



Hill of Fare Wind Farm Proposal

Frequently Asked Questions (FAQs)



Image: B9119, Echt - existing view towards Hill of Fare

May 2023

Purpose of this document

RES would like to thank everyone who has taken the time to engage with us on the Hill of Fare Wind Farm proposal. We received a fantastic level of feedback from the October 2022 exhibitions and subsequent consultation period, with over 380 comments forms received and close to 3,000 comments submitted on various topics related to the project.

We have compiled the main themes and questions from the feedback within this FAQs document. The topic sections are generally ordered in relation to the weight of comments received - with the topics that attracted the most feedback at the top of the FAQs.

There will be another opportunity to review the project design, speak with the project team and comment on the proposal at our final suite of exhibitions which are currently being planned for summer 2023.

Index

1. COMMUNITY BENEFIT	3
2. LANDSCAPE and VISUAL	5
3. ENERGY POLICY and NEEDS CASE	8
4. RECREATION	8
5. ECOLOGY	9
6. ACOUSTICS (Noise)	10
7. BATTERY STORAGE and SUBSTATION	10
8. PROPERTY PRICES	11
9. TRAFFIC and TRANSPORT	11
10. GRID CONNECTION	12
11. PRIVATE WATER SUPPLIES	12
12. PEAT	13
13. SHADOW FLICKER	13
14. ORNITHOLOGY	14
15. TOURISM	16
16. PROJECT TIMESCALES and PLANNING PROCESS	16
17. CONSTRUCTION	17
18. OPERATION	17

1. COMMUNITY BENEFIT

How will you decide which communities will be eligible to benefit from the proposal?

Should the project be consented, a community benefit fund is typically established to support the communities who host, and are closest to, the project.

RES consults with the local community - both pre-planning and post-consent - to gain feedback on their priorities and deliver projects that will help to secure long-term economic, social and environmental benefits, delivering a tailored package of benefits. This approach can also affect the area of benefit depending on the projects and initiatives which form the final community benefit package.

Should the project receive consent, the area of benefit for Hill of Fare Wind Farm will be determined in consultation with locally elected representatives from the closest communities.

How much community benefit is being offered?

RES takes a tailored approach and works directly with the community to understand how the wind farm could support the local area and help to secure long-term economic, social and environmental benefits. This approach will help to deliver a tailored community benefits package, should the project receive consent, that is aligned with the local communities' priorities.

RES is proposing that the package of additional benefits will be £5,000 per megawatt (or equivalent) of installed capacity per annum.

What is LEDS (Local Electricity Discount Scheme)?

Our unique Local Electricity Discount Scheme (LEDS) seeks to deliver direct and tangible benefits to people living and working closest to RES' operational wind farms. LEDS was developed in response to research and feedback from local communities around our operational wind farms and offers an annual discount to the electricity bills of those properties closest to a participating RES wind farm.

The scheme would be open to all residential, business and community buildings with an electricity meter (including schools, places of worship and village halls) within the eligible area. For more information about LEDS please visit <https://leds.res-group.com>.

What sort of projects and ideas will be considered for community benefit?

We've had a great level of feedback from people on the local priorities, projects and ideas that they would like to see supported. Some of the suggestions include:

- *Improving cycling and walking paths on the hill and around the area*
- *Creating new mountain-bike trails and circular trails on the site*
- *Discounted electricity*
- *Home eco measures (insulation, solar panels)*
- *Funding for schools, education initiatives, renewables education initiatives (and solar panels, etc)*
- *Improved parking for hill access*
- *Funding for village halls*
- *Electric vehicle charging facilities within community or funding towards installation at homes*
- *Biodiversity initiatives (peatland, trees, flowers)*
- *Social welfare support, senior citizen support, and hardship funds*
- *Upgraded or new sports facilities*
- *Skills and employment initiatives*
- *Shared ownership of the site*
- *Improved broadband*
- *Improved local infrastructure*
- *Improved local transport*

There were also a wide range of other suggestions raised which help to give a sense of the local priorities. We will be inviting further suggestions from the community on the local benefits that they'd like to see from the proposal when we hold our final suite of exhibitions in the summer.

Should the project receive consent RES will consult further with the local communities on the delivery of a tailored package of benefits and local priorities post-consent. Community benefit is designed to ensure communities are able to share in the benefits of the project, beyond the generation of clean, low cost electricity, and can be transformational for communities who host renewable developments in delivering long-term economic, social and environmental benefits.

The provision of any community benefit by the developer is entirely voluntary.

Who will administer the fund?

Our approach of delivering a tailored community benefits package that is aligned with the priorities of the local community could provide funding for projects that sit outside the parameters of a traditional application-based fund.

For traditional application-based funds, these are always administered by an independent organisation. For example, a Trust established for the specific purpose of managing community funds or an established grant-making organisation such as Foundation Scotland.

Should an application-based fund form part of the tailored community benefits package for Hill of Fare Wind Farm then we would consult with the community with regard to an administrator for the fund.

What other economic benefits will there be from the proposal?

In addition to the community benefits package, we will also be looking at ways to maximise the inward investment from the project to the area through local contracts, local spend, jobs and employment. RES has a strong track record of working with the local supply chain around its projects to help achieve this.

Some of the services and materials likely to be required are: civil engineering, electrical works and cabling, plant hire and crane hire, environmental surveys, concrete and aggregates, groundworks, steel fixing, labourers, fencers, accommodation.

If you're a local business interested in getting involved in onshore wind please get in touch. Contact details can be found on the 'Contact us' page of our project website at www.hilloffare-windfarm.co.uk.

2. LANDSCAPE and VISUAL

Why are you proposing 250m turbines?

During the initial feasibility and site assessment work we considered the site had the potential for 17 x 250m high turbines. This was the baseline that we started with to maximise the potential generation capability of the site and was the turbine tip height proposed in the August 2022 Scoping Report and presented at the October 2022 public exhibitions.

