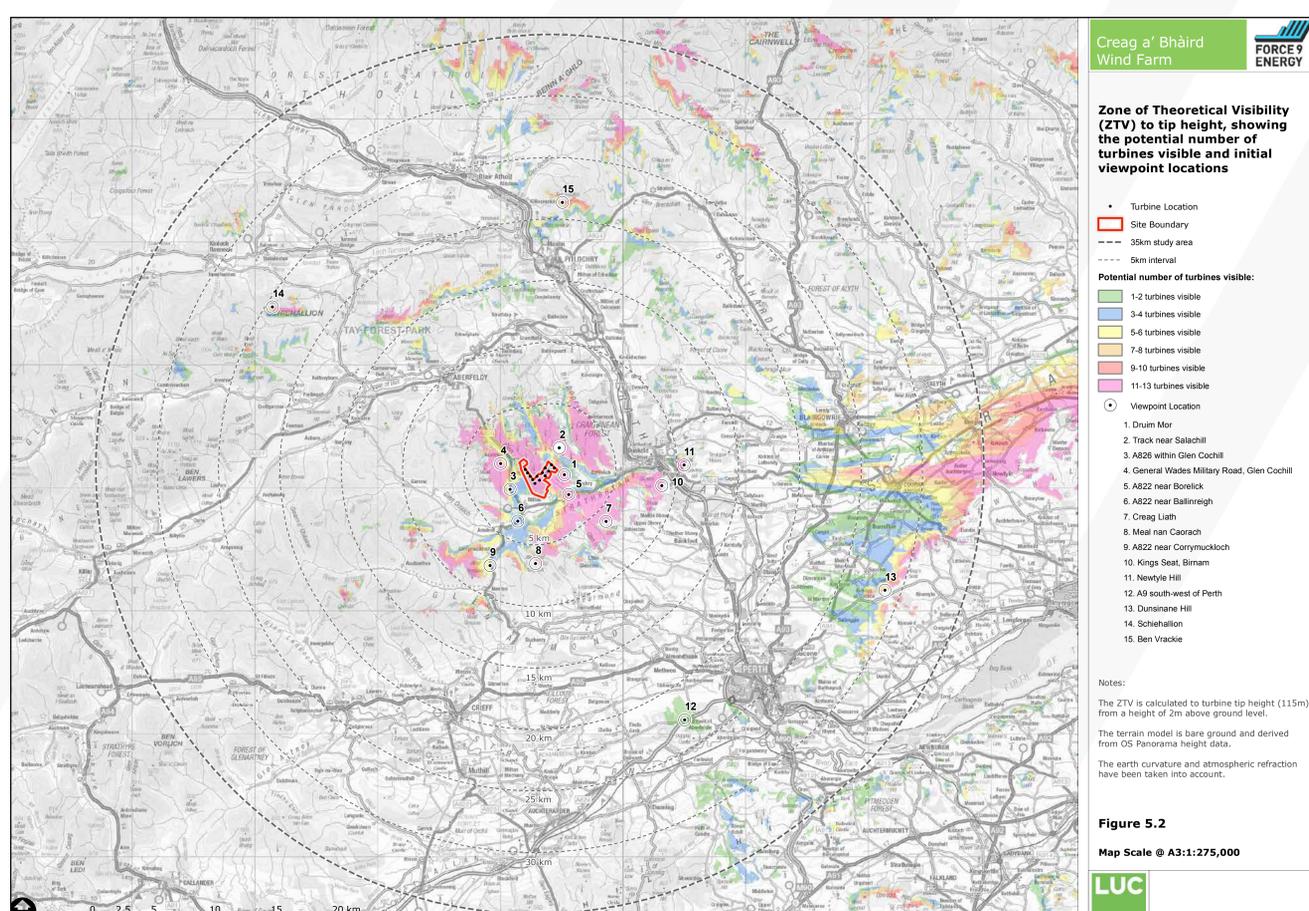
## COMMUNITY BENEFIT

Force 9 Energy is committed to the principle that local communities should share in the benefits of local renewable energy development. As such, Force 9 Energy proposes to fund a community benefit package for every MW of generating capacity installed at the Creag a' Bhàird wind farm.

Force 9 Energy is therefore keen to consult with the local community and other stakeholders who may have an interest in the proposals.

Force 9 Energy believes that it should be up to the local communities to decide how they would like the community benefit funds to be allocated. If you have ideas on how this annual fund could be used then please let us know by completing the questionnaire provided. We can then consult on these suggestions with the community as a whole. Alternatively, you may wish to raise your ideas with your local Councillor or suggest this to the Community Council directly.





Zone of Theoretical Visibility Map showing viewpoint locations.  
 • Not to scale

## Force 9 Energy

Force 9 Energy is a successful, UK based wind farm development company that is dedicated to delivering high quality renewable energy schemes throughout the UK. The company was established in 2002 and we have offices in Glasgow and in Amersham, Buckinghamshire. To date our company has successfully taken 5 wind farm developments through the planning process. Our completed and consented projects amount to a total potential installed capacity of almost 200MW.

On the proposed Creag a' Bhàird wind farm Force 9 Energy will work in partnership with EDF Energy Renewables ('EDF-ER'). Under the terms of the partnership, Force 9 Energy will lead on the wind farm development throughout the planning stage and up to the start of construction. Should the wind farm be consented, EDF-ER will take the lead during the construction phase and will subsequently own and operate the wind farm.

## Public Exhibition

At Force 9 Energy we are committed to the principle that local people are provided the opportunity to feedback their views directly to our project team at every stage of the development process. Today's exhibition is an opportunity for our team to introduce the proposals, listen to the views of local people and most importantly take these views into account during the on-going consultation process.

Force 9 Energy has provided a questionnaire to gain your views on the proposals for Creag a' Bhàird Wind Farm. We would be grateful if you would take the time to complete the questionnaire and return it to us today. Alternatively if you would like to take it away with you and complete it after the exhibition, there is a return address detailed on the questionnaire. If you have any further questions regarding any aspect of the proposals please contact Steven Park at [steven.park@ppsgroup.co.uk](mailto:steven.park@ppsgroup.co.uk) or on **0131 226 1951**.

You can also find out more about Force 9 Energy and its projects on the company website: [www.force9energy.com](http://www.force9energy.com)

\* Please note, all graphics, wireframes and photomontages in this exhibition are for representational purposes only.

