

WELCOME TO OUR PUBLIC CONSULTATION EVENT FOR MILLMOOR RIG WIND FARM



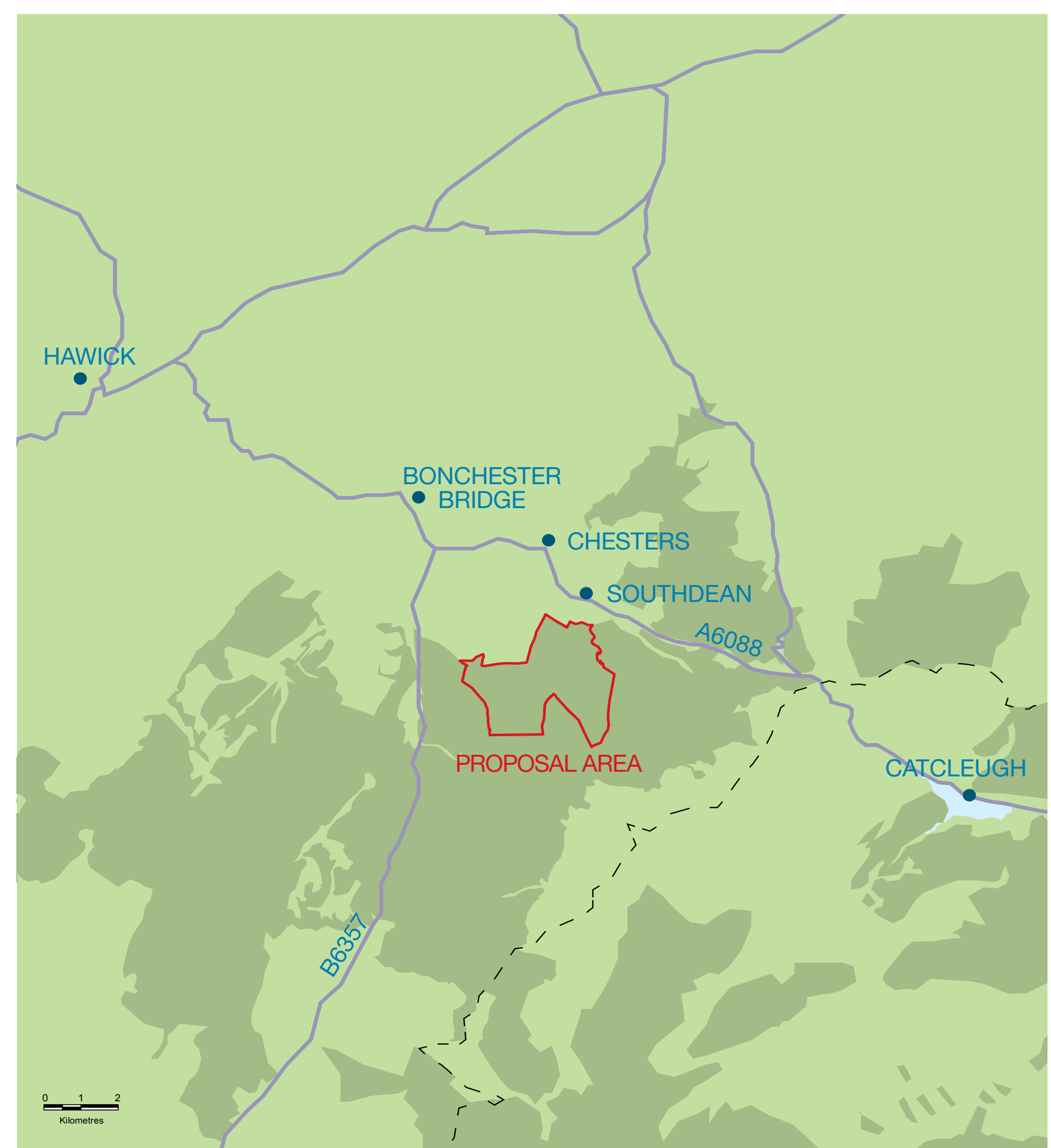
Stock photography

Welcome to the public consultation event for the proposed ESB Millmoor Rig Wind Farm located at Wauchope Forest, south of Chesters in the Scottish Borders.

Site description

The proposed development is located in the Hawick and Denholm ward of the Scottish Borders Council region. The nearest settlements are Chesters, approximately 3.3 km to the north, and Bonchester Bridge, about 5.2 km to the north-west along the A6088. The nearest group of properties is located at Southdean, approximately 2.1 km to the north. The nearest individual properties are Dykeraw and Dykeraw Cottage, about 1.7 km to the north, and Lustruther, approximately 2.1 km to the north.

The site is close to the Scotland–England border, which is about 2.9 km away at its closest point (all measurements taken from the nearest turbine).



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MILLMOOR RIG WIND FARM



Land use

The land use within the site consists entirely of short-rotation forestry plantation. The plantation is currently active; some sections are being felled, and other areas present recent crop plantation as well as mature stands.

Developer

ESB is developing Millmoor Rig Wind Farm. ESB is Ireland's premier energy company and a leading independent power generator in the UK market. The company has a track record for more than 20 years as a successful investor in the UK since commissioning one of the first independent power generation plants, at Corby in Northamptonshire, in 1994. ESB owns and operates wind farms across the UK and Ireland that have a total installed capacity of 600 MW.

