

Technical Appendix 4.2

Scoping Opinion (2023)



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**The Scottish Government
Energy Consents Unit**

**Scoping Opinion On Behalf Of Scottish Ministers Under The Electricity Works
(Environmental Impact Assessment) (Scotland) Regulations 2017**

**Hagshaw Energy Cluster – Western Expansion
Spirebush Ltd, subsidiary of 3R Energy Solutions Limited**

14 March 2023

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1. Introduction

- 1.1 This scoping opinion is issued by the Scottish Government Energy Consents Unit on behalf of the Scottish Ministers to Spirebush Ltd a company incorporated under the Companies Acts with company number SC697238 (“the Company”) and having its registered office at J R W, 19 Buccleuch Street, Hawick, Roxburghshire, Scotland, TD9 0HL in response to a request dated 22 September 2022 for a scoping opinion under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 in relation to the proposed Hagshaw Energy Cluster – Western Expansion (the proposed development). The request for a scoping opinion was accompanied by a scoping report which was prepared by ITP Energised, acting as the Company’s agent (“the Agent”).
- 1.2 The proposed development would be located approximately 2.45km north of the village of Muirkirk. It adjoins an established cluster of wind farms around Hagshaw Hill (known as the ‘Hagshaw Cluster’) and Dungavel Hill Wind Farm in South Lanarkshire and extends westwards towards the village of Muirkirk in East Ayrshire, with the nearest proposed turbine 2.45km from the village.
- 1.3 The proposed development would consist of up to 72 wind turbines with a maximum blade to tip height of 230m, and a generating capacity of up to approximately 500 MW. It would also consist of solar photovoltaic (PV) panels with a generating capacity of approximately 50MW plus a battery energy storage system of 100MW. The proposed development also includes a 40 MW electrolyser plant for the production of green hydrogen fuel, however this is out with the remit of the Electricity Act 1989, Section 36, and the Company will apply to the planning authority under the Town and Country Planning (Scotland) Act 1997, Section 32, in relation to the hydrogen component of the proposed development.
- 1.4 In addition to the wind turbines and solar photovoltaic panels there will be ancillary infrastructure including:
 - turbine foundations;
 - crane hard standings;
 - access tracks
 - temporary construction compound(s), laydown area(s), and concrete batching plant(s);
 - underground cabling between the wind turbines and the on-site substation, energy storage compound and Green Hydrogen Facility;
 - borrow pits for stone;
 - meteorological mast(s).
 - photovoltaic mounting frames;
 - perimeter fencing (deer stock);
 - CCTV cameras;
 - inverters and transformers;
 - underground cabling between the photovoltaic panels and the on-site substation and energy storage compound.
- 1.5 The Company indicates the proposed development would be decommissioned after 40 years and the site restored in accordance with the decommissioning and restoration plan.
- 1.6 The proposed development lies across the planning authorities of East Ayrshire Council and South Lanarkshire Council.

- 1.7 There are a number of operational and consented wind farms in the surrounding area. To the north of the site is the Kype and Bankend Energy Cluster, made up of Kype Muir Wind Farm, Kype Muir Extension, Auchrobert Wind Farm, Dungavel Wind Farm, Bankend Rig Wind Farm, Mill Rig Wind Farm (consented), Bankend Rig II Wind Farm (variation in planning) and Bankend Rig III Wind Farm (scoping). To the east of the site lies Hagshaw Energy Cluster, comprising of Hagshaw Hill Wind Farm, Hagshaw Hill Extension, Douglas West Wind Farm, Douglas West Extension, Cumberhead Wind Farm, Cumberhead West, Galawhistle Wind Farm, Nutberry Wind Farm, Dalquhandy Wind Farm and Hare Craig Wind Farm.

2. Consultation

- 2.1 Following the scoping opinion request a list of consultees was agreed between the Agent and the Energy Consents Unit. A consultation on the scoping report was undertaken by the Scottish Ministers and this commenced on 04 October 2022. The consultation closed on 25 October 2022. Extensions to this deadline were granted to:-
- South Lanarkshire Council;
 - NatureScot;
 - Scottish Environment Protection Agency (SEPA);
 - Glasgow Prestwick Airport;
 - RSPB Scotland;
 - South Scotland Scottish Raptor Study Group.
- 2.2 The Scottish Ministers also requested responses from their internal advisors Hydrogen Policy, Natural Resources Division, Transport Scotland and Scottish Forestry. Standing advice from Marine Scotland Science (MSS) has been provided with requirements to complete a checklist prior to the submission of the application for consent under section 36 of the Electricity Act 1989. All consultation responses received are attached in **ANNEX A Consultation responses**. The standing advice from MSS is attached in **ANNEX B MSS Standing Advice**.
- 2.3 The purpose of the consultation was to obtain scoping advice from each consultee on environmental matters within their remit. Responses from consultees and advisors, including the standing advice from MSS, should be read in full for detailed requirements and for comprehensive guidance, advice and, where appropriate, templates for preparation of the Environmental Impact Assessment (EIA) report.
- 2.4 Unless stated to the contrary in this scoping opinion, Scottish Ministers expect the EIA report to include all matters raised in responses from the consultees and advisors.
- 2.5 No responses were received from:-
- Association of Salmon Fishery Boards;
 - British Horse Society;
 - Civil Aviation Authority;
 - Coalburn Community Council;
 - District Salmon Fisheries Board;
 - Douglas Community Council;
 - Fisheries Management Scotland;
 - Galloway and Southern Ayrshire Biosphere;
 - Hydrogen Policy;
 - Lesmahagow Community Council;
 - Mountaineering Council of Scotland;
 - Muirkirk Community Association;
 - Natural Resources Division;
 - Sanford Upper Avondale Community Council;
 - Scottish Rights of Way and Access (Scotways);
 - Scottish Wildlife Trust;
 - Visit Scotland.