Having since considered the consultation feedback received from key consultees and the local community, there have been a few design changes. A layout was developed of 15 turbines at 242.5m tip height. Following further analysis, the tip heights were reduced to a maximum of 200m, primarily to align with aviation, landscape and visual and cultural heritage considerations. This resulted in a 16 turbine layout - with 11 turbines at 180m tip height and 5 turbines at 200m tip height. The site boundary was also extended to include the access route from the east and an area to the south of the site for location of an onsite substation.

The design continues to be refined and an updated design will be presented at the final suite of public exhibitions which are currently being planned for summer 2023.

What was the rationale for proposing 250m turbines?

As detailed above, the proposed turbines will have a maximum height of 200m. Turbines with a maximum tip height of 250m were originally considered, and subsequently discounted, in the design evolution of the project.

Turbine heights of over 200m are becoming typical for new wind farms as technology advances. Smaller turbine heights, such as 110m, 125m and 150m are also becoming more challenging to procure as the technology evolves.

Scotland already has operational turbines at 200m in height at Kype Muir Extension Wind Farm in South Lanarkshire which became operational in November 2022. In addition, Fetteresso Wind Farm in Aberdeenshire was granted consent in September 2022 with turbines up to 200m, and Rothes III Wind Farm in Moray was granted consent in October 2022 with turbines up to 225m. Further afield, Strathy South Wind Farm in the Highlands was consented in November 2021 with 200m turbines. Lethans Wind Farm, east of New Cumnock, was consented in 2020 with 220m turbines.

There are also a number of wind farms in the pre-planning stage with turbine heights of over 200m including Watten Wind Farm in Caithness which is proposing 220m turbines, Bodinglee Wind Farm in South Lanarkshire which is proposing a mix of 230m and 250m turbines, Oliver Forest Wind Farm in the Scottish Borders which is proposing 250m turbines, and West Andershaw Wind Farm in South Lanarkshire which is proposing a mix of 250m and 200m turbines.

Have these turbines been tested?

Every new model of turbine that is developed must adhere to strict safety standards and testing by the turbine manufacturer - including ground testing to ensure that the model is safe. Indeed, many of the much larger offshore wind turbine models are often tested onshore rather than offshore.

The world's largest test centre for large wind turbines is Test Centre Østerild, located in Denmark, and is capable of testing wind turbines up to 330m tall. The centre is used by many of the world's leading turbine manufacturers to test new models of onshore and offshore wind turbines. Whilst 250m turbines may not yet be operational in Scotland it is unlikely to be very long before they are - and any such turbines will have been carefully designed for installation and operation before being offered to the wind industry market for procurement. In relation to the Hill of Fare proposal, as explained above, 250m turbines are no longer being considered.

Wouldn't smaller turbines be better?

Wind farms are quite often sited on hills or areas of higher ground in Scotland as the wind regime tends to be better in these locations - with smoother and less interrupted wind. However, hills tend to create more visible sites and so the turbine height needs to be assessed accordingly from a landscape and visual perspective to understand if the proposal may be appropriate from a planning perspective. With regard to turbine height, we are still developing the design and as part of this process we are exploring a mix of smaller turbines at heights of 180m and 200m. The Hill of Fare has good wind resource and lies outwith any nationally designated landscape areas or other notable landscape and visual constraints.

Does the planning system support turbines of this height?

The Scottish Government's Onshore Wind Policy Statement, published in December 2022, states in paragraph 3.6.1 that "Meeting our climate targets will require a rapid transformation across all sectors of our economy and society. This means ensuring the right development happens in the right place. Meeting the ambition of a minimum installed capacity of 20 GW of onshore wind in Scotland by 2030 will require taller and more efficient turbines. This will change the landscape." In this regard, elements of the Aberdeenshire Council 2014 assessment may be considered to be out of date. Nonetheless, it is recognised that the assessment remains a useful starting point in considering the nature and characteristics of the landscape, which can be used as part of a site specific appraisal of potential effects, such as that which will be undertaken as part of the Landscape and Visual Impact Assessment for the project.

Where will this proposal be visible from?

Wind turbines are naturally more visible within the landscape compared to other forms of generation due to their vertical design and height and their location generally on higher ground to achieve good wind regime - both of which are necessary to maximise their generation capacity from the wind. As such, Hill of Fare Wind Farm will be visible within the wider landscape, but we are working to achieve a coherent design which will mean that any landscape and visual impacts would be localised.

Our October 2022 public exhibitions presented two Zone of Theoretical Visibility (ZTV) maps for the Scoping design; one was an unscreened 35km ZTV illustrating the theoretical extent of where turbines would be visible from within the wider area (assuming 100% visibility and bare landform - without any trees, buildings or obstacles in the view); the other was a screened 20km ZTV which included trees and buildings and therefore presented a more realistic illustration of where turbines could be visible from within the wider area. The visual impact will change in relation to the design evolution and further information, and updated ZTVs will be available at our final suite of public exhibitions which are being planned for summer 2023.

Public polling over the years has indicated a consistent trend of majority support from the public for onshore wind farms. We are working hard to develop a design that strikes an acceptable balance between the visibility of the proposal and its ability to generate significant amounts of renewable energy. Ultimately, the acceptability of this design will be assessed by the determining authority in relation to current energy policy and planning requirements having considered feedback from consultees as well as representations by members of the community and wider public.

Why have you chosen Hill of Fare as a location?

A site needs to have enough wind resource, be accessible, have a timely and affordable grid connection and meet criteria for a host of other site constraints, a review of which indicated potential for development at Hill of Fare. The topography, proximity to housing/communities, waterbodies, peatland, cultural heritage assets, etc, are all considerations that feed in to decisions upon the selection and then design of a site. The Hill of Fare has been selected within this context and lies outwith any nationally designated landscape areas or other notable landscape and visual constraints.

How will you design the project to minimise visibility from residential properties?

At Scoping, it was confirmed that all properties within 2km of a proposed turbine in the final development area would be included within a standalone residential amenity assessment that would accompany the Landscape and Visual Impact Assessment. Following feedback through the EIA Scoping process and public consultations we have been working carefully with the design to minimise potential impacts of the site on residential amenity by increasing the separation distance from settlements and residential properties and exploring changes to the turbine height. Further information will be available regarding this at the final suite of public exhibition events which are being planned for summer 2023.