Background

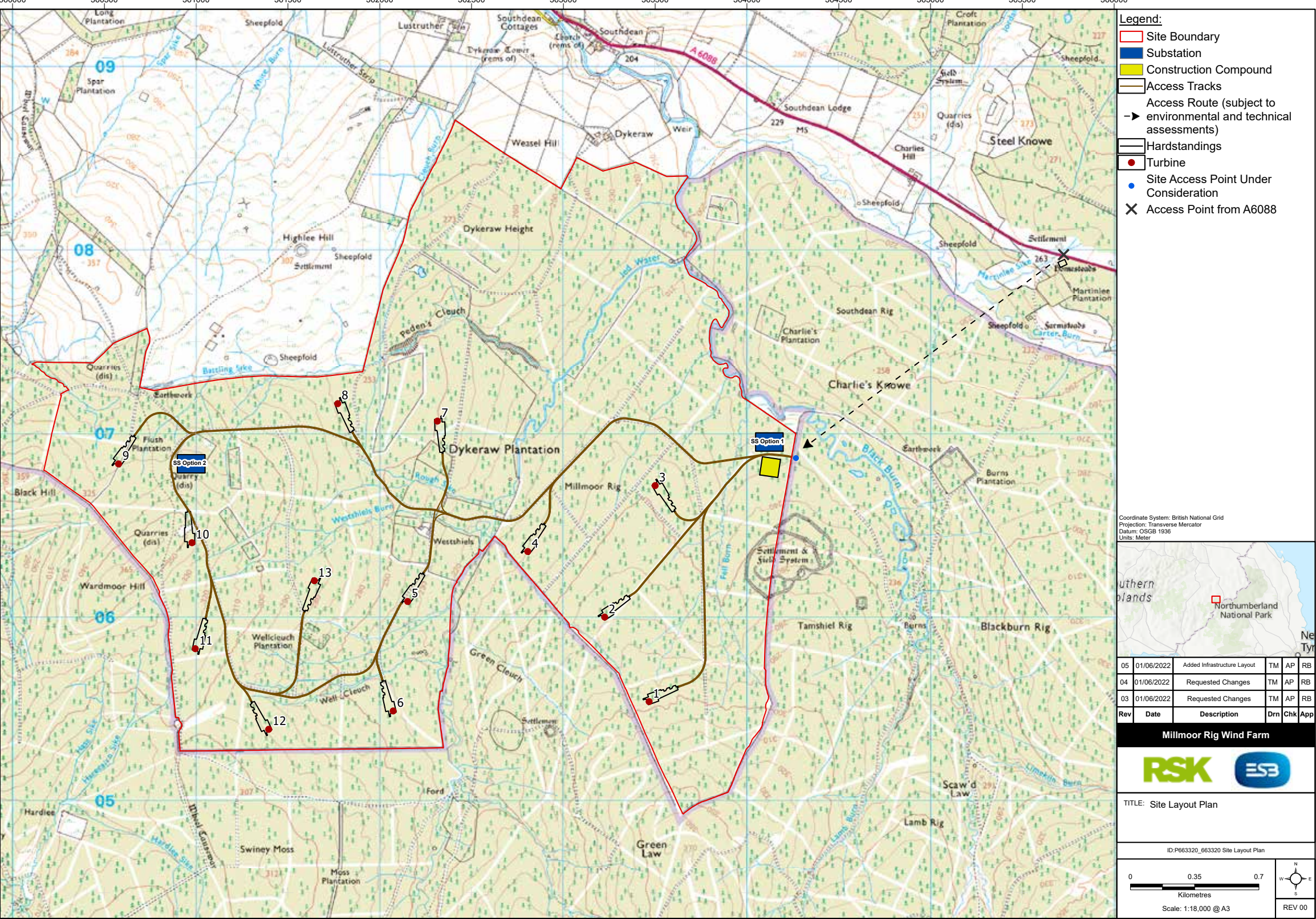
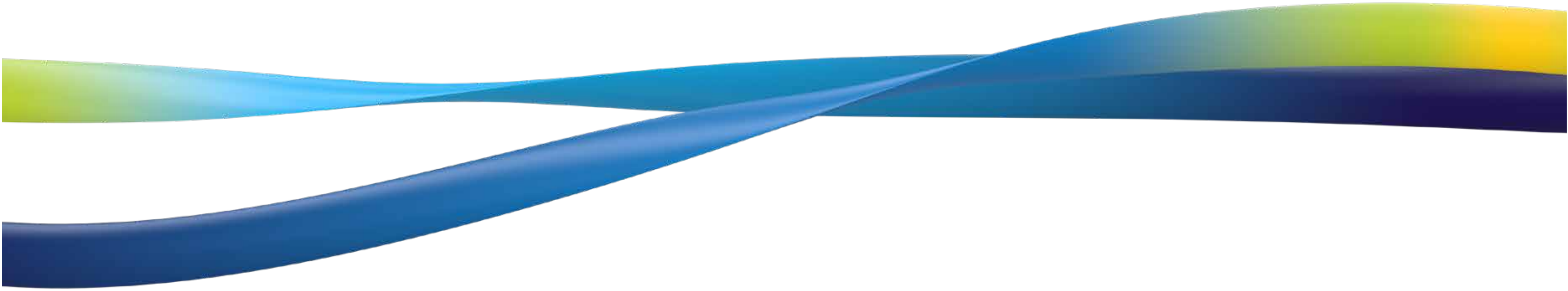
The location of the proposed development is broadly similar to that proposed for another wind farm development known as Highlee Hill Wind Farm, which was withdrawn from planning in 2017. Millmoor Rig Wind Farm is an entirely new proposal and ESB has no connection with either the former Highlee Hill Wind Farm proposal or its developer.

In deciding whether to progress with its proposals for the Millmoor Rig Wind Farm, ESB carefully considered each of the consultee responses and representations to the Highlee Hill Wind Farm planning application.



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THE PROPOSED DEVELOPMENT



Red line shows the extent of the application boundary.

ESB wishes to construct a new onshore wind farm with up to 13 turbines that will aim to deliver energy generation in excess of 50 MW. Environmental, technical and commercial considerations throughout the design process will inform the final number of turbines.

The turbines will have tip heights ranging from 180 to 210 m, a blade length of 82 m and a generating capacity of approximately 6 MW. The final turbine selection will be informed by an environmental impact assessment (EIA) that will look at various factors to assess the environmental impacts of the proposed development.

The plans include providing battery storage capacity to maximise the use of the grid connection and help balance the national electricity transmission grid.

Construction and access

- Access to the site for vehicles delivering construction materials and turbine components will be from the A6088 to the north-east of the site via existing forestry tracks where possible, with these developed as necessary to meet the specifications for all required vehicles.
- One or more construction compounds, new access tracks and watercourse crossings will be required to enable wind farm construction.
- Watercourse crossings will be designed in accordance with Scottish Government best practice and Scottish Environment Protection Agency (SEPA) guidelines to enable the passage of fish and other wildlife.
- Crushed stone will be used to construct new tracks, lay turbine foundations and create temporary hardstanding areas. The source of the stone and aggregate is to be confirmed during the design process and the EIA phase.

ENVIRONMENTAL IMPACT ASSESSMENT



As part of the development process, we must undertake an environmental impact assessment (EIA) to assess the effects of the proposed development on the natural, physical and human environment.

RSK Environment Ltd has been appointed to carry out a detailed EIA of the Millmoor Rig Wind Farm proposal. The EIA will be published in an EIA report, which will form part of the formal application for consent made to the Scottish Ministers.

The EIA process includes

- consultation with the local authority, other statutory and non-statutory bodies and the public to identify specific concerns and issues
- determining the existing conditions at and around the proposed site by reviewing the available data and undertaking specialist field surveys
- assessing the potential impacts on the existing environment
- developing mitigation proposals to alleviate any significant impacts identified.

ESB has conducted a detailed scoping exercise to identify the environmental aspects to address in the EIA for the proposed development. This included a review of available environmental information and desk- and site-based surveys.

A scoping report was submitted, as part of a request for a scoping opinion, to the Scottish Government's Energy Consents Unit on 8 February 2022. The scoping report identified the environmental aspects to be addressed within the EIA report. Statutory and non-statutory bodies were consulted at the scoping stage and their responses were included in the scoping opinion issued to the Scottish Government on 27 May 2022.

The scoping report concluded that the EIA should include detailed studies for the following disciplines

- landscape and visual assessment
- cultural heritage and archaeology
- ecology
- ornithology
- geology, hydrogeology, hydrology and peat
- noise and vibration
- traffic and transportation
- aviation and radar
- socio-economics, land use and tourism
- shadow flicker
- forestry
- telecommunications and electromagnetic interference
- climate change mitigation.



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LANDSCAPE AND VISUAL IMPACT



A landscape and visual impact assessment (LVIA) will establish the potential effects of the proposed development on the surrounding landscape and visual amenity.

A zone of theoretical visibility (ZTV), a computer-generated tool that establishes the theoretical extent of the visibility of a proposed development, has been prepared. This has helped to identification of representative viewpoints and inform the landscape and visual impact assessment.

The ZTV indicates the areas where turbines will be visible, based on the relief of the surrounding study area (35 km from the outermost turbines). This is based on a bare-earth scenario, in which the screening effect of areas of existing vegetation or built features in the landscape are not taken into account. This is supported by

producing and analysing wireline drawings and photomontages from several agreed viewpoints that give a clearer picture of how the proposed development would look.

The current design comprises 13 turbines varying in height at 180, 200 and 210 m to blade tip.