- 2.6 With regard to those consultees who did not respond, it is assumed that they have no comment to make on the scoping report, however each would be consulted again in the event that an application for section 36 consent is submitted subsequent to this EIA scoping opinion.
- 2.7 The Scottish Ministers are satisfied that the requirements for consultation set out in Regulation 12(4) of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 have been met.

3. The Scoping Opinion

- 3.1 This scoping opinion has been adopted following consultation with East Ayrshire Council and South Lanarkshire Council, within whose area the proposed development would be situated, NatureScot (previously “SNH”), Scottish Environment Protection Agency (SEPA) and Historic Environment Scotland (HES), all as statutory consultation bodies, and with other bodies which Scottish Ministers consider likely to have an interest in the proposed development by reason of their specific environmental responsibilities or local and regional competencies.
- 3.2 Scottish Ministers adopt this scoping opinion having taken into account the information provided by the Company in the request dated 22 September 2022 in respect of the specific characteristics of the proposed development and responses received to the consultation undertaken. In providing this scoping opinion, the Scottish Ministers have had regard to current knowledge and methods of assessment; have taken into account the specific characteristics of the proposed development, the specific characteristics of that type of development and the environmental features likely to be affected.
- 3.3 A copy of this scoping opinion has been sent to East Ayrshire Council and South Lanarkshire Council for publication on their website. It has also been published on the Scottish Government energy consents website at www.energyconsents.scot.
- 3.4 Scottish Ministers expect the EIA report which will accompany the application for the proposed development to consider in full all consultation responses attached in **Annex A and Annex B**.
- 3.5 Scottish Ministers are satisfied with the scope of the EIA set out at Section 3 of the scoping report.
- 3.6 In addition to the consultation responses, Ministers wish to provide comments with regards to the scope of the EIA report. The Company should note and address each matter.
- 3.7 The proposed development set out in the scoping report refers to wind turbines, and other technologies including battery storage and/or solar panels. Any application submitted under the Electricity Act 1989 requires to clearly set out the generation station(s) that consent is being sought for. For each generating station details of the proposal require to include but not limited to:
- the scale of the development (dimensions of the wind turbines, solar panels, battery storage)
 - components required for each generating station
 - minimum and maximum export capacity of megawatts and megawatt hours of electricity for battery storage

Water supply

- 3.8 Scottish Water advised that there were no Scottish Water drinking water catchments, or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed development. Scottish Water also provided general advice which should be addressed in the EIA report, including any relevant mitigation measures required.
- 3.9 Scottish Ministers request that the Company investigates the presence of any private water supplies which may be impacted by the development. The EIA report should include details of any supplies identified by this investigation, and if any supplies are identified, the Company

should provide an assessment of the potential impacts, risks, and any mitigation which would be provided.

MSS

- 3.10 MSS provide generic scoping guidelines for onshore wind farm and overhead line development (<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren>) which outline how fish populations can be impacted during the construction, operation and decommissioning of a wind farm or overhead line development and informs developers as to what should be considered, in relation to freshwater and diadromous fish and fisheries, during the EIA process.
- 3.11 In addition to identifying the main watercourses and waterbodies within and downstream of the proposed development area, developers should identify and consider, at this early stage, any areas of Special Areas of Conservation where fish are a qualifying feature and proposed felling operations particularly in acid sensitive areas.
- 3.12 **MSS also provide standing advice for onshore wind farm or overhead line development (which has been appended at Annex B) which outlines what information, relating to freshwater and diadromous fish and fisheries, is expected in the EIA report. Use of the checklist, provided in Annex 1 of the standing advice, should ensure that the EIA report contains the required information; the absence of such information may necessitate requesting additional information which may delay the process. Developers are required to submit the completed checklist in advance of their application submission.**

Peat landslide hazard and risk assessment

- 3.13 Scottish Ministers consider that where there is a demonstrable requirement for peat landslide hazard and risk assessment (PLHRA), the assessment should be undertaken as part of the EIA process to provide Ministers with a clear understanding of whether the risks are acceptable and capable of being controlled by mitigation measures. The Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Second Edition), published at <http://www.gov.scot/Publications/2017/04/8868>, should be followed in the preparation of the EIA report, which should contain such an assessment and details of mitigation measures. Where a PLHRA is not required clear justification for not carrying out such a risk assessment is required. It should be noted by the Company that the Scottish Ministers engage the services of appropriate specialists to assess Peat Landslide Hazard and Risk Assessments submitted with an EIA report.