What specification of visualisations were provided at the exhibition?

At our October 2022 public exhibition events we provided six visualisation boards showing how the proposal may look based on the early scoping design and layout from six viewpoints within the local area. All visualisations were and will continue to be produced to well established and recognised standards set by NatureScot. In the case of the October 2022 public exhibition events, the visualisations were presented illustrating a 90-degree horizontal view which helps provide wider landscape context.

At the final suite of public exhibition events, which are currently being planned for summer 2023, we will be providing some narrower 53.5 degree horizontal views within the visualisations. Both replicate the style of visualisations that will be included within the application submission. Details of the summer exhibition events will be communicated and advertised in due course.

There are other local viewpoints which should be included

We received feedback from a range of consultees, including some of the local Community Councils, on the original 15 viewpoints identified within the Scoping Report. This feedback included requests for additional viewpoints and associated visualisations to be included.

Having considered all of these requests in context with one another and the existing viewpoints, we are now proposing to include the following seven additional viewpoints as part of the landscape and visual assessment work and visualisation information which will accompany the planning application:

- *Westhill (junction of Old Skene Road and Strawberryfield Road)*
- *Lyne of Skene (playpark)*
- *Torphins (public park)*
- *Easter Beltie (river restoration site)*
- *Layby/viewpoint on minor road south of Pitmurchie House*
- *The Cowshed (on A980)*
- *Crossroads at Glassel Hall*

The final list of viewpoints and associated visualisations takes into account all responses received through the Scoping process, the extent of the ZTV, and will be agreed in consultation with relevant consultees including Aberdeenshire Council and NatureScot.

How can I get a wireline showing the view from my property?

We will be operating visualisation software at our final suite of exhibitions in summer 2023. This software will provide an opportunity for people visiting the exhibitions to view an image of the updated design from a location of choosing. Details of the exhibition events will be communicated and advertised in due course.

What will be the impact of the night-time turbine aviation lighting on the local area?

In accordance with the Air Navigation Order 2016, en-route obstacles at or above 150m, such as the turbines proposed at Hill of Fare, require to be lit at night with medium intensity red aviation lights at nacelle level in order to be visible to aircraft, and potentially on the mid point of the tower at a lower intensity. However, it is worth noting that, in some circumstances, not all turbines within a wind farm are required to be lit; for example, depending on the specific layout and operational impact on the airspace, a reduced lighting scheme may be possible. Furthermore, the aviation lighting is designed to focus the light across and upwards for the attention of aircraft rather than downward to those at ground level.

Aviation lighting on turbines at or above 150m is set at 2,000 candela on the nacelles. The light intensity varies in response to weather conditions and visibility (via an atmospheric conditions and visibility sensor on the turbine) - with lighting dimmed to 10% of their intensity in good visibility (typically greater than 5km) but maximised in cloudy or foggy weather (where visibility is typically less than 5km).

We will be consulting with the Civil Aviation Authority (CAA) and the Ministry of Defence (MOD) over the coming months to agree a lighting strategy with them. The proposed lighting strategy will be presented in the planning application which will also include a night-time assessment and visualisations.

3. ENERGY POLICY and NEEDS CASE

Why do we need onshore wind?

Onshore wind is one of the lowest cost forms of new electricity generation, cheaper than new nuclear and gas.

Once consented, onshore wind can be constructed in 12-24 months. It can power tens of thousands of homes, at low cost to the consumer. We are in a climate emergency, nature crisis, cost of living crisis and face issues with security of energy supply. Onshore wind can address all of these. This is recognised by the National Planning Framework 4 (NPF4) which is Scotland's long term spatial plan and categorises onshore wind >50MW as National Development. In principle it supports all forms of renewable energy generation including onshore wind. There are national targets for reaching Net Zero by 2045 and installing 20GW of onshore wind by 2030.

Why can't we build more offshore, hydro, solar, nuclear, or marine forms of generation?

Onshore wind plays an important part in creating a balanced energy mix and is required alongside other technologies, all of which have their merits in relation to cost, efficiency, environmental or social benefits.

Don't we have enough onshore wind farms now in Scotland?

Wind is a free and inexhaustible resource - which isn't subject to sudden price fluctuations or the uncertainty of global markets. In response to the climate emergency the focus on developing more onshore wind within Scotland has only strengthened - with national targets now set for installing 20GW of onshore wind across Scotland by 2030 to help towards meeting Net Zero carbon emissions by 2045.

What is the carbon payback time for this project?

Carbon balance assessments are routinely undertaken using the Scottish Environment Protection Agency's (SEPA's) carbon calculator. Historically, wind farms have had carbon payback periods of roughly 1-3 years. With the greater generation being offered by modern turbines our experience is that carbon emissions pay back periods are getting shorter.

The final carbon calculation for the Hill of Fare proposal will be undertaken as part of the final Environmental Impact Assessment (EIA) work once the design has been finalised and captured in the final EIA Report which will accompany the planning application.

4. RECREATION

Will public access to the Hill of Fare be restricted during construction?

During construction of any infrastructure project the developer has a responsibility to ensure that the public is kept safe from any construction activity on the site. This inevitably means that access to some parts of the wind farm site will be restricted in the interests of public safety during construction of the project.

We recognise that the Hill of Fare is a popular hill for recreation in the area, particularly the eastern portion of the site which lies away from the wind turbine development area but will provide the main access onto the site from the B977 public road. As such, the design will consider opportunities to enhance the current recreational access facilities on the site to ensure that public access is maintained where possible. Any temporary restrictions required during construction for health and safety requirements will be managed by an Access Management Plan, which would be developed pre-construction, and temporary diversions of any known routes will be put in place with agreement from Aberdeenshire Council.

Will public access to the Hill of Fare be restricted once the wind farm becomes operational?

