



CALDERDALE WIND FARM

**Questions from parish
council forum**

December 2023

1. Large quantities of concrete and crushed stone products are required for this project, approximately how many truck journeys to and from the site do you estimate to complete the project?

The quantities of aggregate and concrete required for the development are not yet known – once the design is fully developed it will be possible to calculate the quantities of aggregate that are required. Once this is understood the number of journeys can be calculated. The potential to source some aggregate from within the site itself will be considered to minimise the need to import materials. The potential to import from local quarries will also be considered.

Concrete used during construction could be batched on site using an onsite batching plant, or it could be imported to site. The potential for both will be considered and the environmental impacts from both will be considered as part of the Environmental Impact Assessment (EIA) process.

2. Construction of turbine foundations will entail excavation of large quantities of peat, releasing sequestered CO₂ into the atmosphere. What will happen to this peat once it is removed from the ground?

The design process will consider the presence of peat on-site and aim to minimise its impact as much as possible. Measures to mitigate this impact, such as using floating tracks, will be identified during the Environmental Impact Assessment (EIA) stage. The specific volume of peat that needs to be disturbed will be calculated once the final design is in place. Following this, a Peat Mitigation Plan will be developed, detailing how the peat will be reused on-site. It is expected that some of the peat will be utilised for site restoration, such as along tracks or in designated areas. Additionally, efforts will be made to reuse peat in areas targeted for peatland habitat restoration through methods like ditch blocking.

- 3. In addition to the turbine foundations large and permanent (for the lifetime of the wind farm) crane pads will be required to safely support the large mobile cranes required to construct and later maintain the turbine towers, nacelles and blades. This will require additional excavation and/or surcharging of the peat with imported crushed stone products. What magnitude of consolidation settlement of the peat is anticipated under these loads?**

The proposed development will be designed to minimise the impact on peat. Once the location of the turbines is more fixed the location of the crane pads will require careful consideration to ensure that they can be located in areas which meet the technical specifications of the turbine manufactures and also to minimise the impacts on the environment, this will include habitats, flora and fauna. This work will be undertaken in a collaborative way between civil engineers and the environmental team. To mitigate potential consolidation settlement of the peat under crane pads, WWRE plans to conduct extensive geotechnical assessments. These evaluations will inform the design of load distribution strategies aimed at minimising adverse effects on the underlying peat layer, ensuring that the impact is well within acceptable limits throughout the wind farm's construction and operation.

- 4. Access roads will be required to each turbine to initially construct and later to maintain them. Given the steeply undulating landscape across the moor and the presence of the Walshaw Dean Reservoirs what is the extent of the earthworks (i.e. cuttings and embankments) or structures (i.e. bridges and retaining walls) required to gain access for large and long heavy vehicles which can only negotiate gradients of 1 in 10 or less, and what consolidation settlements of the peat are anticipated from these works?**

WWRE is committed to employing advanced engineering techniques and meticulous road design to mitigate disturbance to the delicate peat layer and the surrounding landscape during the construction of access roads. The project aims to utilise innovative materials and methods that minimise compaction and disruption while ensuring safe and reliable access for construction and maintenance purposes.

As the proposed development undergoes design enhancements, ensuring the accessibility of the turbine locations is a key focus. Once the turbine locations are more precisely determined, our civil engineering team will thoroughly assess their accessibility. We'll meticulously evaluate the approach for reaching the turbines, designing tracks that minimise impact on peatlands. Whenever feasible, we'll steer clear of deep peat and high-quality peat areas. Additionally, we'll explore innovative solutions like floating tracks, leveraging proven and established techniques to help minimise disruption to the local environment.