Landscape, visual and night-time assessment

- 3.14 The scoping report identified viewpoints at Table 5.1 to be assessed within the landscape and visual impact assessment, which have been noted and considered acceptable by South Lanarkshire Council. It is recommended by the Scottish Ministers that the study area in kilometres from the outer most turbines of the proposed Development and the final list of viewpoints and visualisations, including those for Night Time Assessment, should be agreed following discussion between the Company, East Ayrshire Council, South Lanarkshire Council and NatureScot.
- 3.15 As the maximum blade tip height of turbines exceeds 150m the LVIA, as detailed in section 5 of the scoping report, must include a robust Night Time Assessment with agreed viewpoints to consider the effects of aviation lighting and how the chosen lighting mitigates the effects.

- 3.16 Full details of all mitigation of aviation lighting impacts subsequently identified should be provided in the EIA report.

Noise

- 3.17 The noise assessment should be carried out in line with relevant legislation and standards as detailed in section 8 of the scoping report. The noise assessment report should be formatted as per Table 6.1 of the IOA “A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise.”.
- 3.18 Scottish Ministers are aware that further engagement is required between parties regarding the refinement of the design of the proposed development regarding, among other things, surveys, management plans, peat, radio links, finalisation of viewpoints, cultural heritage, cumulative assessments and request that they are kept informed of relevant discussions.

Bird Surveys

- 3.19 It is recommended by the Scottish Ministers that decisions on bird surveys – species, methodology, vantage points, viewsheds & duration - site specific & cumulative – should be made following discussion between the Company and NatureScot.

Borrow Pits

- 3.20 Where borrow pits are proposed as a source of on-site aggregate they should be considered as part of the EIA process and included in the EIA report detailing information regarding their location, size and nature. Ultimately, it would be necessary to provide details of the proposed depth of the excavation compared to the actual topography and water table, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement, and details of the proposed restoration profile. The impact of such facilities (including dust, blasting and impact on water) should be appraised as part of the overall impact of the working. Information should cover the requirements set out in ‘*PAN 50: Controlling the Environmental Effects of Surface Mineral Workings*’.

Special Protection Areas

- 3.21 The Scottish Ministers note that the proposed Development is within the boundaries of both the Muirkirk and North Lowther Uplands Special Protection Area (SPA) and the Muirkirk Uplands Site of Special Scientific Interest (SSSI). The SPA is classified for its breeding hen harrier, peregrine, merlin, short-eared owl and golden plover, and for its nonbreeding(wintering) hen harrier. The status of the site means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the “Habitats Regulations”) or, for reserved matters, The Conservation of Habitats and Species Regulations 2017 apply. Consequently, Scottish Ministers will be required to consider the effect of the proposal on the SPA by completing a Habitats Regulations Appraisal (HRA). NatureScot have provided advice on what should be considered within the EIA report.

4. Mitigation Measures

- 4.1 The Scottish Ministers are required to make a reasoned conclusion on the significant effects of the proposed development on the environment as identified in the environmental impact assessment. The mitigation measures suggested for any significant environmental impacts identified should be presented as a conclusion to each chapter. Applicants are also asked to provide a consolidated schedule of all mitigation measures proposed in the environmental

assessment, provided in tabular form, where that mitigation is relied upon in relation to reported conclusions of likelihood or significance of impacts.

5. Conclusion

- 5.1 This scoping opinion is based on information contained in the Company's written request for a scoping opinion and information available at the date of this scoping opinion. The adoption of this scoping opinion by the Scottish Ministers does not preclude the Scottish Ministers from requiring of the applicant information in connection with an EIA report submitted in connection with any application for section 36 consent for the proposed development.
- 5.2 This scoping opinion will not prevent the Scottish Ministers from seeking additional information at application stage, for example to include cumulative impacts of additional developments which enter the planning process after the date of this opinion.
- 5.3 Without prejudice to that generality, it is recommended that advice regarding the requirement for an additional scoping opinion be sought from Scottish Ministers in the event that no application has been submitted within 12 months of the date of this opinion.
- 5.4 It is acknowledged that the environmental impact assessment process is iterative and should inform the final layout and design of proposed developments. Scottish Ministers note that further engagement between relevant parties in relation to the refinement of the design of this proposed development will be required, and would request that they are kept informed of on-going discussions in relation to this.
- 5.5 Applicants are encouraged to engage with officials at the Scottish Government's Energy Consents Unit at the pre-application stage and before proposals reach design freeze.
- 5.6 Applicants are reminded that there will be limited opportunity to materially vary the form and content of the proposed development once an application is submitted.
- 5.7 When finalising the EIA report, applicants are asked to provide a summary in tabular form of where within the EIA report each of the specific matters raised in this scoping opinion has been addressed.
- 5.8 It should be noted that to facilitate uploading to the Energy Consents portal, the EIA report and its associated documentation should be divided into appropriately named separate files of sizes no more than 10 megabytes (MB).