Once the wind farm is up and running the statutory Scottish 'right to roam' (Land Reform [Scotland] Act 2003) will apply and the public will have full access to the site for walking, cycling, horse-riding, etc, although no vehicular access will be permitted for members of the public.

Will you be making any improvements to the site access or recreation opportunities on the site?

We received quite a lot of feedback regarding people's interest in maintaining access to the site for recreation and the opportunity for improvements to walking and cycling paths as well as car-parking. As such, we are currently in discussion with the landowner to explore the opportunity to create permanent public car-parking facilities at the site entrance to the east of the site as well as other potential opportunities to support access and recreation on the site. Further information will be available at our final suite of exhibitions which are currently being planned for summer 2023.

5. ECOLOGY

How will you minimise potential environmental impacts?

Protecting and minimising any potential direct or indirect impacts on local wildlife and their habitats is of utmost importance and we take this responsibility seriously. A wide range of detailed ecological surveys are being undertaken as part of the non-avian Ecological Impact Assessment (EclA).

We also look to mitigate any potential effects of the development during construction and operation on the habitats and protected species that are found to be present or active within the Site. We are also in consultation with relevant consultees, including Aberdeenshire Council, Historic Environment Scotland, NatureScot, RSPB Scotland and the Dee District Salmon Fishery Board with regard to designated sites, protected areas and protected species.

What ecological surveys have you undertaken?

We have undertaken a range of surveys to understand what wildlife and habitats currently exist on the site and where they are located. Excluding the static bat detector surveys, over 46 hours of ecology based surveys have been invested so far on the site. These surveys include:

- Extended National Vegetation Classification Survey (a botanical survey to identify priority habitats that may be of conservation value or to identify areas that have the potential to be groundwater dependent)*
- Bat surveys (a survey to identify any suitable bat habitats, potential roosting sites, and key foraging and commuting habitats - including the deployment of 13 static detectors)*
- Protected mammals survey (a survey to investigate for signs of protected mammals such as badger, otter, water vole, red squirrel, pine marten, wildcat)*

The survey findings are then assessed so that buffers and protections can be created within the design to mitigate any potential impact of constructing or operating the site on identified habitats or species - and further habitat and species surveys undertaken as the design develops and the infrastructure siting is refined.

Where can we see the results of the ecological surveys?

The non-avian Ecological Impact Assessment (EclA) survey and assessment work is an extensive undertaking, and the findings will be written up in the coming months as part of a comprehensive Environmental Impact Assessment Report (EIAR), which accompanies the planning application, that Scottish ministers will take into account when deciding whether or not to grant consent for the project. The planning application and associated documents such as the EclA and survey data (excluding any confidential annexes) will become available for public viewing and comment as part of the formal consultation period which will be run by the Scottish Government's Energy Consents Unit once the planning application is submitted.

What other environmental considerations and investigations do you undertake?

In addition to our own survey work, which is undertaken by qualified and passionate specialists, RES is also in consultation with a wide range of consultees including local groups which know the area and wildlife well, such as the North East Raptor Study Group and the Dee District Salmon Fishery Board. In addition, the comments received back from the public and local community who know the site and wildlife well are also considered.

We also engage with wider consultees such as Aberdeenshire Council, NatureScot, Scottish Environment Protection Agency (SEPA), and RSPB - all of which have degrees of knowledge about wildlife and ecology on the site or within the wider area.

Will you be proposing any measures to improve habitats or increase biodiversity?

Yes. As part of the project design we are developing a Habitat Restoration and Management Plan which will set out the measures being proposed for the site, including a Biodiversity Enhancement Plan which will focus on improving the biodiversity already found on the site beyond offsetting any potential loss of biodiversity from the development. Although any enhancement measures proposed will look to offset potential impacts of the project, primarily they will seek to complement the existing conditions for flora and fauna while expanding their effective reach as much as is practicable.

6. ACOUSTICS (Noise)

How will acoustics be assessed?

The acoustic profile of the turbines is one of many important considerations that will be assessed and carefully managed as part of the site design. The design process will ensure that the project doesn't exceed the strict acoustic limits which will be set within the planning conditions should consent be granted. The limits will be determined according to methodology and best practice endorsed by Aberdeenshire Council, the Scottish Government and the UK Institute of Acoustics. These limits correspond to existing background acoustic levels typical in the local area, which will control the wind farm acoustics in relation to nearby residential properties.

How are you assessing and predicting acoustics of the wind farm?

Assessment and prediction of the acoustics from operation and construction of the site is undertaken in accordance with the relevant standards and methodologies as determined by the regulatory bodies. As part of this RES has installed acoustic monitoring equipment at a number of locations around the site to measure the existing background sound levels. These monitoring locations have been carefully selected in order to establish an accurate baseline from which to establish sound immission limits and to model and calculate the acoustics from the proposed wind farm. If the Hill of Fare Wind Farm proposal is consented the site will be required to comply with strict acoustic limits set within the planning conditions.

When will you have finalised acoustic modelling data to present?

The results of the background acoustic survey will inform the setting of the acoustic immission limits for the operation of the wind farm. The acoustics of the wind farm will be modelled and the output of this work will be presented in the acoustics chapter of the extensive Environmental Impact Assessment Report (EiAR) which will accompany the planning application. The acoustics chapter of the EiAR will demonstrate that RES has considered all appropriate measures in the design, construction and operational phases of the wind farm. All of the planning documents, including the EiAR, will be available for public viewing and comment as part of the formal consultation period run by the determining authority once the planning application is submitted.

What acoustic guidelines do you follow?

RES has adhered to current assessment methodology and best practice, as recognised and advocated by Aberdeenshire Council, the Scottish Government and the UK Institute of Acoustics. In particular, the ETSU-R-97 methodology has been applied at the vast majority of wind farms currently operating in the UK and provides a robust basis for assessing the acoustics of a wind farm when used in accordance with the Institute of Acoustics good practice guide to the application of ETSU-R-97. Based on current planning policy and guidance, a wind farm which can operate within acoustic limits derived according to ETSU-R-97 shall be considered acceptable. A considerable body of work has been performed by acoustic professionals in the UK over the last two decades in relation to sound emissions from wind turbines which has confirmed the suitability of the current methodology and best practice.

