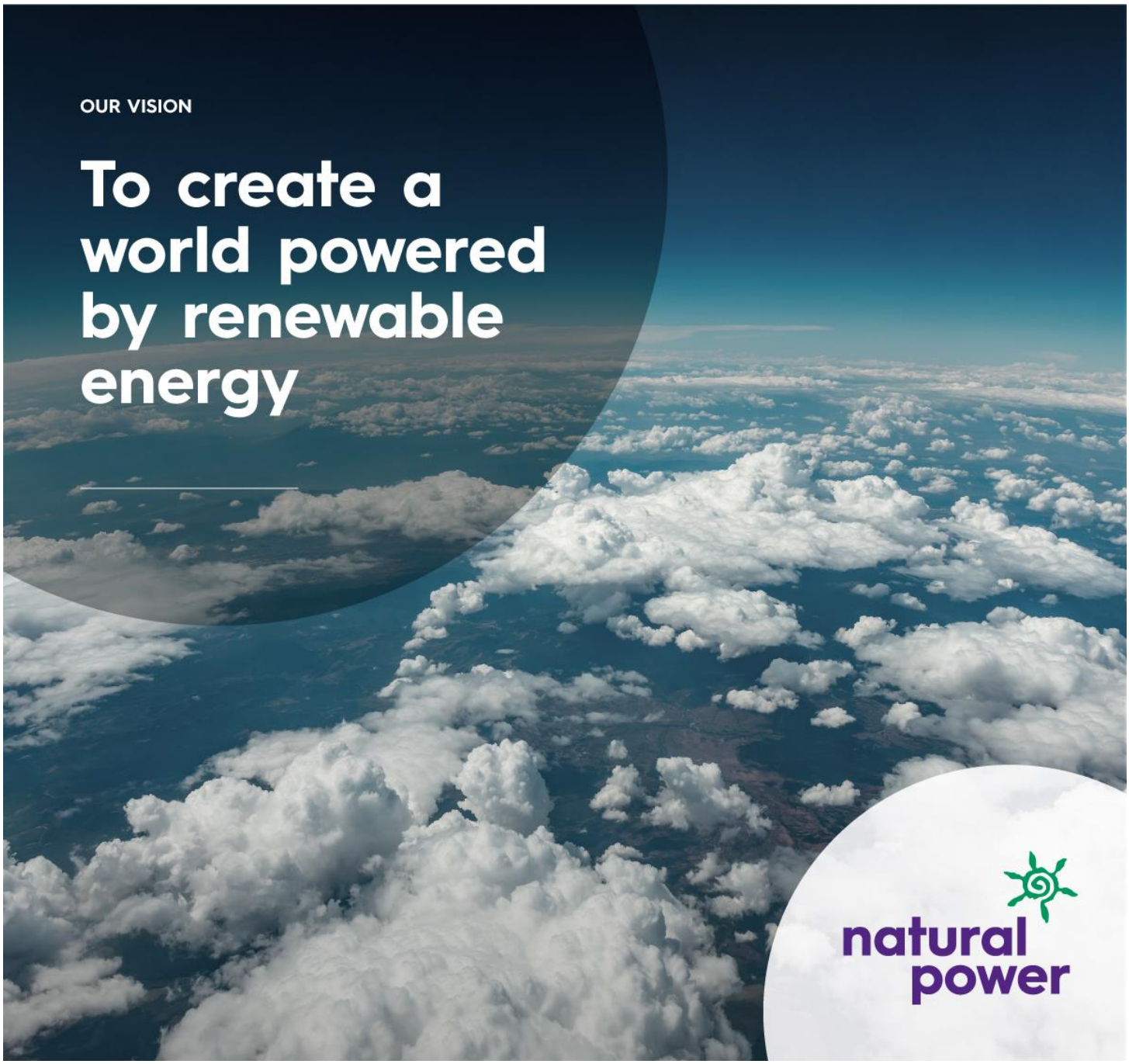

Hearthstanes Anemometry Mast

30 March 2023

Fred. Olsen Renewables Limited

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Contents

1. Introduction

1.1.1. This Supporting Statement has been prepared by Natural Power Consultants Limited (Natural Power) on behalf of Fred. Olsen Renewables Ltd, (herein referred to as the Applicant) to provide supporting information for a planning application submitted to The Scottish Borders Council (SBC) seeking temporary planning permission for 36 months of anemometry operations. The proposed Hearthstanes' Anemometry Operations, hereafter referred to as the 'proposed operations' are located approximately 1 km south of Tweedsmuir, between the Talla and Fruid reservoirs.