Kirstin Keyes

Energy Consents Unit

14 March 2023

ANNEX A

Consultation

List of consultees

- East Ayrshire Council (page 12 - 28)
- South Lanarkshire Council (page 29 - 36)
- Historic Environment Scotland (HES) (page 37 – 42)
- NatureScot (previously “SNH”) (page 43 – 60)
- Scottish Environmental Protection Agency (SEPA) (page 61 – 71)
- Association of Salmon Fishery Boards*
- Ayrshire District Salmon Fisheries Board*
- British Horse Society*
- British Telecommunications plc (page 72 – 74)
- Civil Aviation Authority – Airspace*
- Coalburn Community Council*
- Crown Estate Scotland (page 75 – 77)
- Defence Infrastructure Organisation (page 78 – 82)
- Douglas Community Council*
- Edinburgh Airport (page 83)
- Fisheries Management Scotland*
- Galloway and Southern Ayrshire Biosphere*
- Glasgow Airport (page 84 – 85)
- Glasgow Prestwick Airport (page 86 – 92)
- Joint Radio Company Limited (page 93 – 96)
- Lesmahagow Community Council*
- Mountaineering Council of Scotland*
- Muirkirk Community Association*
- Muirkirk Community Council (page 97 – 98)
- Muirkirk Enterprise Group (page 99)
- NATS Safeguarding (page 100 – 113)
- ONR Land Use on behalf of Health and Safety Executive (page 114)
- RSPB Scotland (page 115 – 124)
- Sanford Upper Avondale Community Council*
- Scottish Rights of Way and Access Society (ScotWays)*
- Scottish Forestry (page 125 -127)
- Scottish Water (page 128 – 132)
- Scottish Wildlife Trust*
- South Scotland Scottish Raptor Study Group (page 133 -134)
- The Coal Authority (page 135 – 138)
- Transport Scotland (page 139 – 142)
- Visit Scotland*

*No response was received.

Internal advice from areas of the Scottish Government was provided by officials from Transport Scotland, Scottish Forestry and Marine Scotland (in the form of standing advice from Marine Scotland Science). No response was received from Hydrogen Policy and Natural Resources Division.

From: Mitchell, Graham <Graham.Mitchell@east-ayrshire.gov.uk>
Sent: 26 October 2022 10:41
To: Keyes K (Kirstin)
Cc: Econsents Admin
Subject: Hagshaw Cluster Western Expansion S36 scoping response [OFFICIAL]
Attachments: 22_0003_S36SCP Hagshaw Cluster S36 Scoping Response Appendix 1.pdf; 22_0003_S36SCP Hagshaw Cluster S36 Scoping Response.pdf; EH response.pdf

CLASSIFICATION: **OFFICIAL**

Morning Kirstin,

Please find attached the Council's scoping consultation response for the Hagshaw Cluster S36 (our ref: 22/0003/S36 ECU ref: ECU00004623).

I've also attached a response from the Council's Environmental Health Service to our internal consultation. As noted within the scoping response, should any of our other internal consultees provide comments these will be passed on to you.

Regards
Graham

Graham Mitchell MRTPI
Interim Team Leader – Development Management (Energy Team)
Governance
Opera House
8 John Finnie Street
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<https://eastayrshi.re/provostcharitydonation>

Telephone: 01563 576790

Email: submittoplaning@east-ayrshire.gov.uk

Our Ref: 22/0003/S36SCP

Date: 25th October 2022

Contact: Graham Mitchell

The Scottish Government Energy Consents Unit

Dear Sir/Madam

**THE ELECTRICITY ACT 1989 SECTION 36
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2017**

**REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36
APPLICATION FOR HAGSHAW ENERGY CLUSTER – WESTERN
EXPANSION**

Site Address: Hagshaw Energy Cluster - Western Expansion

I refer to your email dated 04 October 2022 requesting this Council's comments regarding the scoping report submitted by ITP Energised Limited on behalf of Spirebush Limited.

The purpose of this response is to provide advice and guidance based on the Planning Authority's knowledge of the site and the surrounding area, and has included any comments received from the limited consultation undertaken by the Planning Authority. This enables the Applicant to consider the issues that are identified and address these in the EIA process and EIA Report associated with the Section 36 application.

The Council has undertaken a limited consultation with internal departments and some agencies with local knowledge. Responses received from consultees have been provided along with this response. If further responses are subsequently received they will be forwarded to you for your consideration. You should be aware that this consultation list is selective as the onus, in this case, is on the

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Energy Consents Unit to undertake statutory and non-statutory consultations. A list of further consultees that would be useful to engage with as part of this process is included as Appendix 1. Please be aware that any lack of inclusion on this list of a particular party or organisation in no way indicates that the Planning Authority considers that consultation would not be beneficial.

The sections below highlight the comments of the Planning Authority on a number of matters. Please note that comments of any consultees have not been fully replicated, therefore the content of any responses should be treated in the same manner and given the same consideration as the comments below.

Non-technical summary

This should be written in simple non-technical terms and should include a summary of the main issues of each chapter of the EIA Report, including the significant effects of the development and any mitigation measures to address these potential adverse impacts. A plan sufficient to identify the application site within the wider locality and a proposed site plan should be incorporated as a minimum.