7. BATTERY STORAGE and SUBSTATION

What is the proposed scale of the battery storage facility?

The exact scale of the battery storage facility has not been finalised yet as the project design is still being refined. However, the maximum size of the compound could be up to 100m x 150m. Full details of the scale and dimensions, minimum and maximum export capacity of megawatts and megawatt hours of electricity, and a full assessment of the impacts and effects and all proposed mitigation will be included in the Environmental Impact Assessment report (EiAR). The EiAR will accompany the planning application and be available for public viewing and comment as part of the formal consultation period run by the determining authority once the planning application is submitted.

Where will the battery storage facility and substation be located on the site?

The site boundary has been extended to include the access route from the east of the site and an area to the south of the site for location of an onsite substation and battery storage facility. Further details will be available at our final suite of public exhibitions which are currently being planned for summer 2023.

How has potential fire risk been considered in relation to the battery storage facility?

The risk of fire at a Battery Energy Storage System (BESS) is low but will be considered and mitigated in the design of the storage general arrangement and consideration of the monitoring and fire suppression system. The BESS is optimised with appropriate container spacing to minimise the risk of propagation across the facility in the unlikely event of a fire. Additionally, fire breaks or spacing from forestry is designed again to minimise fire propagation. A battery management system is also implemented for continuous monitoring of the BESS through its lifetime. The containers housing the batteries typically include dry aerosol fire suppression solutions, favored over water suppression, as it is successful at reaching all areas within containers and doesn't require a dedicated water supply.

8. PROPERTY PRICES

Do wind farms affect property prices?

One of the largest studies regarding property prices and wind farms was undertaken in 2014 by the Centre of Economics and Business Research (CERB) titled 'The effect of wind farms on house prices'¹. This study analysed 82,000 property transactions within a 5km radius of wind farms in England and Wales. The study concluded that house prices followed broader trends identifiable within the relevant county and resulted in properties on average retaining their value.

A more recent study which was undertaken in 2016 by the Universities of Bristol, Sheffield, Edinburgh and Duke (USA)² and commissioned by ClimateXChange and titled 'Impact of wind turbines on house prices in Scotland' found that there was no evidence of a consistent negative effect on house prices and also that results vary across areas.

9. TRAFFIC and TRANSPORT

How will local traffic be managed during construction?

RES has commissioned surveys to understand traffic flows and volumes on local roads and assess any potential impacts of construction traffic on the local area. This has enabled RES to identify potential pinch points, bottle-necks, areas which will require road improvements, and areas which may require traffic management and will help in developing mitigation strategies. The data collected from the traffic surveys will be presented in the Traffic and Transport chapter of the extensive Environmental Impact Assessment Report (EIAR) that will accompany the planning application and which will be available for public viewing and comment as part of the formal consultation period which will be run by the determining authority once the planning application is submitted.

Should the project be consented, a detailed Traffic Management Plan would be developed setting out the steps that RES would take to help mitigate any potential impacts on local traffic and road users and ensure road safety. Some examples of measures that have been taken by RES on other construction projects include: introducing a reducing speed limit for project construction traffic along certain stretches of road; avoiding turbine deliveries between school-drop off and pick-up and/or rush-hours; delivering turbine components at night-time; and, agreeing certain 'routes to site' for daily construction traffic.

As part of the traffic assessment and data-gathering process RES has also commissioned turbine-delivery specific surveys - including swept path analysis along the proposed turbine delivery route as well as detailed assessment of the site access point with regard to visibility splays and safety requirements.

The abnormal load vehicles which deliver the longer turbine components (primarily blades and towers) are specialised multi-axle vehicles, some of which can raise their load height to clear walls and bridges) that are driven by experienced operators. These vehicles have a considerable ability to precisely navigate and manoeuvre along a wide range of roads. Should the project be consented, further detailed survey work and drive-throughs along the route will be undertaken by RES and the turbine haulier to assess any more challenging stretches of the delivery route and ensure that they can be safely navigated.

How will the community be informed about traffic measures?

RES often establishes local Community Liaison Groups (CLGs) during the construction phase of a wind farm to support regular engagement with the local Community Councils and wider public - in addition to project communications and updates via local newsletters and the project website. This approach ensures that questions and concerns or opportunities can be raised to RES and encourages a constructive dialogue to ensure that the project is delivered with consideration to the local community.

RES' construction team has a wealth of experience in managing construction traffic, having built many wind farms within Scotland and across the UK and Ireland, and works closely with the local community to minimise disruption wherever possible. RES also has a strong track record for safety on its projects and within the company's culture. In fact, RES recently won Health and Safety Team of the Year at the 2022 Safety and Health Excellence (SHE) Awards.

¹ <https://cdn.ymaws.com/www.renewableuk.com/resource/resmgr/publications/reports/ruk-cebr-study.pdf>

² https://www.climateexchange.org.uk/media/1359/cxc_wind_farms_impact_on_house_prices_final_17_oct_2016.pdf

10. GRID CONNECTION

Where will the wind farm connect into the grid and what method will be used?

The grid connection route has not yet been confirmed, although it is likely to be an overhead line to Fetteresso substation to the south east of the site. The grid connection method has not yet been confirmed, however, given that it will be a 132kV single connection it is likely that the method used will be an overhead line.

What are the steps required to confirm the grid connection?

RES has requested a grid connection for the Hill of Fare Wind Farm proposal from the grid Transmission Owner (TO), in this case SSEN Transmission. The TO is responsible for maintaining and investing in the grid in the north of Scotland. This includes designing connections for Transmission grid applications, such as that for the Hill of Fare proposal, and submitting the grid route planning applications for these connections. As such, the grid route is subject to a separate planning application from the wind farm - and will be submitted as a separate Section 37 planning application under the Electricity Act by the TO once they have finalised their design. Once the planning application for the grid route is submitted, there will be a consultation period in which details of the route and method will be available for the public to provide comment to the TO as part of the planning process.