- 5. Questions 2 to 4 inclusive are related to peat excavation/surcharging and hence damage to the blanket bog due to your proposed construction activities. The bog amongst other things is a receptor for rainwater with the peat and overlying sphagnum moss having large pore spaces within which to store water thereby slowing its progress through the watershed to its eventual destination of Crimsworth Dean, Alcomden Water and Hebden Water. Removal and replacement with structures or compacted crushed stone products and/or consolidation of the peat will reduce the available storage capacity and the permeability of the peat increasing run-off and potentially increasing the flood risk to downstream towns. How do you propose to mitigate these effects and how will you monitor your site run-off to show there is no increase post-construction compared with current values?**

Preserving the bog ecosystem and mitigating downstream flood risks stand as primary objectives for WWRE. To achieve these goals, the project will implement comprehensive water management strategies. These strategies encompass the creation of alternative water storage systems, installation of precisely engineered drainage solutions, and rigorous post-construction monitoring to prevent any escalation in downstream flood risks. WWRE is firmly committed to upholding or enhancing the natural hydrological functions of the landscape.

Our EIA process aims to comprehensively grasp the site's existing hydrology, hydrogeology, and geology, establishing the current baseline conditions. Engaging with local groups is integral to this process, something we would like to start in early 2024, once we have received the scoping opinion from Calderdale Council. Survey work is essential and will be diligently conducted, aligned with the determined scope established during the scoping process.

Design decisions will be informed by this baseline information, carefully considering how the proposed infrastructure might impact water movement. In some cases, certain areas might be excluded from development to avert adverse effects. Once the baseline conditions are understood, and the development's scale is clarified, we'll evaluate necessary and appropriate mitigation measures.

6. While the scoping report does not mention specific access points into the site and states these are still under consideration, could you develop the rationale by which access sites will be chosen?

WWRE will meticulously identify access points through a comprehensive evaluation of multiple factors within the EIA process. This assessment encompasses minimising environmental impact, evaluating terrain suitability, considering proximity to construction material supply centres, and prioritising routes that cause minimal disruption to local communities. The aim is to strike a balance between logistical necessities and environmental conservation.

Determining access to the site is currently under careful review and will be guided by detailed survey work. Recognising the potential challenges in accessing the site, particularly in transporting the largest loads like turbine blades, may limit the overall scale of operations. Managing the volume of traffic is also a crucial factor under consideration.

7. Could you provide more information on the routes that construction traffic to and from the site will use and also what communities these will pass through?

We are currently at an early stage of the proposals so the exact routes for construction traffic to travel to and from the site have not yet been confirmed.

The construction traffic routes will be decided and confirmed through the assessments we will undertake as part of the EIA. The Traffic and Transport chapter of the EIA will assess the impacts of Calderdale Wind Farm on the public road network and assess the most appropriate routes for construction traffic to travel. Depending on the site access there are likely to be several route options from yet to be identified supply centres (e.g., quarries). There are several quarries located to the east of the site which means depending on the site access and route the traffic will travel on the A629 before travelling on either the A6068, A646 and A671 and subsequently minor roads to the selected Site Entrance.

The Traffic Impact Assessment (TIA) will consider the impacts of the traffic on roads which will be used by construction traffic during construction, operation and decommissioning.

8. Can you provide an indication of the number and vehicles sizes that will be going to and from the site per day and over what time period?

WWRE will be assessing potential construction traffic routes as part of its Environmental Impact Assessment (EIA). The routes will be determined following comprehensive evaluations of their impacts on roads, communities, and the environment. Specific details, including affected communities and road networks, will be outlined in the subsequent Traffic Impact Assessment (TIA) report.

At present, the specific traffic volumes resulting from the development are not yet ascertainable. The calculation of traffic numbers will become feasible upon the completion of the design phase. Regarding vehicle sizes, each turbine delivery typically involves transporting three blades, three tower sections, and the nacelle, often accompanied by police escort.

Determining the necessary cranes hinges upon the quantity and size of the turbines. The on-site workforce will vary in accordance with the scale of the development, and the construction duration will be directly influenced by the project's magnitude.