Summary of Environmental Information

A summary of the environmental information assessed throughout the EIA Report shall be provided.

List of qualifications and evidence of competency

A list detailing the qualifications and evidence of relevant expertise / competency of each individual who has been involved in the production of the EIA Report, including those involved in the assessments which have been used to inform the various chapters of the EIA Report, shall be included.

Format of the EIA Report

Two full paper copies including appendices should be provided to the Planning Authority for internal use, although additional paper copies will also be required to be placed in appropriate locations for inspection by the public.

A number of electronic copies should also be provided including at least one copy that is split into manageable sized files for uploading by the Applicant to the online viewing system of the Planning Authority. These files should be clearly named thus enabling easier public interpretation, consideration and navigation. An example would be splitting the EIA Report by chapter / topic. Any confidential annex should be clearly marked and kept separate from the remainder of the EIA Report but should not contain any non-confidential information or, if it does, this should be replicated within the EIA Report.

Consideration of alternatives

Schedule 4, paragraph 2 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 requires that information on the reasonable alternatives (including design, technology, location, size and scale) considered and the main reasons for selecting the chosen option, including a comparison of the environmental effects be included within the EIA Report. Such consideration of alternatives should therefore be included within the EIA Report.

Baseline Information

The Council has published a State of the Environment Report on its website: [h https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/Development-plans/State-of-the-Environment-Report.aspx](https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/Development-plans/State-of-the-Environment-Report.aspx)

This report collates up to date information on the environment within East Ayrshire and how it is changing. The information can be used to help inform applications. This may be of use when preparing the EIA Report.

EIA Assessment Methodology

There should be a degree of flexibility adopted within the EIA Report when reporting the significance of the impacts as moderate effects can be considered as significant in terms of the EIA Regulations and would be based on the assessor's judgement.

Planning Policy Context

The Council's East Ayrshire Local Development Plan (adopted in April 2017) remains the current LDP, alongside the East Ayrshire Minerals Local Development Plan. Some policies contained within the East Ayrshire Minerals Local Development Plan would also be relevant to the proposed development, and therefore this plan will also require consideration in addition to the East Ayrshire Local Development Plan 2017. The Council would note that depending on the timing of submission of the application, at that point the Council's LDP2 may by then be adopted. The Applicant is advised to keep this situation under review as they approach their intended submission date to ensure the policy context is as up to date as possible.

Landscape and Visual Impacts

The Planning Authority agrees that based on the ZTV (Figure 5.1) a 35km study area is appropriate in this case given the scale of the proposed turbines and indicative theoretical visibility. The Planning Authority would also agree with the proposed 60km cumulative assessment study area. Detailed study areas of 20km are likely to be sufficient as the relative scale of the turbines would likely reduce with increasing separation distances.

In terms of assessing landscape impacts, the Applicant is advised to use the

landscape character types detailed within the East Ayrshire Landscape Wind Capacity Study (2018) (EALWCS) as the descriptors of the various landscapes within East Ayrshire as it represents the most accurate record of LCTs locally. Large parts of the application site within East Ayrshire fall within the Council's Sensitive Landscape Area. Impacts on this designation shall be assessed in the EIA Report as part of the LVIA.

The Applicant is advised to keep the cumulative situation under review during the preparation of the EIA Report as this is an evolving situation, particularly in the southern part of the district where there is considerable wind energy development pressure. In this respect, it is suggested that they make contact with any local authorities within the study area to obtain up to date information relating to wind energy development in their respective authority areas. Section 36 wind farm applications will also need to be kept under review to ensure these are accurately reflected in any assessment.

In terms of the sites listed in Table 5.2, the Planning Authority would note the following:-

Enoch Hill wind farm S36c variation has also been approved; Overhill wind farm (10 x 149.9m wind turbines) is consented (site sits around the 20km distance); North Kyle S36 wind farm (49 x 149.9m wind turbines) is consented; Lethans has consent for 7 x 176m, 10 x 200m and 5 x 220m wind turbines.

In planning: North Kyle S36c no change to turbine numbers or heights; Overhill wind farm (10 x 180m wind turbines); Greenburn S36 (16 x 149.9m wind turbines).

At scoping: The Drum (8 x 180m wind turbines).

In regards to the proposal to digitally include consented but not yet built turbines into the photomontages, it is recommended that this be separate to the photomontages produced showing the proposed scheme against the actual baseline landscape as it is at the time of the assessment, without artificially altering the baseline photography with turbines not viewed in the landscape at that time. It is agreed that the other elements, including solar arrays, BESS, hydrogen plant, substation, tracks, etc. should be shown in the photomontages out to distances of 5km and these should be represented as accurately as possible within the photomontages.

The night time photomontages should be produced to show a worst case scenario without the effects of any proposed mitigation. If the visualisations have been produced to show some form of mitigation then this will need to be clearly detailed as to exactly what is being shown in the visualisations / the intensity based on extent of mitigation being shown. Full details of any proposed mitigation will need to be detailed within the EIA Report alongside what effects this will have on the lighting impacts. As indicated later in this response, should the layout

allow for any reduction in the number of turbines requiring hub and tower lighting, whilst still achieving the requirements of the CAA, this should also be clearly detailed within the EIA Report assessment of night time landscape and visual impacts. Night time impacts will require to consider both the landscape impacts and visual impacts.