Indicative details of the anticipated route of the grid connection for the project will also be included within the Project Description chapter of the Environmental Impact Assessment Report (EIAR) which will accompany the planning application.

11. PRIVATE WATER SUPPLIES

How will you identify the private water supplies which are sourced from the Hill of Fare?

In order to identify and protect private water supplies our hydrologists at EnviroCentre have undertaken consultation with Aberdeenshire Council, who have provided the location of properties with a registered private water supply along with other information they hold about the supply. Consultation has also been undertaken with Dunecht Estates who have provided details of properties, source locations and infrastructure located within Dunecht Estate. Our hydrologists also ground-truth this information with site-walkover surveys and follow-up with local residents where necessary.

In order to ensure that people's private water supply locations have been identified, and that our data is as robust as possible, we have decided to initiate a 'call for information' in our recent project newsletter (which has been mailed out to over 1,700 households within the local area, some of which will have private water supplies hydrologically connected to the Hill of Fare).

This 'call for information' invites local residents who have private water supplies linked to Hill of Fare to get in touch with EnviroCentre, who are undertaking the hydrology work on the site and assessing private water supplies, and provide details of their private water supplies so that we can ensure all supplies are checked. The type of information that we are gathering regarding private water supplies is as follows:

- *Property name and location - National Grid Reference ([NGR](#)³) or [What 3 words](#)⁴*
- *Private water supply source location - ([NGR](#)) or [What 3 words](#)*
- *Private water supply source type - borehole/surface watercourse/spring/other*
- *Supply usage and number of people - domestic/domestic and agricultural/agricultural only/commercial*
- *Any known issues with the supply - does the supply experience discolouration or run out during dry periods*

Local residents can provide details of their private water supply to EnviroCentre by email at hofpws@envirocentre.co.uk or by post to: Hill of Fare Project Team, EnviroCentre Ltd, Banchory Business Centre, Burn O'Bennie Road, Banchory, AB31 5ZU. It would be helpful if any information was received by EnviroCentre by 21 May 2023.

How will you protect private water supplies which are sourced from the Hill of Fare?

Once the private water supply data has been gathered, the location and status of these supplies will be reviewed and assessed in relation to the site design. Any private water supplies which may be impacted by the proposal will be identified and assessed in the Hydrology, Geology and Hydrogeology chapter of the Environmental Impact Assessment Report (EIAR) and specific mitigation applied where necessary.

³ <https://map.sepa.org.uk/ngrtool/>

⁴ <https://what3words.com/pictured.seeing.increased>

12. PEAT

How will you identify areas of peat on the site?

Initial peat depth surveys and assessments were undertaken across the site to understand the nature of peat on the site and to help inform the early site layout. This work has been carried out in accordance with current Scottish Government and NatureScot good practice guidance on wind farm construction.

How will you avoid disturbance to peat and carbon release on the site?

Peat is not uniform across the site, as confirmed by our initial peat-probing surveys, and construction is focused on the areas with no peat or shallow peat.

A final detailed peat survey will be conducted at the proposed infrastructure locations to complete our peat data. The collected peat and hydrological information will be reviewed with reference to the peatland habitats noted in the ecological baseline. This will identify any areas of peatland habitat which would be sensitive to direct or indirect changes as a result of the proposed development.

Deeper peat is being avoided wherever possible and best practice construction methods used throughout in order to ensure minimal disruption. Where it is not possible to avoid peat we will seek appropriate re-use options and facilitate restoration or enhancement where possible.

How will you assess any potential disturbance to peat on the site?

A carbon balance assessment will be provided in the Environmental Impact Assessment Report (EIAR) in addition to information regarding peat in the Hydrology, Geology and Hydrogeology chapter of the EIAR. This will also be supported by a Peat Management Plan and an outline Habitat Management Plan.

Typically, wind farms pay back the carbon within 1-3 years and operate carbon free thereafter. The EIAR will accompany the planning application and be available for public viewing and comment as part of the formal consultation period run by the determining authority once the planning application is submitted.

13. SHADOW FLICKER

What is shadow flicker?

Shadow flicker is a phenomenon where, under certain circumstances of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. It only occurs inside buildings where the flicker appears through a narrow window opening.

How will you manage potential shadow flicker?

Shadow flicker can be predicted, modelled and mitigated using specialised software. The Hill of Fare Wind Farm proposal is being designed to minimise any potential for shadow flicker. However, it is likely that shadow flicker monitoring software which can shut down certain turbines at particular times of the day, or in certain weather conditions, where a flicker effect may result will also be utilised.

When will you have finalised shadow flicker modelling data to present?

This shadow flicker modelling work will be presented in the extensive Environmental Impact Assessment Report (EIAR) which will accompany the planning application. All of the planning documents, including the EIAR, will be available for public viewing and comment as part of the formal consultation period run by the determining authority once the planning application is submitted.

14. ORNITHOLOGY

How will you minimise potential impacts to birds in and around the site and their habitats?

Protecting and minimising any potential direct or indirect impacts on local wildlife, including birds, is of great importance and we take this responsibility seriously. We've undertaken a range of detailed ornithological surveys in and around the site to identify the bird species that exist and understand their flight patterns, breeding and nesting behaviour.

We have been working carefully with the design to put in place measures to ensure that any potential impacts on the species identified are minimised or removed completely.

What surveys have you undertaken?

Targeted flight activity surveys to input into the assessment of collision risk, and a suite of breeding and non-breeding distribution and abundance surveys as listed below have been undertaken over a recommended two year baseline period (as per SNH 2017) between October 2020 and August 2022.