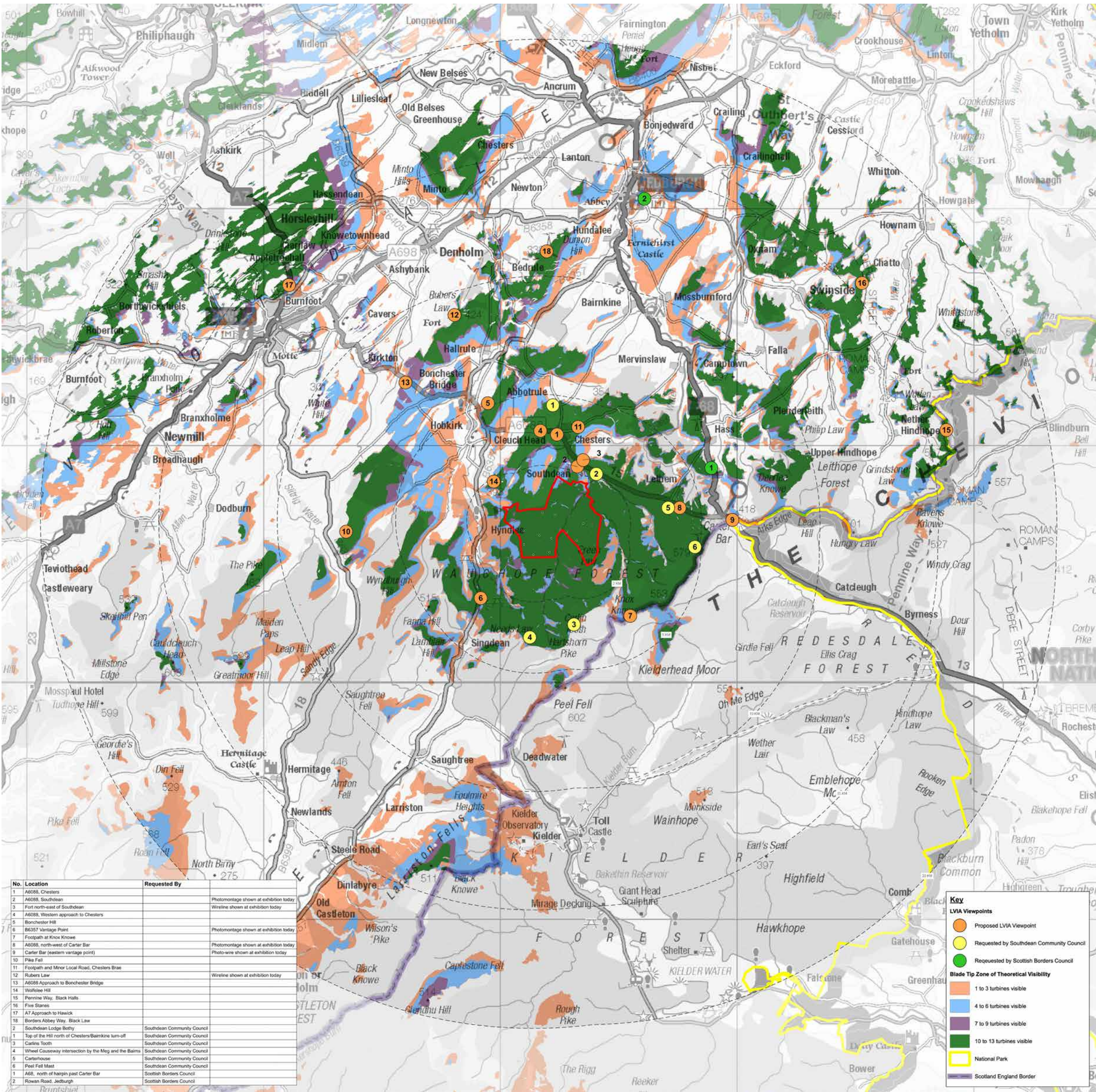
Residential visual amenity

Typically, detailed consideration with regard to the visual amenity of residential properties within 2 km of a site is given in the LVIA. At the request of the local community, ESB is extending the study area to include any residential properties up to 3 km from the proposed development. A separate, standalone residential visual amenity assessment (RVAA) will be prepared as part of the LVIA to be included in the EIA report.



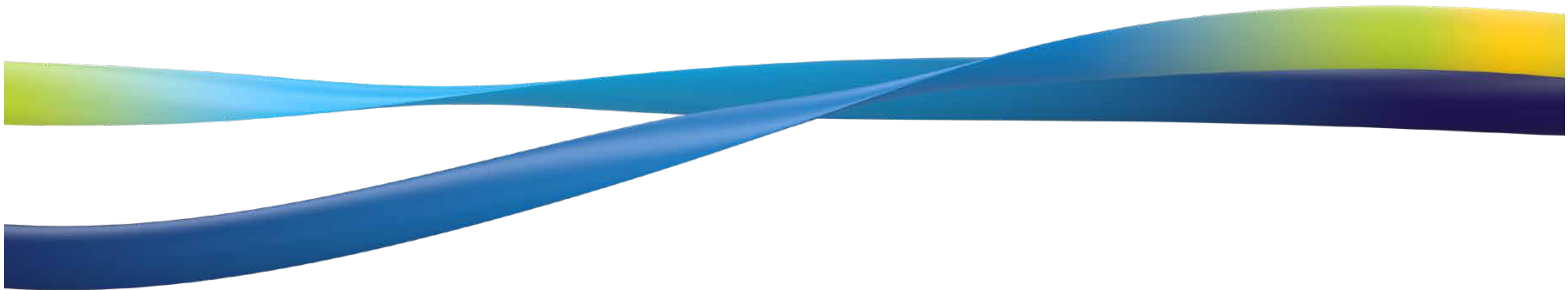
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THE ZONE OF THEORETICAL VISIBILITY

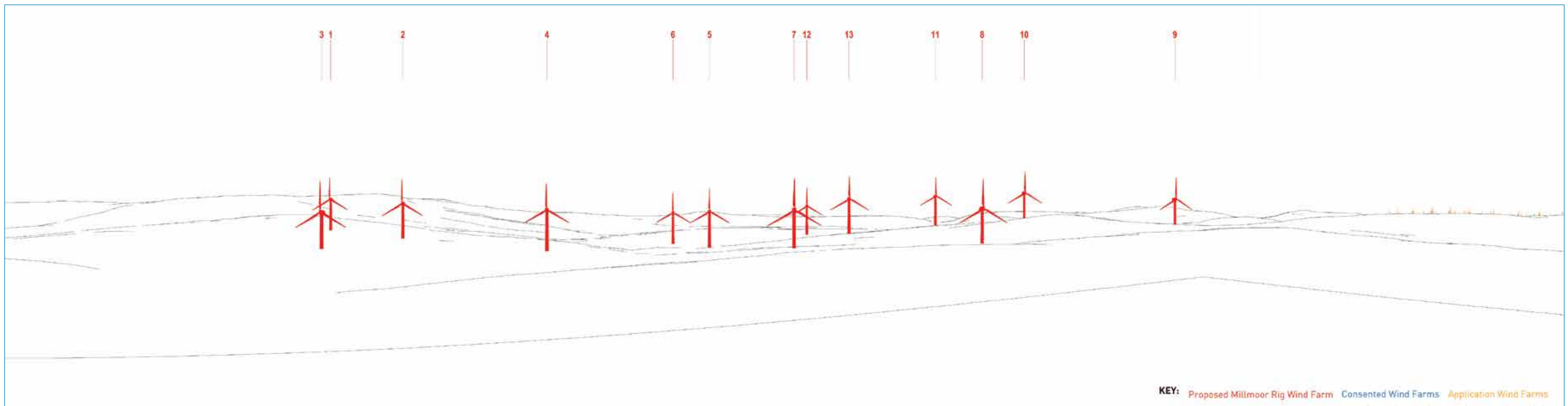


The Zone of Theoretical Visibility (to blade tip).

VISUALISATIONS



Viewpoint 2 Southdean. Photomontage taken from grid reference 363250, 609112, approximately 2.2 km to the north of the proposed development, with a 53.5 degree horizontal field of view.