Given the increasing numbers of turbines operational / consented / proposed which have / will require visible aviation safety lighting then the night-time lighting assessment shall also include a cumulative night-time assessment taking into account other wind farms / turbines which have / will require visible aviation lighting and any other tall structures which have visible aviation lighting on them.

ZTVs for each of the solar arrays, BESS, and hydrogen facility would be expected to be included to enable an idea of the likely visibility of these elements.

The Planning Authority would expect a daytime assessment of landscape impacts and a night time assessment of landscape impacts (associated with the requirement for visible aviation safety lighting). The same applies to cumulative landscape impact assessments, with both a daytime and night time cumulative assessment included.

Provision of a separate Residential Visual Amenity Assessment to assess all properties / property groupings within 2km is also welcomed. The Planning Authority would expect that RVA impacts are assessed for both daytime impacts and night time impacts (due to the requirement for visible aviation safety lighting). Wirelines and photomontages should be produced for the properties, with day time and night time (lighting) impacts shown as necessary.

The inclusion of a specific townscape visual assessment of Muirkirk is also welcomed, within which it is expected a range of viewpoints will be considered throughout the settlement. The Planning Authority would welcome the opportunity to agree the townscape viewpoints in due course. It is expected that the assessment includes a daytime assessment and night time assessment. Assessment of the cumulative day and night time impacts on Muirkirk is also expected.

The Planning Authority would agree in principle to the list of viewpoints currently set out but would request further consideration of these, in addition to night time viewpoints in due course as some limited additional viewpoints are likely to be requested. As the design evolves, it would be useful to agree a final set of viewpoints with the Planning Authority and relevant surrounding authorities and NatureScot at that time at the design freeze to ensure the LVIA / RVAA is based on an agreed set of viewpoints at that point.

Ecology and Nature Conservation

Local Nature Conservation Sites (LNCS) should be assessed where these are

located within or in close proximity to the application site. Some such sites include the Muirkirk North Uplands LNCS which is similar in extent to the SPA.

Consultation should also be undertaken with the River Ayr Salmon Fisheries Board and the Ayrshire Rivers Trust, in addition to Marine Scotland Science to agree on the appropriate methodologies and scope of assessment relating to aquatic biota. The Planning Authority would expect the Applicant to ensure that any requirements and advice from NatureScot, SEPA, RSPB and the Scottish Wildlife Trust be taken into account to inform the scope of assessment, including any cumulative impact assessment of such ecological matters for reporting within the EIA Report.

In terms of scoping out of decommissioning effects, the Planning Authority would be expecting tracks to be removed or subject to some form of restoration upon decommissioning of the wind farm to reduce their visual and landscape impact upon decommissioning of the wind farm. As such it would be expected that decommissioning impacts be scoped into the EIA, albeit impacts are likely to be similar to construction effects but in reverse.

Ornithology

The Planning Authority has no particular comments to make with regards to ornithological matters and would suggest the Applicant ensure the requirements and requests of NatureScot and RSPB and any other relevant body with information and records of relevant ornithological interests are taken into account to inform the assessment of these matters for reporting within the EIA Report. The Planning Authority can provide details on local nature conservation sites within the study area if required by the Applicant. The same comments as above apply in respect of the decommissioning of the development at the end of its operational life.

Noise and Vibration

Whilst consultation with the Council's Environmental Health Service will be useful and could assist with agreeing the noise methodology, the Council currently uses the services of an independent noise consultant to deal with wind farm noise matters. The Planning Authority would recommend that discussion is undertaken with the Council's noise consultant to agree the methodology for noise assessment to inform the EIA Report. This could be done with input from the Council's Environmental Health Officer as required. The Planning Authority would encourage the use of the lower end of the ETSU limits. Cumulative noise assessments with other wind farms/turbines is welcome although the Applicant should also consider other noise generating developments within the vicinity and consider the impacts these might have in addition to the proposed development to ensure a robust assessment of cumulative noise is undertaken for nearby receptors. This would include noise from the other noise generating developments forming part of the proposed development (the BESS and

hydrogen facility).

With regards to the Battery Energy Storage System (BESS) it is requested that the noise assessment set out the anticipated noise emissions from that proposed development based on the proposed components and manufacturer sound data unless more specific noise data is available at the time of the assessment. The cumulative noise assessment should discuss both the BESS and wind turbines, noting that although the assessment guidance for each is different, there would be expected to be an explanation / assessment to address the fact that both sources of noise could be experienced at the nearest noise sensitive properties. Given the location of the proposed hydrogen plant relative to East Ayrshire Council, it is unlikely noise from that element of the project will impact upon noise sensitive receptors in East Ayrshire. If this is not anticipated as a result of the assessment, then the Planning Authority would expect to see details regarding noise from the hydrogen facility form part of the cumulative noise assessment. Similar to the BESS component, it would be expected that anticipated noise emissions from the hydrogen production facility be set out within the EIA Report.