9. Whichever route site traffic takes to the construction site, it will pass through local communities and traffic pinch points. In order to improve road safety would you consider a curfew on site traffic during the morning rush hour between 7.15 and 9.00 am within ten miles of the site?

The impact of construction traffic on the local road network and local communities will be assessed as part of the Traffic Impact Assessment. Any potential negative impacts caused by construction traffic will be identified and where appropriate, mitigation measures will be proposed. Should the project receive planning consent this will include the need to agree a Construction Management Plan, which may include curfews on site traffic during the morning and afternoon rush hour periods.

The results of our Traffic Impact Assessment will be presented to the community as part of a period of community consultation in 2024.

10. Will you establish a Community Forum to oversee the development and allow issues, questions and concerns to be raised?

Yes, WWRE is keen to work with the community throughout the planning, construction and operation of the wind farm. We are keen to use the Parish Council Forum as a starting point, but we are happy to consider widening the membership of the forum if that is what it decides to do.

11. Could you provide more details on how your figures for the Community Benefit Fund have been worked out?

WWRE has commissioned Biggar Economics to undertake a socio-economic impact assessment of the proposals for Calderdale Wind Farm.

To provide an indication of the economic opportunities that could be generated from Calderdale Wind Farm, this study has modelled two scenarios:

- core scenario: based on the minimum level of supply chain expenditure that could realistically be achieved locally; and
- maximum scenario: the potential local economic benefits that could be realised from the full implementation of a local supply chain development plan where a greater proportion of the contracts are secured locally.

It was estimated that under the core scenario, expenditure on development and construction contracts which would take place over a fixed time period, e.g. design, building roads and foundations, transporting and installing turbines, could deliver:

- £26.2 million Gross Value Added (GVA) and 428 years of employment in Calderdale, where one year of employment is equivalent of employing one person full-time for a year;
- £61.4 million GVA and 1,067 years of employment in Yorkshire and the Humber; and
- 168.4 million GVA and 2,685 years of employment across the UK.

However, if further measures are undertaken to fully engage with the local and regional supply chain, it could maximise local content and increase the potential economic impact of the wind farm. The local area would be expected to secure a higher proportion of construction-related contracts, with opportunities for companies and

apprentices to develop new skills and competencies, and to take advantage of growing opportunities in the onshore wind sector.

On this basis, the economic impact in the local area could double. It was found that Calderdale Wind Farm could deliver up to:

- £56.7 million GVA and 847 years of employment in Calderdale;
- £124.9 million GVA and 2,005 years of employment in Yorkshire and the Humber; and
- £198.5 million GVA and 3,309 years of employment across the UK.

Similarly, Calderdale Wind Farm is expected to generate annual economic impacts during its 40-year operations and maintenance phase, supporting jobs in habitat management and routine maintenance, as well as through rents paid to the landowner. If the developer maximises engagement with the supply chain it could generate up to:

- £2.2 million GVA and 36 jobs in Calderdale, including through landowner rents;
- £5.5 million GVA and 90 jobs in Yorkshire and the Humber; and
- £12.0 million GVA and 165 jobs across the UK.

The economy is just one element of what makes a society successful, and the wind farm has the potential to contribute to wider social objectives. Calderdale Wind Farm will make a contribution to national wellbeing, by supporting the transition to net zero, increasing access to green spaces and reducing the risk of flooding. It will support local people to flourish through new job opportunities and a community benefit fund.

There are also a number of areas where Calderdale performs relatively poorly in areas that affect wellbeing. These include mental health, safety, community cohesion, physical health, adult education and basic needs. The area may also have high levels of fuel poverty, which has been exacerbated by the energy crisis.

WWRE has proposed a community benefit fund for the local area, which has the potential to address local issues and create a lasting legacy. Under the current design for Calderdale Wind Farm it is worth £2.5 million annually, or around £8,000 per MW, and will be worth £100 million during the lifetime of the project. It may be used to subsidise local energy use, reducing fuel poverty and financial stress for households near the wind farm.