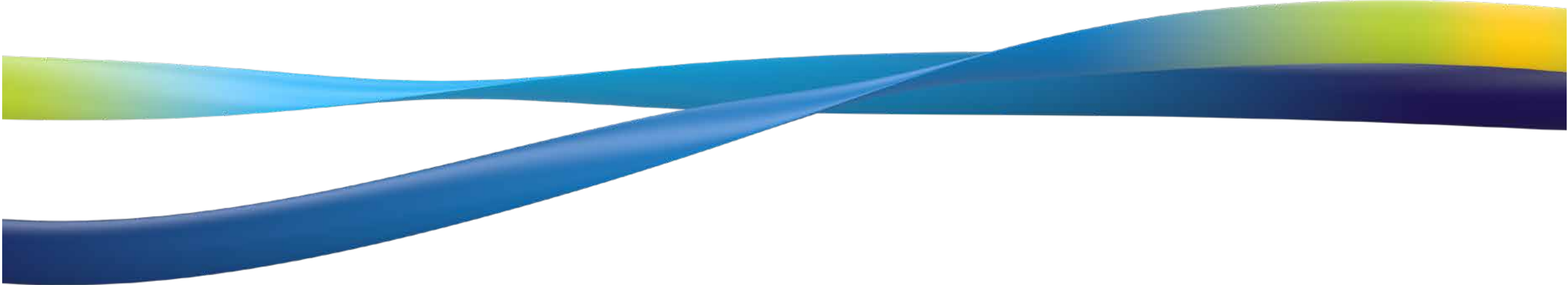


Viewpoint 3 Fort north-east of Southdean. Wireline taken from grid reference 363496, 609388, approximately 2.6 km to the north of the proposed development, with a 90 degree horizontal field of view.



Viewpoint 6 B6357 Vantage Point. Photomontage taken from grid reference 359170, 603557, approximately 2.8 km to the south-west of the proposed development, with a 53.5. degree horizontal field of view.

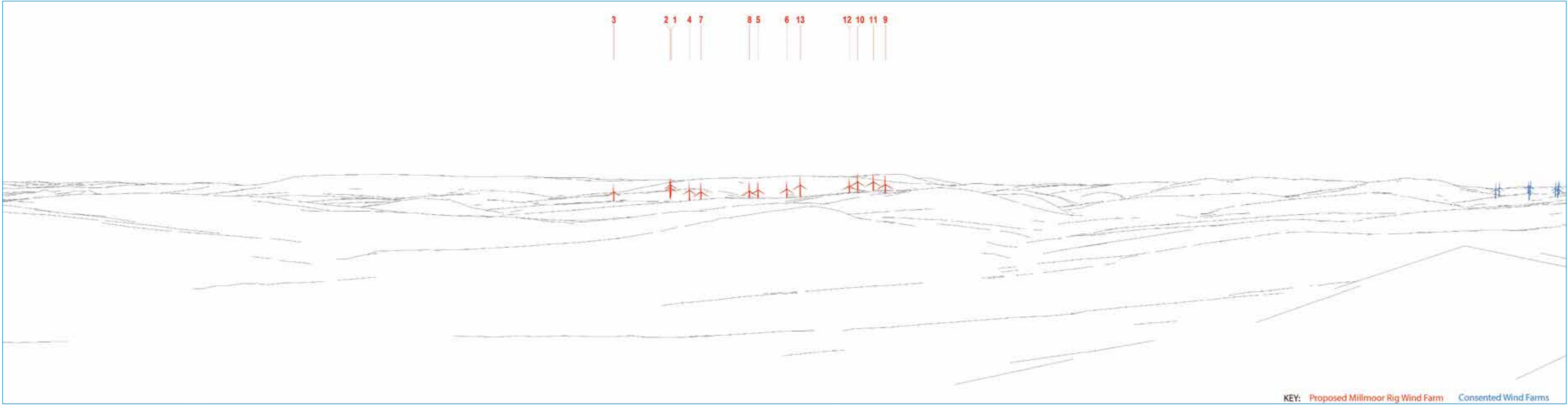
VISUALISATIONS



Viewpoint 8 A6088 north-west of Carter Bar. Photomontage taken from grid reference 367569, 607371, approximately 4.1 km to the east of the proposed development, with a 53.5 degree horizontal field of view.

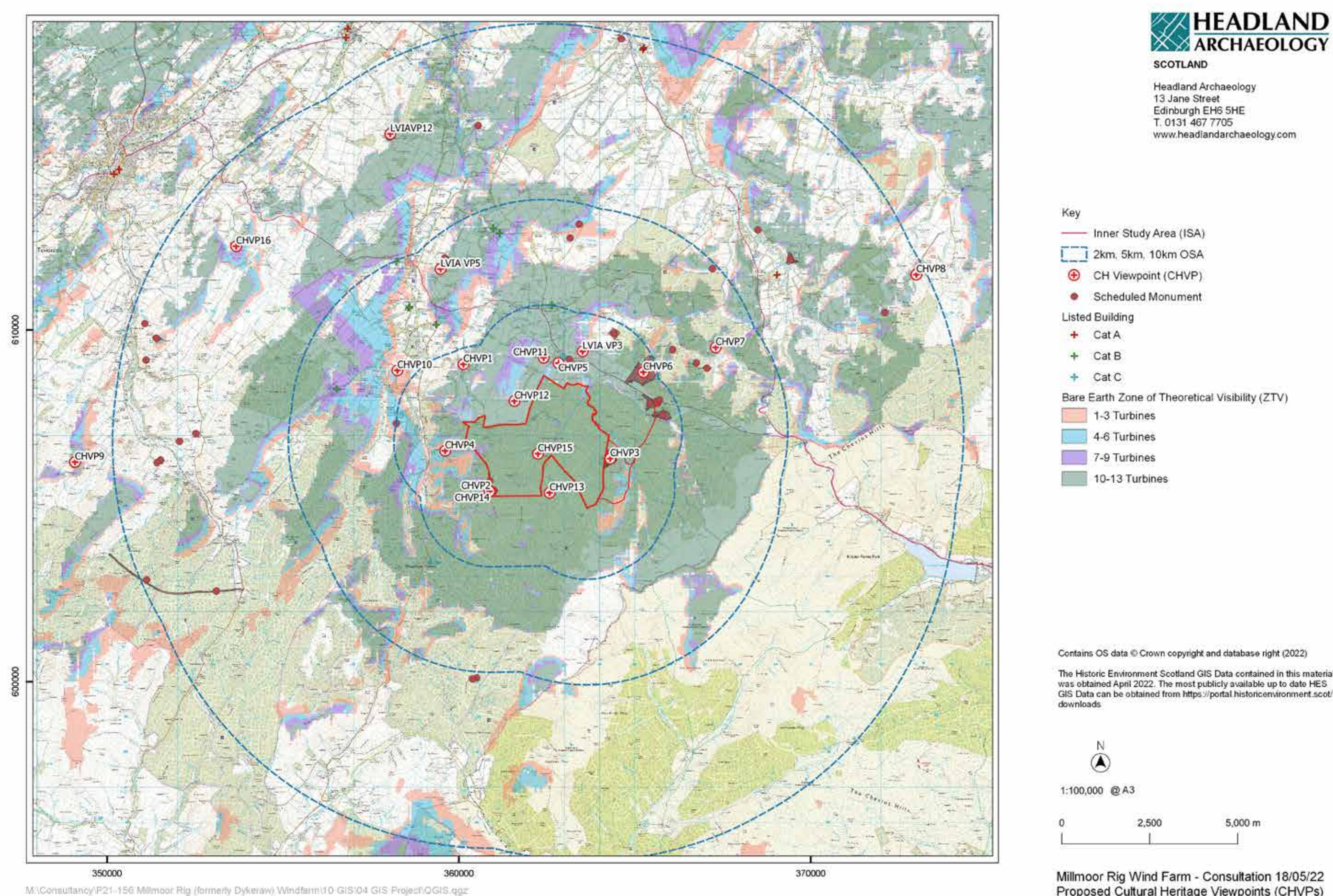


Viewpoint 9 Carter Bar. Photo-wire taken from grid reference 369798, 606857 approximately 6.3 km to the east of the proposed development, with a 90 degree horizontal field of view. Note, that with current forestry in place, there is no visibility of the proposed development.