All surveys have been undertaken following the relevant guidance from NatureScot (SNH 2017⁵), Brown and Shepherd (1993⁶), Calladine et al. (2009⁷), Hardey et al. (2013⁸) and Gilbert et al. (1998⁹). All surveys were buffered from a maximum developable area provided at the start of the project. Surveys undertaken are as follows:

- *Flight activity surveys from set Vantage Point (VP) locations - monthly from October 2020 to August 2022 with the required 36 hours per VP per season completed (as per SNH 2017)*
- *Breeding wader surveys - monthly between April and July during the 2021 and 2022 breeding seasons, 500m survey buffer*
- *Black grouse surveys - monthly in April and May during the 2021 and 2022 breeding seasons, 1.5km survey buffer (where access was possible)*
- *Scarce breeding bird surveys (i.e. raptors and owls listed on Schedule 1 of the Wildlife and Countryside Act and/or on Annex I of the EU Birds Directive) - monthly between March and August during the 2021 and 2022 breeding seasons, 2km survey buffer (where access was possible)*
- *Winter walkover surveys (to monitor the site for wintering use by raptors, owls, waders and/or wildfowl) - undertaken during the 2020/2021 non-breeding season (November 2020, December 2020 and March 2021) and 2021/2022 non-breeding season (monthly between September 2021 and February 2022), 500m survey buffer*

Data will also be requested from the North East Raptor Study Group (NERSG) and North East Scotland Biological Records Centre to provide additional historical information for the site and surrounding area.

How will you protect raptors that live in the area?

The design process has taken into account any known nest sites of Schedule 1 (of the Wildlife and Countryside Act 1981, as amended) and/or Annex I (of the EU Birds Directive) raptors or owls identified during the baseline surveys in 2021 and 2022, to ensure that breeding activity is not disturbed. Additional consultation is also underway with the NERSG and North East Scotland Biological Records Centre to provide additional historical data for the site and surrounding area.

A Bird Disturbance Management Plan (BDMP) will be implemented during construction and decommissioning of the project. The BDMP will detail measures to ensure legal compliance and safeguard birds known to be in the area. The BDMP shall include pre-construction surveys and good practice measures during construction.

Pre-construction surveys will be undertaken to check for any new breeding/wintering bird activity in the vicinity of the construction/decommissioning works. The BDMP will be submitted for approval by the local authority prior to construction commencing. Furthermore, to ensure all reasonable precautions are taken to avoid any potential negative effects on ornithological interests during construction, we will appoint a suitably qualified Ecological Clerk of Works (ECOW) prior to the commencement of construction and they will advise us and the Principal Contractor on all ornithological matters (with the assistance of a suitably qualified/licenced ornithologist if required).

⁵ Scottish Natural Heritage (2017) Recommended bird survey methods to inform impact assessment of onshore windfarms.

⁶ Brown, A. F. and Shepherd, K. B. (1993) A method for censusing upland breeding waders. *Bird Study*, 40: 189-195.

⁷ Calladine, J., Garner, G., Wernham, C., & Thiel, A. (2009) The influence of survey frequency on population estimates of moorland breeding birds. *Bird Study*, 56: 3, 381-388

⁸ Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. and Thompson, D. (2013) *Raptors: a field guide for surveys and monitoring* (3rd edition). The Stationery Office, Edinburgh.

⁹ Gilbert, G., Gibbons, D. W. and Evans, J. (1998) *Bird Monitoring Methods*. RSPB, Sandy.

The ECoW will be required to be present on the site during the construction and decommissioning periods and will carry out monitoring of works and briefings with regards to any ornithological sensitivities on the site to the relevant staff within the Principal Contractor and subcontractors.

How will you protect migrating birds like geese that fly over the area?

Goose species (excluding introduced Canada goose) have been included as target species during the baseline surveys. This has included mapping any goose flights during flight activity surveys and checking for any use of the site by foraging or roosting geese during the non-breeding seasons.

Geese have not been recorded utilising the site for foraging or roosting (as expected given the upland moorland habitats present and lack of waterbodies on the site). Data available on foraging areas for greylag goose and pink-footed goose provided by Mitchell (2012¹⁰) has also been consulted, with the nearest given foraging area over 2km from the nearest proposed turbine.

Scientific studies have found that geese are adept at avoiding wind turbines in all conditions. Large scale migratory flight movements tend to be at an altitude well above turbine heights and geese are able to adjust their flight paths (with limited additional effort/reduction in overall fitness) to avoid wind turbines. Furthermore, migratory geese tend to follow topographical features such as river valleys to avoid unnecessary altitude gains over higher ground.

Considering the distance to the known foraging areas (at least 2km), any geese crossing the proposed development site are considered to have had sufficient distance to gain the altitude required to fly above turbine height. The relatively condensed layout of the site will minimise any potential barrier effects to geese in flight.

How can we view your survey data and assessment for ornithology?

The Ornithology chapter of the Environmental Impact Assessment Report (EIAR) will provide a summary of findings of all baseline bird surveys. In addition to the chapter, a suite of Figures will display locations of target species records, and a supporting Technical Appendix will contain details on survey methodology, effort and results, as well as Collision Modelling.

It should be noted that if required a Confidential Technical Appendix will also be provided that will contain sensitive information relating to breeding bird species listed on Schedule 1 of the Wildlife and Countryside Act (1981, as amended). This Confidential Technical Appendix (and any associated Confidential Figures) will have a restricted distribution (specified member of the Energy Consents Unit and Local Planning Authority teams assigned to the project planning application, NatureScot and RSPB Scotland) and will not be hosted on any planning portals.

All of the planning documents (bar anything marked as 'Confidential' as noted previously), including the Ornithology Chapter of the EIAR and associated Figures/Technical Appendix, will be available for public viewing and comment as part of the formal consultation period which will be run by the determining authority once the planning application is submitted.

¹⁰ Mitchell, C. (2012). Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge.

15. TOURISM

Do wind farms affect tourism in Scotland?