WWRE can take a number of steps to ensure that the benefits are maximised, including:

- engaging early and actively with local people;
- working with them to develop a community action plan that sets out local priorities; and
- setting up a community development trust which can manage the funding while incorporates the views of local people.

The analysis also considered the role of tourism in the local Calderdale economy. Visitors are mainly attracted to the rich cultural and industrial heritage of the area events and festivals hosted in Calderdale, and natural and recreational attractions. A review of the literature on the relationship between onshore wind and tourism was carried out and found no relationship between the development of the two sectors.

Calderdale Wind Farm is not expected to have a detrimental impact on the local tourism sector. Calderdale Wind Farm is expected to represent a substantial increase in England's onshore wind capacity, while creating new economic opportunities and green jobs in an area that would benefit from new drivers of economic growth. It will also address local issues through a community benefit fund that will provide up to £2.5 million annually and be directed by the interests of local people.

The full assessment will be made available as part of a future public consultation process.

12. What ideas do you have for the management of the Community Benefit Fund?

WWRE is committed to a transparent and inclusive management approach for the Community Benefit Fund. This involves engaging community representatives in decision-making processes, establishing clear guidelines and criteria for fund allocation, and prioritising projects that align with the identified needs of the local community.

Community Benefit Funds can be managed in different ways. Sometimes they are managed by local parish councils, others involve distribution by the local authority, via a separate trust or a Community Interest Company can be established.

WWRE is happy to work with the community to consider the most appropriate way of managing the CBF as part of our community consultation process.

13. Could you explain in more detail what you mean by consultation with the community and how you will fairly and accurately record and reflect views and opinions including those who are opposed to the scheme?

WWRE's community consultation plan for the Calderdale Wind Farm is still being developed, however, the activity will involve the following:

- **Parish Council Collaboration:** Regular meetings with potentially affected local councils to encourage constructive involvement.
- **Resident Engagement:** Individual meetings with highly impacted residents, coordinated alongside Parish Council interactions.
- **Broad Public Consultation:** Through direct mail, in-person drop-in events at key locations, updated website information, and feedback mechanisms.
- **Event Promotion:** Utilising exhibition boards, updated videos, and community newsletters/social media for information dissemination.

This plan aims to exceed the parameters set out in Calderdale Council's Statement of Community Involvement, focusing on transparency and active community engagement. The results of the process will be considered by the project team and recorded in a Consultation Assessment Report, submitted as part of the planning application.

14. How do you intend to protect the Bronte heritage given that you are proposing to site the wind farm within 300 metres of Top Withens, and what impact will the proposal have on tourism in Haworth?

Wessex archaeology have been appointed to undertake work associated with cultural heritage and will be involved in the design process. They will feed in concerns and opportunities related to all cultural heritage. They will be considering the impact of the development from the Bronte heritage sites and other locations. Their views will be taken into account as the design develops.

15. How will you protect the Pennine Way Britain's first ever long distance walk as the wind farm appears to surround the walk from Walshaw to Top Withens, and will the path be open during construction?

The design process will meticulously assess the impact of the development on paths and public rights of way, considering both the landscape's visual aspects and recreational implications. Managing how the development interacts with these elements is a key focus.

During construction, the approach to access will be a careful consideration. Consent may involve a condition for a comprehensive public access plan covering both construction and operational phases. While the intention is to allow public access to the broader site during construction, certain areas might need restricted access due to health and safety considerations at various stages.

Drawing from examples such as the Southern Upland Way, which traverses areas near wind farms, we aim to employ best practices learned from similar situations to strike a balance between wind farm development and preserving the accessibility and experience of the Pennine Way.