Viewpoint 12 Rubers Law. Wireline taken from grid reference 358061, 615512 approximately 9 km to the north north-west of the proposed development, with a 90 degree horizontal field of view.

CULTURAL HERITAGE AND ARCHAEOLOGY



The effects of the proposed development on the historic environment, including cultural heritage and archaeology, will be assessed.

We have undertaken a desk-based study of the site and surrounding areas to identify all known assets registered with national and local archaeological bodies; performed a site walkover to investigate the potential for archaeological remains; and, visited key historical assets in the surrounding area to assess potential impacts on their settings.

There are three designated heritage assets (scheduled monuments) within the proposed development boundary: a prehistoric fort and two historic trackways. There are three further non-designated heritage assets recorded in the Historic Environment Records; these are all historic trackways preserved as surface earthworks.

In addition, freely available Scottish Remote Sensing Portal LiDAR data analysed for this assessment have identified further potential heritage assets: one heritage asset first shown on 18th century mapping and still present on modern mapping; 12 potential heritage assets shown on late 19th century Ordnance Survey (OS) mapping; and four potential heritage assets shown on 20th century OS mapping and confirmed by a walkover survey. The findings will be presented in the EIA report.

For any identified impacts, mitigation measures will be proposed during construction to identify, record and, where appropriate, protect any remains that are discovered. Known features on-site will also be protected with buffer zones and visible barriers to minimise the risk of accidental disturbance during construction.

ORNITHOLOGY



A programme of ecological and ornithological surveys is being carried out on the site. The results will be used to assess potential impacts and identify suitable mitigation as required.

In addition, opportunities for biodiversity enhancements that the development could deliver will be explored in consultation with specialist interest groups and as part of the EIA process.

Ornithology surveys

There are no statutory designations with ornithological features within the site. The Langholm-Newcastleton Hills Special Protection Area (SPA), associated Langholm-Newcastleton Hills Site of Special Scientific Interest (SSSI) and Kielderhead Moors: Carter Fell to Peel Fell SSSI are located within 20 km of the proposed development (16.6 km, 16.6 km and 1.4 km respectively). After considering the distance between these designated sites and the proposed development, the foraging distances for relevant qualifying features provided by NatureScot, the

habitats present (commercial plantation of low ornithological value), and following consultation with NatureScot, there is considered to be no connectivity between the proposed development and these designated sites.

A comprehensive survey programme has been undertaken to identify the use of the site and its wider surroundings by sensitive bird populations. The data gathered between 2011 and 2015 for the Highlee Hill Wind Farm proposal will form part of the baseline of the assessment alongside additional survey data, collected between 2020 and 2021, as agreed with NatureScot.

The following ornithology surveys will form the baseline for the assessment:

- flight activity surveys
- black grouse surveys
- scarce breeding bird surveys
- breeding bird surveys
- woodland point counts
- winter walkovers.



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ECOLOGY SURVEYS



The ecology surveys undertaken comprise

- Phase 1 habitat survey
- National Vegetation Classification (NVC) survey and groundwater dependent terrestrial ecosystems (GWDTE) assessment
- protected species surveys, including for badger, otter, red squirrel, water vole and reptiles, and determination of a great crested newt Habitat Suitability Index
- bat surveys.

A few watercourses pass through the site, including the Jed Water and Black Burn, which form part of the River Tweed Special Area of Conservation (SAC) lying within the site boundary. Otter is a qualifying species for the SAC.

The surveys

Phase 1 habitat, NVC and GWDTE surveys were undertaken in 2021 and 2022.

Surveys for protected species will draw on the results from previous surveys for the site undertaken in 2015.

Bats

Ground-level static surveys were carried out to determine the presence and relative abundance of bat species within the site boundary. Surveys were carried out throughout the 2021 bat activity season (April–October) in three deployment periods covering spring, summer and autumn. In the first deployment, eleven full-spectrum static detectors were placed close to the proposed turbine locations, and 12 were used for the second and third deployments.

TRANSPORT AND RECREATION

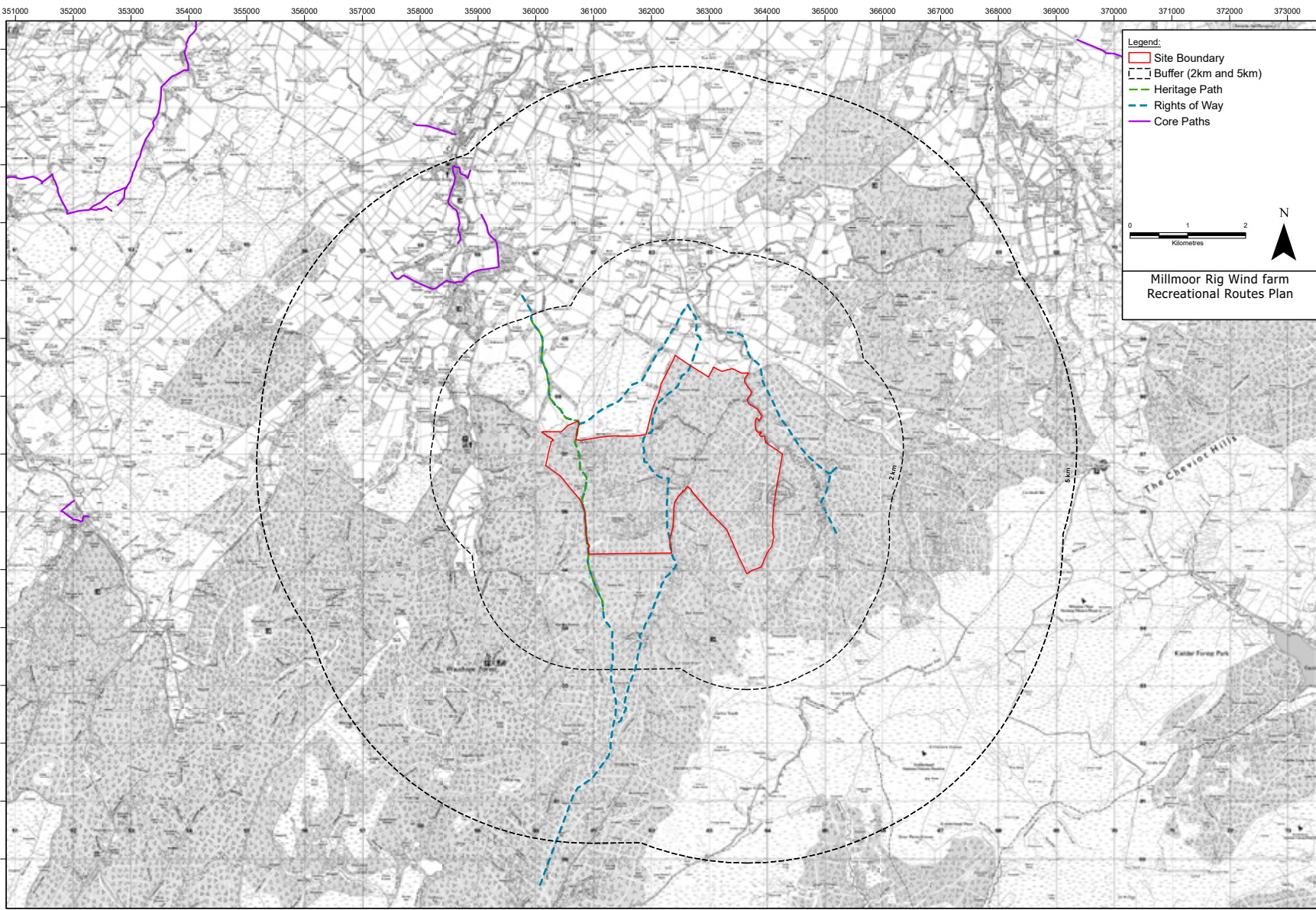
An abnormal loads route assessment (ALRA) has been undertaken for the proposed turbine locations to identify the appropriate work required to accommodate the delivery of abnormal load from the port of entry to the site. The ALRA will be included as a technical appendix to the EIA report.