1.1.2. Further details of the design and siting of the proposed operations which should be viewed in conjunction with this Supporting Statement can be found on the following plans:

- Figure 1.1: Anemometry Mast Location Plan
- Figure 1.2: Anemometry Mast Site Plan
- Figure 1.3: Indicative Mast Elevations
- Figure 1.4: Indicative Lidar Plan and Elevations

1.1.3. This Statement sets out the following:

- Details of the background to the operations, the Applicant and its Agent;
- Details of the proposed operations including its design and access arrangements; and
- Assessment of the proposal against the Development Plan and other material planning considerations.

2. Background

2.1. The Applicant

2.1.1. The Applicant, Fred. Olsen Renewables Ltd is one of the leading, independent renewable power producers in the UK. The Applicant has an operational UK wind farm portfolio comprising of a total generating capacity of 787.7 MW[1]. The Applicant has over 25 years' experience in consenting, developing and operating wind farms, and are one of the few developers that take a project from initiation and development, through to operation and ultimately decommissioning.

2.2. The Agent

2.2.1. The Applicant's Agent is Natural Power Consultants Limited (Natural Power). Natural Power is an independent Scottish based renewable energy consultancy business that provides a full range of services covering all aspects of project development from proof-of-concept design and planning to construction and asset management, assisting clients via a tailored delivery of specialist services. Natural Power is working on behalf of the Applicant to manage the consent process for the proposed operations.

2.3. Anemometry mast

2.3.1. Anemometry masts are used to monitor wind speed and direction in order to ascertain the available wind resource on any given site such as potential wind farm sites. It is important that the anemometry mast is granted permission for the full 36 months to provide a greater degree of certainty within the gathered data,

[1] Wind farms (fredolsenrenewables.com)

overcoming seasonal variations in wind flow and address the potential for mechanical or electrical failure. As wind speed and wind direction frequency varies from month to month and year to year it is necessary that wind data from the mast is collected throughout the entire period to enable accurate, long term predictions of mean wind speed.

2.4. Lidar

2.4.1. Lidars are remote sensing devices used to monitor wind speed and direction in order to ascertain the available wind resource. It is important that the Lidar is granted permission for the full 36 months to provide a greater degree of certainty within the gathered data, overcoming seasonal variations in wind flow and address the potential for mechanical or electrical failure. As wind speed and wind direction frequency varies from month to month and year to year it is necessary that wind data from the lidar is collected throughout the entire period to enable accurate, long term predictions of mean wind speed.

2.5. The proposed location

2.5.1. The proposed operations are associated with assessing the background wind resource in the area to establish a wind resource profile.

2.5.2. The proposed location (and micro siting area) is out with any ecological or cultural designations and isn't anticipated to have any connectivity with any designations such as Tweedsmuir Hill Site of Special Scientific Interest (SSSI) and River Tweed Special Area of Conservation (SAC). The proposed location is 2.8 km south west of Tweedsmuir Hills SSSI and 2.3 km south east of River Tweed SAC.

2.5.3. The site is best described as an area of dense commercial forestry where recent felling operations have been carried out and with the land uses in the wider locale categorised by a combination of densely forested areas and open moorland.

2.6. The proposed operations

2.6.1. Planning permission is being sought for the erection of a temporary lattice anemometry mast and Lidar for the purpose of collecting wind resource data on site. The proposed operations will comprise a single temporary lattice anemometry mast up to 80 m in height and associated supporting guy lines radiating up to 60 m from the lattice anemometry mast (see Figure 1.2) itself. The anemometry mast is proposed to be in situ for up to 36 months excluding erection and decommissioning. Details of the proposed mast location (centre point: 310886 E, 619435 N), can be found in Figure 1.1.

3. Design

3.1. Mast

3.1.1. An elevations diagram of an indicative lattice mast is presented in Figure 1.3. The proposed temporary lattice anemometry mast would be up to 80 m in height with guy wires anchored to the ground extending to anchor points up to 60 m from the lattice wind monitoring mast.

3.1.2. The lattice mast column is expected to be seated on a temporary wooden sleepers or steel base plate approximately 2 m x 2 m. The guy wires are expected to be galvanised wire approximately 10 mm in diameter. The outer guy wires will be suitably marked in order to reduce the risk of possible bird strikes using bird flight diverters.