The Planning Authority would agree that decommissioning noise can be scoped out of the EIA Report as this is likely to be similar in level and nature to construction noise.

Cultural Heritage

Notwithstanding any comments of the West of Scotland Archaeology Service (WoSAS) or Historic Environment Scotland (HES) who are the key consultees in respect of cultural heritage matters, the Planning Authority would consider the study areas appear reasonable. It is noted non-inventory gardens and designed landscapes (GDL) are scoped in for assessment which is welcomed as these are also protected and should be assessed. The nearest of these is Glenbuck GDL, with Sorn and Dalgain GDLs located to the west of the application site. There is Chapelhouse Scheduled Monument located approximately 2km west of the application site, and Old Foundry Holm Scheduled Monument to the south. The list of heritage matters to be scoped in and out appears to be reasonable.

In terms of the proposed cultural heritage viewpoint assessment locations, the list at this time is considered reasonable from East Ayrshire Council's perspective, although would welcome any additional proposed viewpoints based on any further comments made by WoSAS or HES.

Hydrology, Hydrogeology and Geology

In terms of flood risk, any potential for the release of water from peat excavation should be considered as a potential cause of flooding. There is some flood risk in various locations throughout the site based on SEPA's flood mapping, though the nature of this is likely to be capable of being avoided through appropriate siting and design.

In terms of any borrow pits, if these are taken forward as part of the proposed development, the EIA Report should include information on the location, size and nature of these borrow pits, including details of the depth of the borrow pit floor and an indicative borrow pit final reinstated profile. The impact of such features (including dust, blasting and impacts on hydrology) should be appraised as part of the overall impact of the proposal. Information on the proposed depth of excavations compared to the actual topography, the proposed restoration profile, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement should be included within the EIA Report. The Council's Minerals Local Development Plan includes a policy on borrow pits and information to address the requirements set out within that policy should form part of the EIA Report.

The Council has also recently adopted new non-statutory guidance - Peat, excess soils and sewage sludge, which will be relevant to the proposed development.

The relevant fisheries boards should be consulted to discuss their expectations and requirements regarding the extent of hydrological assessment required to inform the assessment of hydrological impacts, including water quality impacts / monitoring, which also links to the potential ecological impacts on aquatic life.

In terms of Private Water Supplies (PWS) if it is found that any such PWS are located within the study area or likely to be drawing from the same catchment as proposed infrastructure is located, then these PWS will require to be risk assessed. It is expected that the PWS Risk Assessment be undertaken and not only the PWS source should be identified, but also the pathway from source to receptor / PWS user should be mapped as this is the only way of ensuring that a full understanding of any potential impacts of proposed infrastructure / construction activity can be ascertained. Details of any mitigation and/or contingency measures that may be required should be detailed within the EIA Report. The Council's Environmental Health Service should be contacted to assist in the identification of any PWS in and around the site, though site investigations will also be required to address any risk where a PWS exists which is not up to date on the Council's record. It would also be appropriate to contact relevant neighbouring authorities with respect to any potential PWS in their area or sourced from within / with a pathway through the application site.

The application site features areas identified within the Coal Authority Mining Risk Assessment and the Coal Authority should be consulted to ascertain the scope of methodology and assessment required to address any potential risks for reporting in the EIA Report. The Planning Authority would also rely on detailed comments on such matters from NatureScot, SEPA and the Scottish Government's advisors on peat, Ironside Farrar Ltd. These bodies would be able to advise further on the appropriateness of the methodologies reported.

Traffic and Transport

Early contact with the Ayrshire Roads Alliance (ARA) is advised. Should any comments be subsequently received from ARA in respect of the Scoping Report these will be sent on to the Energy Consents Unit.

The Planning Authority would advise that the traffic assessment should be based on a worst-case scenario which assumes 100% of construction materials such as stone requiring to be imported to site. Any expected reduction in stone importation due to the use of borrow pits can be reported within the EIA Report, along with the consequent effect this would have on traffic volumes. A worst-case scenario should nevertheless be presented in case any proposed borrow pits fail to provide the anticipated volume of stone to ensure a robust assessment of impacts.

The EIA Report should identify potential sources of materials (e.g. stone quarries) if these are off-site and consider the impacts of those routes to site, including communities along those routes. Such assessment should also include cumulative impacts with other developments. As highlighted within SPP, borrow pits should only be permitted where there are significant environmental or economic benefits compared to obtaining material from local quarries. As such, should any borrow pits be proposed, appropriate environmental and/or supporting information should be submitted to justify the need for borrow pits. The Council's Minerals Local Development Plan Policy MIN SUP2 indicates the matters the Council would take into consideration, and supporting evidence Applicants should provide in respect of borrow pits.

It is welcomed that all abnormal loads and HGVs would access the site via the M74 and through existing accesses of other wind farm sites rather than on the local road network. Light vehicle and personnel vehicle uses on the local road network such as the B743 and A70 would be unlikely to have the same level of impacts as HGVs or abnormal loads would on these routes.