The main construction traffic access route for the abnormal loads, from the port of entry at Blyth, is anticipated to comprise the A68(T) and the A6088.

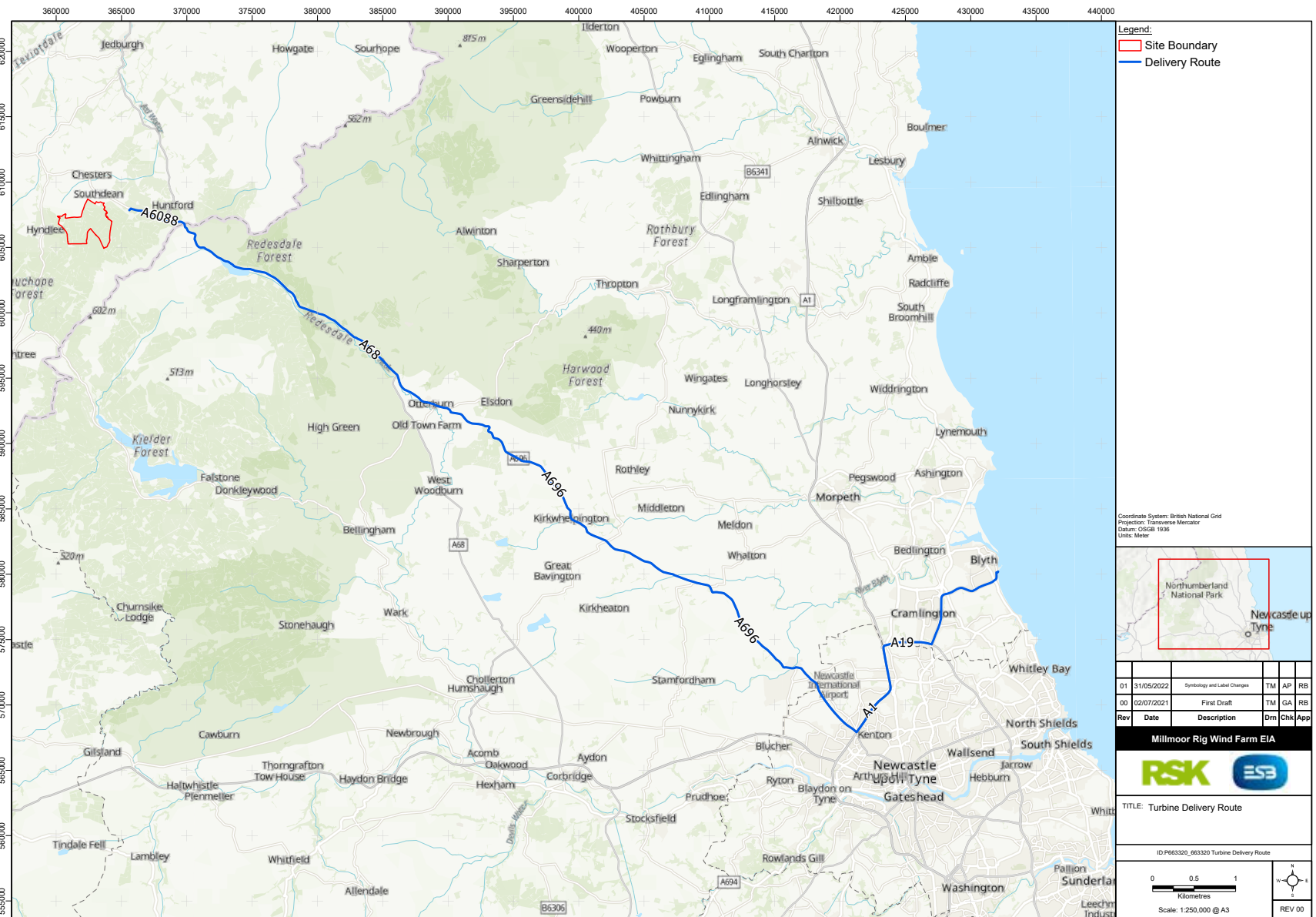
Additionally, it is anticipated that general construction traffic, including material deliveries and staff movements, will use sections of the A7(T) to the north of the proposed development.

To accomodate the delivery of turbine components and other abnormal loads, areas on the proposed route may require oversail or overrun and work is ongoing to identify and agree these requirements.

Potential traffic-related environmental effects, such as delays, impacts on pedestrian journeys, and accidents and safety, will be considered in the EIA and assessed for the construction period, when traffic generation will be greatest. Cumulative traffic and transport effects will also be assessed where the construction of the proposed development could overlap with other known projects using the same road network.



Recreational routes in the area of proposed development site.