3.1.3. The bird flight diverters are envisaged to be in the form of bright orange discs approximately 14 cm in diameter, they shall be attached to the outer guy wires approximately 5 m apart and not within 5 m of the instruments on the column. There will be approximately 50 bird diverters in total positioned on the outer guy wires in order to mitigate against potential bird strikes. There will also be visual sleeves around the guy wires near the ground for safety to alert people passing nearby of their presence.

3.1.4. Measuring equipment will be installed on the central column at different heights from the ground up. The equipment includes but is not limited to a data logger, pressure sensors, thermometers, wind vanes, and anemometers. Infra-red aviation warning lighting is proposed to ensure aviation safety and will be agreed in advance of erection with the Ministry of Defence (MoD) and located at the highest practicable point and shall commence operation when the mast is erected to its full consented height. The infra-red light will operate in a flashing mode during night-time hours only. It will not be visible to the naked human eye. Data will be downloaded via the mobile phone/data network.

3.1.5. The proposed temporary anemometry mast is a robustly engineered minimal-maintenance lattice structure combined with reliable data logging and communications equipment to facilitate remote data acquisition via telephone modem. Such a mast is commonly used for a variety of purposes including radio masts, warning lights and wind monitoring. The proposed temporary anemometry mast incorporates high quality independently calibrated and certified instrumentation that provides reliability of communications. The data collected will comprise background noise, wind speed, direction, atmospheric pressure and temperature measurements.

3.2. Lidar

3.2.1. An elevations diagram of an indicative Lidar is presented in Figure 1.4. The proposed Lidar would be approximately 1.2 m x 1.2 m square, with a total height not exceeding 1.2 m. The devices will be surrounded by fencing for Health and Safety and security purposes.

3.2.2. The proposed temporary Lidar is a robustly engineered minimal-maintenance lattice structure combined with reliable data logging and communications equipment to facilitate remote data acquisition via telephone modem. The data collected will comprise wind speed, direction, atmospheric pressure and temperature measurements.

4. Access

4.1.1. Access to the site will be made from Silver Jubilee Road running past the site on its north side. Additional site routes will also be required within the Proposed Location. The off-road route to the mast location will be chosen to minimise potential impacts on the environment, whilst taking account of other site-specific constraints. Access will be achieved by All-Terrain Vehicle (eg. Haglund) with low-pressure tyres or tracks. A tracked excavator will be required for burying the anchor foundations.