There have been several independent studies carried out over the years that have consistently found wind farms do not impact on most tourism. One of the most recent is the BIGGAR Economics Report ‘Onshore Wind and Tourism in Scotland’¹¹ (2021). The report, which analysed 44 wind farm case studies in Scotland to try and find empirical evidence of a relationship between the development of onshore wind farms and tourism sector in Scotland, found “no relationship between tourism employment and wind farm development at the level of the Scottish economy, across local authority areas nor in the locality of wind farm sites”. In 2012, VisitScotland’s ‘Wind Farm Consumer Research’¹² study found that only 17% of Scottish and 18% of UK respondents would be discouraged by the presence of a wind farm, and another 2012 study ‘The Impact of Wind Farms on Scottish Tourism’ by Climate X Change¹³ concluded that there was no new evidence to contradict earlier findings that wind farms have little or no adverse impact on tourism in Scotland.

Some more recent studies (with no link to wind farms) which focused on tourism growth in the Highlands, an area which relies heavily on tourism, also indicated that tourism continued to grow - which indirectly proves the point that tourism has not been affected. For example, the University of Glasgow’s Training and Employment Research Unit¹⁴ undertook a study in 2017 to produce an economic baseline to measure the impact of the North Coast 500 tourist route and found that an extra 29,000 visitors were attracted to the Highlands in 2016 by the North Coast 500. In addition, a study undertaken by Highlands and Islands Enterprise¹⁵ and published in June 2017 confirmed that there had been an average 26% increase in visitor numbers and around £9m generated in the local economy since the route opened - demonstrating that tourists are not being put off by wind farms.

More regular research issued quarterly by the Department for Business, Energy and Industrial Strategy (BEIS) is the “Public Attitudes Tracker”¹⁶. In September 2022 it found that support for renewable energy remained steady at 85%. These levels remained stable from Spring 2022 but were slightly lower than those seen in Autumn 2021 (87% support). Opposition remained very low, with just 1% of people saying they opposed renewable energy, having previously fluctuated between 3% and 5% between March 2012 and June 2019.

Could there still be impacts on tourism at a local level from Hill of Fare within the Deeside area?

Again, historical studies have found that generally this is not the case. For example, the 2021 BIGGAR Economics report referenced above considered the possibility of more local effects “by examining trends in tourism-related employment in the immediate vicinity of 16 wind farms constructed between 2015 and 2019 and revisiting previous case studies of 28 wind farms constructed between 2009 and 2015.” Their analysis found “in the majority of cases, tourism-related employment in the vicinity of wind farms had out-performed the trend for Scotland as a whole and for the local authority area in which the wind farm was based.”

How will you assess potential impacts on tourism from the proposed wind farm?

As part of our detailed Environmental Impact Assessment Report (EIAR) we will be including a chapter which focuses on socioeconomic impacts and within that any potential impacts on tourism will be assessed. The EIAR will accompany the planning application and be available for public viewing and comment as part of the formal consultation period run by the determining authority once the planning application is submitted.

16. PROJECT TIMESCALES and PLANNING PROCESS

When do you expect to submit the planning application for your Hill of Fare Wind Farm proposal?

Based on our current programme we are looking at submitting our planning application to Scottish Ministers later this summer once we’ve held our final suite of public exhibitions in summer 2023.

Will there be any further consultation before the application is submitted?

We are currently planning to hold a final suite of public exhibitions in summer 2023.

How do I comment on the proposal once in planning and how long does the planning process take?

The Scottish Government’s Energy Consents Unit (ECU) will manage the application and public representations should be made directly to the ECU. The planning process could take approximately 1-4 years depending upon the time for consultees to respond and resultant procedures to be followed.

¹¹ <https://biggareconomics.co.uk/wp-content/uploads/2021/11/BiGGAR-Economics-Wind-Farms-and-Tourism-2021.pdf>

¹² <https://ascogfarm.com/wp-content/uploads/2020/07/RES-CD-TOU-006.pdf>

¹³ https://www.climatexchange.org.uk/media/1686/the_impact_of_windfarms_on_scottish_tourism.pdf

¹⁴ https://docs.wixstatic.com/ugd/b4ef3a_ac292dc1ec5f4e6090b924c90087dd93.pdf?index=true

¹⁵ <https://www.hie.co.uk/media/3037/nc500pluseconomicplusbaselineplusstudypusfinalplusreportplusjuneplus2017.pdf>

¹⁶ <https://www.gov.uk/government/collections/public-attitudes-tracking-survey#beis-public-attitudes-tracker-surveys>

17. CONSTRUCTION

How will you manage construction activity?

Should the proposal be consented, RES will produce a detailed Construction Environmental Management Plan (CEMP) which will set out the way in which construction work will be undertaken on site in order to protect the environment. The CEMP aligns with strict environmental regulations that wind farms are required to meet during construction and requires approval from consultees such as Aberdeenshire Council and NatureScot before work can start on the site. RES has a great deal of experience in building wind farms and besides a site management team there will also be independent assessors such as the Environmental Clerk of Works (ECoW) who will monitor the construction work and ensure accountability.

The footprint of the wind farm in terms of infrastructure is relatively small compared to the site itself. Based on the current design, the total land take for built infrastructure during the operational phase is calculated as approximately 17.8 ha. Based on the land area within the site boundary which is approximately 1,384.3 ha, the wind farm will occupy around 1.3% of the site area.

One of the key benefits of the Hill of Fare is its extensive network of existing tracks which will be utilised within the design wherever possible. Whilst there will be some widening and re-grading required to the existing tracks, the impact of this significantly reduces the extent of new tracks that will be built. In areas where new ground requires to be broken best practice will be followed to minimise and mitigate any potential impacts - and reinstatement work undertaken in a way that helps encourage disturbed ground to recover well.

18. OPERATION

How long will the site be operational for?

The application will propose an operational period of 50 years.

Will the site be safe to visit in winter with the risk of ice throw?

The potential for ice forming conditions on turbines is considered to be very small within Scotland, with risk further reduced by turbines being fitted with sensors which shut the turbines down should any imbalance which may be caused by icing be detected. In addition, monitoring systems and safety protocols will be in place to ensure that turbines which have been stationary during potential ice forming conditions are restarted in a controlled manner to ensure public safety. Therefore it is considered that there is no significant risk from ice throw, and it is not considered within the Environmental Impact Assessment.