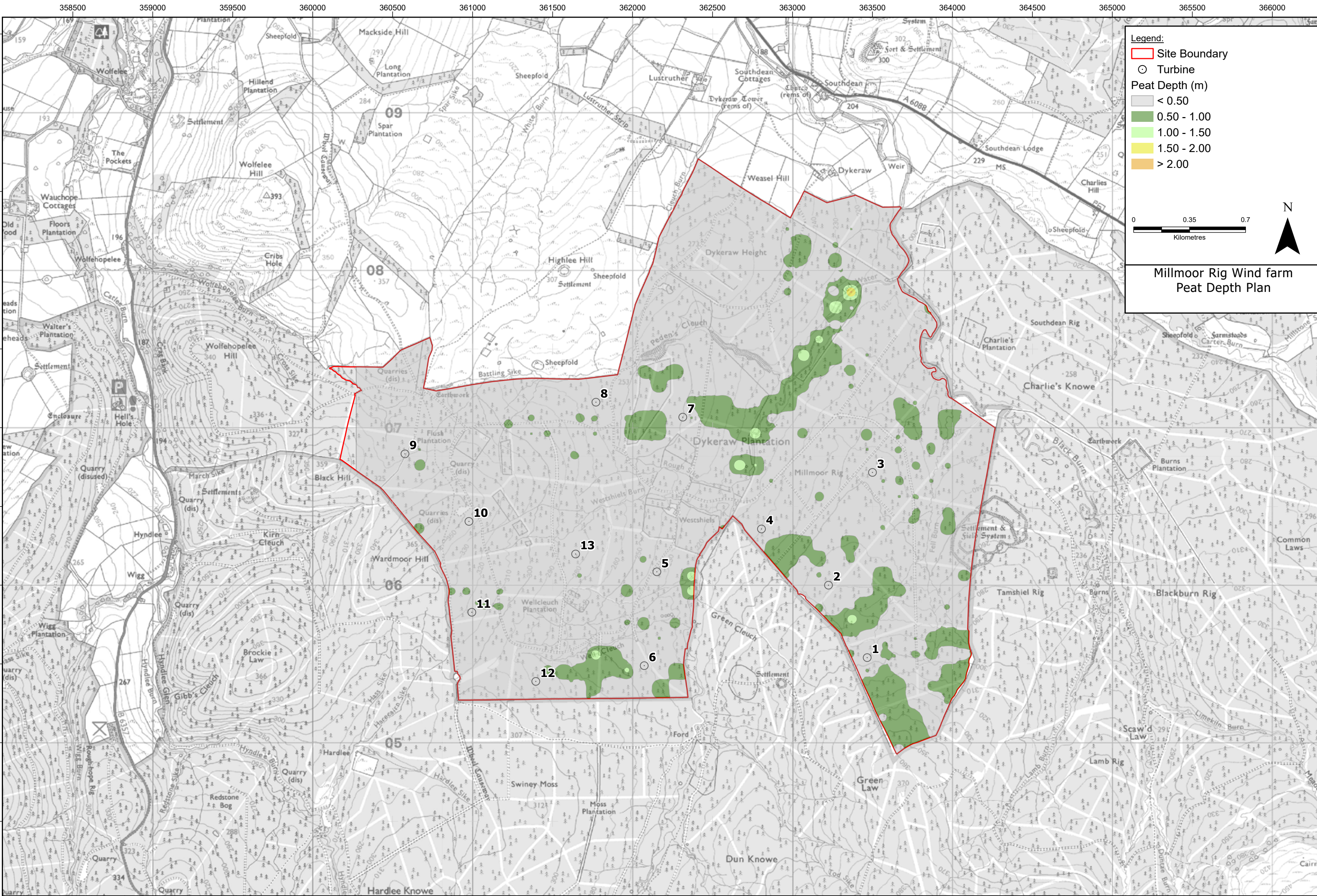


Route to proposed site.

GEOLOGY, HYDROGEOLOGY, HYDROLOGY AND PEAT

Potential impacts on groundwater quality or quantity, flood risk, water quality and private water supplies, and changes to peat and carbon-rich soils will be considered in the EIA.

A peat-depth survey has been conducted that found limited areas of peat onsite. These areas have been avoided, where possible, in the design of the proposed development. The existing forestry track network would be used as much as possible in order to minimise new track construction, not only in areas with peat, but also to minimise the requirement for new watercourse crossing structures.



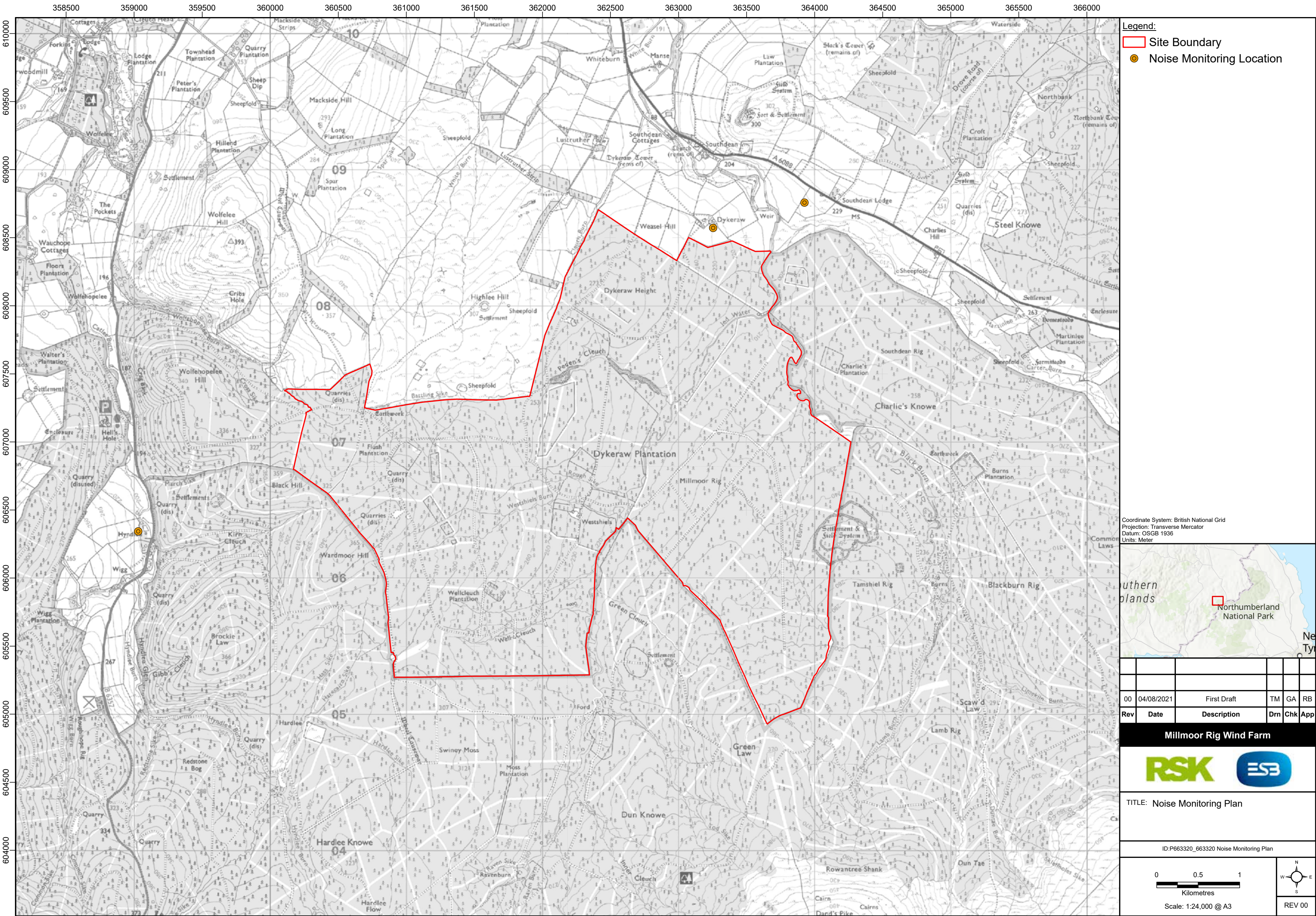
Peat-depth survey.

NOISE AND VIBRATION

ESB is undertaking a baseline survey to determine current noise levels at three local properties.

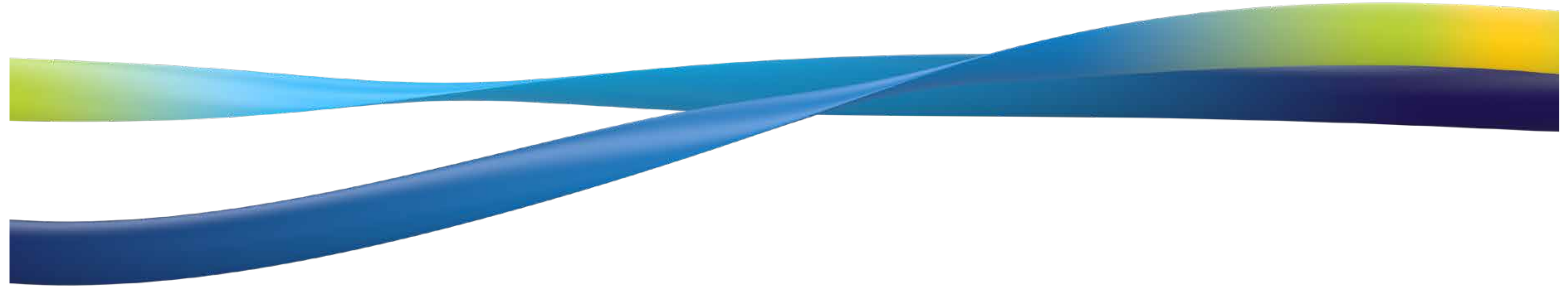
Noise modelling will be conducted to predict likely levels of wind turbine noise, which will be considered against the current guidance, to determine whether the scale of impact will be

significant. Initial modelling results suggest that noise levels from the turbines during operation would be below the lowest thresholds applicable in the relevant guidelines. Management measures to control noise and vibration from construction activities will also be assessed.