16. The A 6033 over Cock Hill is apparently one of the most dangerous stretches of road in the country (in the top 10 in 2016) and in 2020 a multi-million-pound road improvement scheme was undertaken to lessen the bend at Bedlam Bend. Your proposal sites turbines number 33 and 54 in very close proximity to the A 6033 at Bedlam and turbine 60 adjacent to it at Cock Hill summit. What measures do you plan to undertake to ameliorate the distraction that will be caused to drivers at these points on an already very dangerous road?

We appreciate your concern regarding the potential distraction posed by turbines near the A6033 at Bedlam Bend and Cock Hill summit. Your feedback will be integrated into our design process, and we are committed to seeking expert advice to address this matter comprehensively. Ensuring safety on this already recognised hazardous road is a priority, and we will consider specific measures aimed at mitigating any potential distractions caused by the proximity of turbines to these critical points.

17. What fire risk assessments and control measures have been made and were the fire services consulted about the proposal?

A detailed fire risk assessment is planned in partnership with WWRE and the fire services. This encompassing evaluation involves tailored mitigation strategies, emergency response protocols, and the implementation of fire-resistant materials in critical zones to proactively address and handle potential fire occurrences.

Engagement with the fire service can occur through the Environmental Impact Assessment (EIA) process, should it prove beneficial. Typically, emergency services aren't routinely involved in such developments except for cases

involving the air ambulance. However, compliance with pertinent health and safety standards is mandatory for the proposed development.

18. Where is the location of the battery storage facility and what are its dimensions and layout?

The specific location, dimensions, and layout of the battery storage facility will be determined based on the finalised scale of the wind farm development. Identifying suitable areas for the battery will be contingent upon understanding the project's overall scale. Additionally, the potential grid capacity will significantly influence the feasibility and size considerations for the battery installation.

19. What fire risk and control measures are proposed and have the potential consequence of a major incident impacting the surrounding environment been assessed?

Measures to control fire risks will be developed as part of the first risk assessment. We plan to engage with the West Yorkshire Local Resilience Forum as part of the process to prepare the planning application. If there are known risks of moorland fires that the community is aware of we would like to understand these so they can be factored into the fire risk assessment.

20. Could the detrimental effect on the peat be lessened by locating the turbines in areas where the peat is not as deep?

Recognising the significance of minimising peat impact, WWRE is actively considering turbine placement to mitigate any detrimental effects on peat. Our decision-making process integrates extensive existing information about peat conditions, guiding the evolving design to limit environmental impact.

Moreover, to enhance our understanding and ensure a comprehensive baseline, additional detailed peat surveys will be conducted. This meticulous approach aims to fully grasp the existing conditions and incorporate them into the design, further aligning it with our commitment to preserving the peatland.

21. Considerable amounts of CO2 will be produced as a consequence of this project should it go ahead; manufacture of the turbines themselves, construction of the wind farm, concrete, transportation of materials to and from the site, and CO2 storage capacity lost by removal of blanket bog. Can you demonstrate in writing showing your calculations, that more CO2 will be saved during the lifetime operation the windfarm than will be produced as a result of its construction and maintenance?

The project's carbon footprint is rigorously assessed, encompassing the various stages from turbine manufacture to construction and ongoing maintenance. The carbon savings showcased on the Calderdale Wind Farm website indicate the substantial reduction in CO2 emissions achieved by generating electricity through onshore wind compared to fossil fuels.

To provide a comprehensive analysis, calculations will be conducted using the carbon calculator—an extensively utilised tool endorsed by the Scottish Government and widely adopted across Wales and England. These calculations will accurately evaluate and compare the total CO2 emissions produced during the project's lifecycle, accounting for turbine manufacturing, wind farm construction, transportation, and the impact on CO2 storage from the removal of blanket bog.

This comprehensive assessment aims to demonstrate that the accumulated carbon savings over the operational lifetime of the wind farm significantly surpass the initial carbon emissions generated during its construction and maintenance phases.

22. How would the above calculation in question 21 differ if the wind farm were built on solid rock?

We are unable to answer this question at this time.