4.1.2. There will be no abnormal loads associated with the delivery and installation of the infrastructure.

5. Erection, operation, decommissioning and reinstatement

5.1. Erection

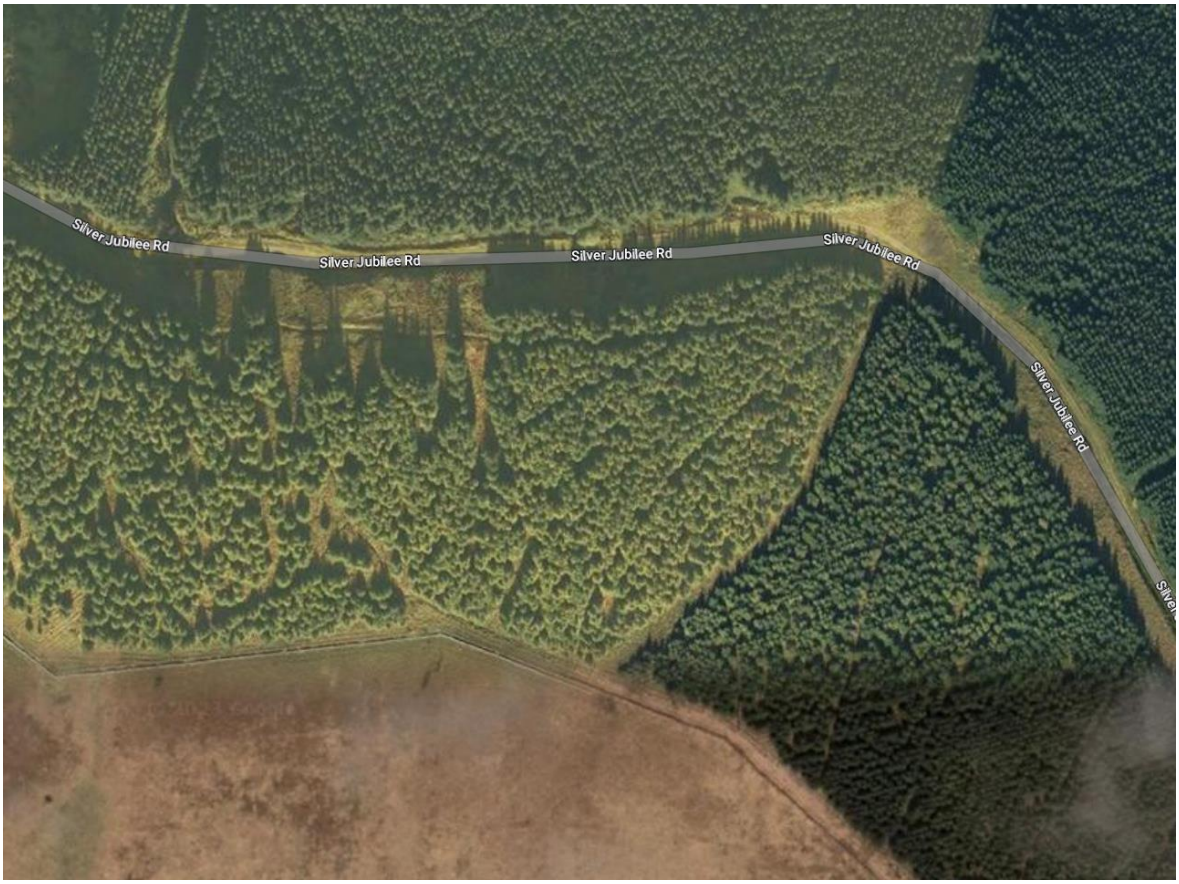
5.1.1. All three guys wires will extend across open ground which may be uneven in surface and condition, the exact orientation of the guy wires as they extend out from the lattice mast itself will be dependent on the most suitable angles and anchorage points being found at the time the mast is erected. The anemometry

mast will be delivered and erected in segments to be connected on site. The bottom segment will be based on top of a framework (e.g. railway sleepers or steel base plate) and each adjoining segment will be erected using a gin pole and winch system and bolted together. The guy wires will be secured to the ground by using dig in anchors. These are anticipated to be 1.5 m^2 anchor boards buried to a depth of approx. 1 - 1.5 m and backfilled. A steel tendon then connects between buried board and mast guy wires. Each anchor is proof tested to ensure that it has the required load bearing capacity prior to use.

5.1.2. At the mast base will be a ground mounted solar photovoltaic array. It will be mounted on a framing system (approx. 1.2 m x 2.4 x 2.0 m) and will house solar panels and a battery bank. Methanol fuel cells will be co-located as a fuel source for the lidar.

5.1.3. The open area in which the proposed operations would sit as illustrated in Figure 5.1 and has been chosen as the most suitable in a topographically complex site. The lattice mast, and the complete length of all three-guy wire will all be located within the open area in the centre of the photo. No tree felling is required as part of the application.

Figure 5.1 – Site Location



Source: Bing Maps Satellite Imagery dating 28/03/2023

5.1.4. A limited micro siting allowance has been included within the planning application boundary so that the optimal orientation and siting of the proposed operations can be made during installation , utilising the most suitable ground conditions. Excluding any days where foul weather causes delays, the construction period is expected to last no longer than 5 days.

5.2. Operation

5.2.1. The operational period applied for is 36 months during which instruments from the mast would collect anemometry data. The energy required for the equipment would be provided by solar photovoltaics and methanol fuel cells. The proposed operations would have scheduled maintenance/inspection visits.

5.3. Decommissioning and reinstatement

5.3.1. Similar methods to those used in erection will be used for decommissioning and restoring the site. Excluding any days where foul weather causes delays, the decommissioning period is expected to last no longer than 5 days. The site will as far as possible be restored to its original state.

6. Statutory planning requirements

6.1. Town and Country Planning (Scotland) Act 1997 as amended

6.1.1. The planning application has been prepared in accordance with the provisions of the Town and Country Planning (Scotland) Act 1997[2] as amended by the Planning etc. (Scotland) Act 2006. The determining authority in this case is SBC.

6.1.2. Section 25 of the Act states that:

6.1.3. "*Where it is making a determination under the Planning Acts, regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material considerations indicate otherwise*."

6.1.4. This is reinforced through Section 37(2) of the Act, which states:

6.1.5. "*In dealing with such an application the Authority shall have regard to the provisions of the development plan, so far as material to the application, and to any other material considerations*."