Noise monitoring locations.

OTHER ISSUES



Aviation and radar

The proposed development site lies within a military tactical training area and the Ministry of Defence (MOD) safeguarding zone for the Eskdalemuir Seismological Array.

An initial impact assessment identified all stakeholders potentially affected by the proposed development and dialogue is ongoing with them. Where impacts are of concern, additional analysis may be required and, where those impacts are deemed unacceptable, further mitigation solutions will be identified and explored with the goal of reducing those impacts to acceptable levels.

Aviation lighting

As the proposed turbines would be more than 150 m to tip, there would be a statutory requirement for visible aviation lighting, the details of which will need to be agreed with the Civil Aviation Authority. However, it is anticipated that a lighting scheme can be agreed whereby not all the 13 proposed turbines would require fitting with visible aviation lighting. In addition, infrared lighting will be required by the MOD. An assessment of the effects in relation to permanent aviation lighting will be included in the EIA report.

Socio-economics, land use and tourism

An assessment of the potential socio-economic effects of the proposed development and the likely significance of these for tourism, recreation, land use economic output, employment generation and other indirect effects will be undertaken.

Forestry

The proposed development is located in Dykeraw Forest, an existing privately owned and managed commercial forestry plantation located within the wider area of Wauchope Forest, managed by Forestry and Land Scotland (FLS).

The proposed development would result in a loss of plantation woodland. The aim would be, wherever possible, to carry out keyhole felling to accommodate the turbines while minimising the amount of felling required. Keyhole felling has a lesser impact on the local environment than the alternative of clear felling. In addition, the access track layout will be designed to use as much existing forestry road as possible, further reducing the felling required.

Where woodland is removed in association with the proposed development, compensatory planting will be provided.

Shadow flicker

Shadow flicker is an effect caused in particular circumstances by the rotation of the turbine blades when the sun is shining, which can create a flickering or strobe-like effect. This can be a cause of annoyance at residences near wind farm developments.

The proposed development will be designed, as far as possible, to avoid shadow flicker. Potential shadow flicker receptors within 2 km of each turbine will be assessed for potential effects.



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THE LOCAL COMMUNITY



ESB will work closely with local communities, businesses and residents in seeking to ensure that it will bring real benefits and help meet national climate-change targets through the Millmoor Rig Wind Farm proposal.

Business, employment and investment

ESB would like to hear from businesses across the Scottish Borders and Scotland to ensure that it can fully consider the skills and services of local people and suppliers if the Millmoor Rig Wind Farm receives consent.

The opportunities available include those for

- an engineering, procurement and construction contractor
- construction material suppliers: concrete, aggregate and building materials
- electrical contractors: supply and installation of plant, cabling, earthing, etc.
- plant and equipment hire contractors: excavation earthworks, cramage, welfare units, etc.
- labour hire companies: engineers, plant operatives and general labourers
- transport: taxis and minibuses for local labourers.

Community benefit

ESB is committed to setting up a community benefit fund to the value of £5,000 per installed MW. This could equate to about £390,000 per year for 35 years (calculated on base assumptions on turbine numbers when the proposed development is consented and operational). This would equate to up to £13.6 million of community-benefit funding over the lifetime of the proposed development.

The communities that will be impacted by the construction and operation of the proposed development will be invited to help shape a community benefit package that best meets local needs. ESB will reach out to local groups and community representatives to seek their input as the project progresses.

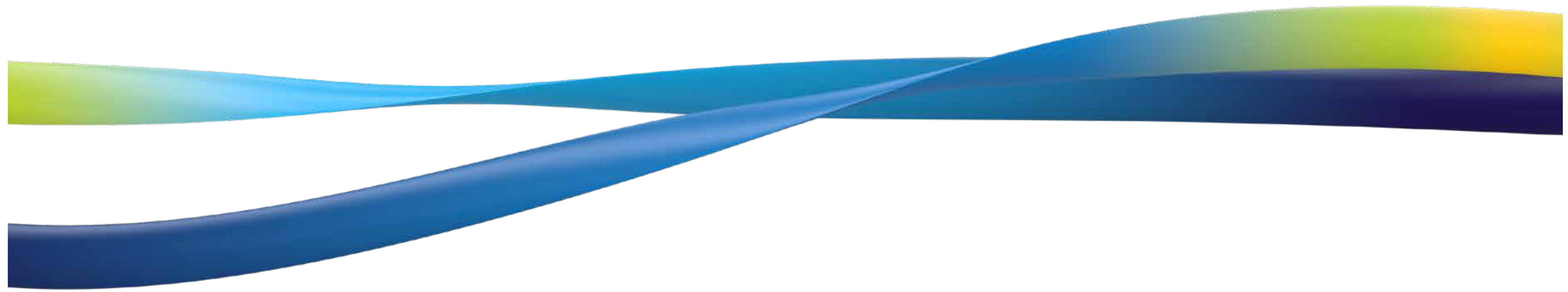
Community shareholding

ESB invites the local community to discuss with us the opportunity for shared community ownership of Millmoor Rig Wind Farm.



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CLIMATE EMERGENCY



We are facing a climate crisis that is being caused, in part, by the use of fossil fuels. Although Scotland produces almost 100% of its electricity from renewable sources, we need to electrify transport and heating and move away from fossil fuels.

This means we require more renewable energy sources to provide renewable electricity and decarbonise our transport and heating by, for example, moving away from petrol and diesel cars, and gas boilers.

The Scottish Government has declared a Climate Emergency and has set out ambitions for 8–12 GW of new onshore wind power to help reach Scotland's 2045 net-zero target. Scotland and the rest of the UK have legally binding targets to reach net zero and new onshore wind development will play a pivotal role in meeting these.

Project contribution

The Millmoor Rig Wind Farm has the potential to make an important contribution to the decarbonisation of our electricity system: the project could produce enough energy to power the equivalent of 44,197 homes.

Energy security

Onshore wind is the cheapest form of renewable energy and Scotland has some of the best wind resource in Europe.

With the cost of living and energy prices rising, the question is often asked, why are energy bills increasing if onshore wind is the cheapest form of electricity generation? This is due to the 'merit order' that is used when every generation type is available to meet demand. In this, technologies are ranked to determine which is brought into the grid first. Fossil fuel generation has a high marginal cost (the change in the total cost of producing an additional quantity); however, the marginal cost for renewables is almost zero. Therefore, when they are available, renewables are always chosen for the grid first because they are the cheapest to run, but the electricity price reflects the higher marginal cost of gas when this is needed for the grid.

The Office of National Statistics states that gas is used to fuel about a third of the UK's electricity generation, so rising gas prices have, in turn, led to rising electricity prices.

The design of electricity systems still has to catch up with the role of renewable energy, and this is recognised by the UK Government and Scottish Government, who have plans to make the grid more 'renewable ready' to ensure far more renewables can go into the grid at reduced cost.



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WHAT NEXT?



ESB hopes to submit its application for consent for the Millmoor Rig Wind Farm project to the Scottish Ministers in autumn 2022. The Scottish Government will then undertake its own consultation process, when the public will be invited to make formal comments on the proposals.

In the meantime, we would welcome your feedback on our proposals for Millmoor Rig Wind Farm proposals and we can provide further information if required. Details of the feedback provided to us via our public consultation will be captured and included in a Statement of Community Consultation to be provided to the Scottish Government alongside the application for consent.

Please note that comments made to ESB during this consultation period will not be considered as a formal representation to the Scottish Borders Council or Scottish Ministers.

You can view more detailed information on our website:

www.esbenergy.co.uk/millmoor-rig-wind-farm

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