6.1.6. Accordingly, if the proposed operations meets with the terms of policies contained within the Development Plan, planning permission should be granted unless material considerations indicate otherwise. Conversely, should it not satisfy the terms of the Development Plan, material considerations may outweigh the provisions of the Development Plan and consent may be granted in any event. Furthermore, the proposed operations should be considered in terms of the entirety of the Development Plan, and a fail in terms of the one policy does not signify failure to comply with the requirements of the Development Plan as a whole.

6.1.7. The relevant Development Plan for the proposed operations to be considered against consists of the Scottish Government National Planning Framework 4 (NPF4) 2023[3] and Scottish Borders Council Local Development Plan (SBC DP) (2016)[4]. These policy documents are examined in section 7 of this Statement. It is worth noting SBC are in the process of producing an updated LDP however this is in examination and therefore has not been adopted yet.

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[2] Town and Country Planning (Scotland) Act 1997 (legislation.gov.uk)

[3] https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf

[4] Local development plan - adopted | Local development plan | Scottish Borders Council (scotborders.gov.uk)

7. Planning policy

7.1.1. The relevant development plan applicable in this instance consists of:

- Scottish Government NPF4;
- SBC LDP (2016)

7.2. Scottish Government National Planning Framework 4 (2023)

7.2.1. Policy 11 Energy - provides support for all forms of renewable, low-carbon and zero emission technology. Paragraph a), sub paragraph ii) of Policy 11 includes enabling works to achieve renewable technologies.

7.2.2. The proposed operations are therefore supported under this policy.

7.2.3. The proposed operations are assessed against the relevant NPF4 policies in the table below.

Table 7.1: NPF4 policy and actions taken to meet requirements

NPF4 policy guidance	Actions taken to meet requirements
Policy 1 – Tackling the Climate and Nature Crisis	The proposed operations support this policy through enabling the works for renewable technologies.
Policy 3 – Biodiversity	The proposed operations are not located within any ecological designations or areas of sensitivity. in addition, the proposed operations are temporary in nature due to the limited time period for which consent is being applied for. Bird flight diverters will be attached to the outer guy wires to mitigate against potential bird strikes during operation. Furthermore, the utilisation of good practice construction methods combined with the minor scale of the works are unlikely to result in any measurable impact on ecology, hydrology, hydrogeology or geology receptors.
Policy 4 – Natural Places	The proposed operations are not located within any ecological, hydrological or ornithological designations. In addition, the proposed operations are outwith the Wild Land Area to the south of the site.
Policy 5 – Soils	The proposed operations are located within an area of felled commercial forestry and are therefore not sited with prime agricultural land. Additionally, the site of the met mast is not located within any areas of priority peatland. The proposed operations are within Class 5 (peat soil) according to NatureScot Carbon and Peatland 2016 map[5].
Policy 6 – Forestry, Woodland and Trees	The development proposals will not result in the loss of ancient woodland, ancient or veteran

[5] Scotland's Soils - soil maps (environment.gov.scot)

NPF4 policy guidance	Actions taken to meet requirements
	trees, native woodlands, hedgerows or individual trees of high biodiversity value. In addition, no tree felling required for proposed operations.
Policy 7 – Historic Assets and Places	The proposed operations are not located near or within any historic assets or places therefore will have not have any impact on historic assets.
Policy 11 – Energy	The proposed operations will support this policy through enabling works for renewable technologies.
Policy 22 – Flood Risk and Water Management	Scottish Environment Protection Agency (SEPA) Flood Maps[6] indicates the proposed operations located is not situated in an area of high likelihood of flooding and is beyond 50 m from nearby watercourses. In addition, the proposed operations will be temporary in nature due to the limited time period for consent.

7.3. The Scottish Borders Council Local Development Plan (2016)

7.3.1. The proposed operations are situated in the Scottish Borders and the relevant policies to be considered are contained within the SBC LDP (2016)[7]. There are no specific policies directly relevant to the proposed operations however there are some policies of relevance to its location and to the proposed operations in general. The application boundary for the proposed operations lies approximately 2.3 km from River Tweed SAC. In addition, Tweedsmuir Hills SSSI and Moffat Hills SSSI and SAC is located 2.8 km and 5.6 km respectively from the application boundary. Furthermore, the proposed operations are out with any areas designated for cultural heritage and has no designated heritage assets within the application boundary.

7.3.2. The vision of SBC LDP is to ensure that the Scottish Borders '*continues to be an excellent place in which to live and work, with improved job opportunities, housing availability and connectivity*' and that '*development will be sustainable and meet the challenges of a changing climate'*. The LDP continues that "*Climate change will also benefit from the promotion of renewable electricity as heat and power generation from renewable sources will help to address the effects of climate change and encourage the adaptation to a low carbon economy*".

7.3.3. As a development associated with the assessing the potential for a low cost low carbon electricity generation it is considered to be strongly supported by the vision of the LDP, especially now with the recent introduction of NPF4.

Table 7.2: SCB LDP policy guidance and actions taken to meet requirements.

SBC LDP policy guidance	Actions taken to meet requirements
Policy PMD2 – Quality Standards	Applies to all new developments and focussed on ensuring open space within new proposals. As a result it has limited relevance to this temporary

[6] SEPA Flood Maps (arcgis.com)

[7] https://www.scotborders.gov.uk/downloads/file/2017/ldp_-_volume_1_policies

SBC LDP policy guidance	Actions taken to meet requirements
	erection and operation of a mast and lidar. A provision of Policy PMD2 is to protect existing and potential public access routes which the site does not interfere with. There is no conflict with the aims of Policy P2.
Policy ED6 – Digital Connectivity	Policy ED6 is not directly relevant to the proposed operations since the proposed operations is not for telecommunications purposes. Nonetheless there are some similarities, and the proposed operations has been sited in the optimum location to record wind data. The mast is a slender structure with no visible lighting. Therefore, there is no conflict with the aims of this policy.
Policy IS8 – Flooding	The proposed operations are situated away from watercourses such as the Auchenmade Burn and Burn and according to SEPA flood mapping is not at risk of river or surface water flooding. Therefore, there is no conflict with this policy.
Policy EP7 – Listed Buildings Policy EP8 – Archaeology Policy EP9 – Conservation Areas Policy EP10 – Gardens and Designed Landscapes	There are no elements of cultural heritage including Archaeologically Sensitive Areas, Historic Gardens & Designated Landscapes, Scheduled Monuments or Listed Buildings within or adjacent to the application boundary and therefore no direct effects upon the historic environment. Therefore, the proposed operations are not contrary to these policies.
Policy EP1 – International Nature Conservation Sites and Protected Species Policy EP2 – National Nature Conservation Sites and Protected Species Policy EP3 – Local Biodiversity	The proposed operations are not within an area designated for ecological importance. In addition, given the recent felling of commercial forestry, it is not anticipated there will be any ornithological sensitivities on site. Construction good practice measures will be undertaken and bird flight diverters will be attached to the outer guy wires (as described in section 3.1) to mitigate against potential bird strikes during operation. Therefore, the proposed operations do not conflict with the aims of these policies.
Policy EP4 – National Scenic Areas Policy EP5 – Special Landscape Areas Policy EP6 – Countryside Around Towns	The site is situated within Tweedsmuir Uplands Scenic Landscape Area (SLA) however due to due to the limited time period for which consent is being applied for, any potential effects will be temporary in nature. Additionally, any visual effects are considered negligible due to the slender lattice design of the anemometry mast

SBC LDP policy guidance	Actions taken to meet requirements
	and it having no moving parts. It will be relatively inconspicuous in this environment therefore there is no conflict with these policies.

8. Summary & conclusions

8.1.1. The Applicant is seeking planning permission for the erection and operation of an anemometry mast and Lidar for a temporary period of 36 months. This Statement has presented the details of the proposed operations and assessed it against the relevant planning policies.

8.1.2. The proposed operations are required for the purpose of monitoring wind conditions. The temporary anemometry mast and Lidar would be in situ for no longer than 36 months, after which time the mast and Lidar would be dismantled and the site restored to its original ground condition.

8.1.3. The proposed met mast and Lidar infrastructure is of limited mass and owing to the temporary and reversible nature of the proposed operations and the distance from potential sensitive receptors, it is considered that the proposed operations would not result in any significant adverse effects upon the surrounding area in terms of landscape and visual amenity, on nature conservation sites in proximity of the site or on cultural heritage assets.

8.1.4. The application is supported with appropriate NPF4 and LDP planning policies. The proposed operations are necessary for the intended purpose, sited in a suitable location and are acceptable in planning policy terms, thus warrants an approval of planning permission for 36 months from the date of erection.

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25 years

For full details on our ISO and other certifications, please visit our website.