The Planning Authority welcomes the proposed cumulative assessment which should consider any consented / under construction developments likely to generate large volumes of traffic. This should not necessarily be limited to other wind farm, solar, BESS or hydrogen developments as any traffic generating development using the local road network has the potential to contribute to cumulative traffic impacts regardless of the nature of the development.

The EIA Report should detail the port of entry and the delivery route for turbines and components to site. Transport Scotland may provide advice in respect of the trunk road network, whilst the Applicant is also encouraged to discuss traffic matters with the Council's Ayrshire Roads Alliance. The Planning Authority would agree that the decommissioning phase of the development can be scoped out of the traffic assessment as such impacts are likely to be similar to those during construction.

Socio Economics, Recreation and Tourism

The EIA Report should consider any strategies for long-term public access to the site for recreational uses during its operational lifetime, including any options for connections to be made with surrounding land and uses, to maximise the public access benefits. Management of public access to the site during the construction period should also be detailed. It will be important to ensure that any recreational or tourist receptors which may face significant impacts as a result of landscape and visual impacts are considered. Whether this is fully addressed within an LVIA chapter or within the socio-economic chapter is not important, as long consideration of such impacts has been taken into account and reported.

Core Paths and Rights of Way alongside any other tourism receptors within the area should be assessed, particularly where views of the elements of the proposed development are likely to be experienced from such routes / receptors.

The Planning Authority welcomes any details of shared ownership proposals (and would expect any progress or options made to local communities to be detailed within the EIA Report) and other socio-economic benefits. Details on how improvements to the SPA would be managed and delivered would also be beneficial.

Aviation and Radar

The Planning Authority has no particular comments to make in terms of aviation impacts, other than to ensure that these are fully assessed and detailed within the EIA Report, taking account of any comments made by relevant aviation bodies. The site falls within both the Glasgow Airport and Prestwick Airport wind farm consultation zone. In terms of aviation lighting, all measures to reduce the number of and intensity of lighting required should be explored and proposed to mitigate such impacts. It is not yet known if aviation activated lighting is possible though confirmation if this is possible through discussion with the Civil Aviation Authority should be detailed within the EIA Report. Any scope to reduce lighting such as through only lighting cardinal turbines, for example, should be assessed during the design stages of the wind farm and the resultant reduction possible, detailed within the EIA Report. It is likely aviation lighting would have most bearing on Landscape and Visual Impacts, and Residential Visual Amenity Impacts, so it may be more appropriate to detail all mitigation proposed in respect of aviation lighting within those section of the EIA Report rather than within an aviation section.

Forestry

Details of any compensatory forestry planting should be detailed within the EIA Report and accompanied by relevant figures to demonstrate areas of loss and compensatory planting as relevant. Some details of species composition and

design of any compensatory planting areas would be beneficial. It may be worth considering native broadleaf species if appropriate. Scottish Forestry would be able to advise in more detail as to the expectations of a forestry chapter or any relevant guidance. Any potential impacts on Ancient Woodland will also require to be considered, with a small area of ancient woodland located within the southern part of the application site, to the north of Muirkirk.

Shadow Flicker

As noted in the scoping report, there is no level of shadow flicker which is deemed to be acceptable set out in guidance within the country, and all shadow flicker will require to be mitigated. Although the scoping report mentions that anything above 30 hours will be considered significant, it remains the case that any shadow flicker will require to be mitigated. The Planning Authority would note that the 10 rotor diameters' distance is a guide and does not guarantee that shadow flicker effects will not be experienced beyond this distance. As such, if there are properties which are beyond such a distance but not too distant, consideration should be given as to the potential of shadow flicker on such properties.

Glint and Glare

It would be difficult to agree if 1km is sufficient or not without a ZTV to better understand the potential visibility of the solar arrays in the landscape. It may be that views could potentially be more widespread which would indicate a 2km assessment area may be more appropriate. It is expected that the Applicant allows for a degree of flexibility on the assessment of glint and glare and consider the possibility of a wider study area as their project progresses and assessment materials such as ZTVs enable them to consider such impacts more clearly. With regards to scoping out of aviation interests, the Planning Authority would caution against this, but would expect any relevant aviation bodies would be able to advise whether they would agree to this or not.

Telecommunication

The Planning Authority considers that consultation with the relevant bodies should be undertaken to inform the assessment of impacts. It is expected that details of any correspondence to confirm the relevant system operators are satisfied that there will be no impacts is included within the EIA Report, alongside plans showing any relevant infrastructure or buffer areas to confirm that all proposed infrastructure is beyond the area of influence of such features. It remains the case that appropriate conditions are likely to be needed to ensure that if there are any impacts attributable to the proposed development, that these are mitigated. If scoped out, it is still expected that commentary on potential communication links will be made within the submission, along with a commitment to address any impacts through mitigation which can be secured by an appropriately worded condition.

Carbon Calculator

The full report generated from the Scottish Government's Carbon calculation, accounting for carbon emissions and losses through disturbance and loss of peatland and savings over the lifetime of the development, should be submitted as part of the EIA Report.

Air Quality

The Planning Authority would agree that a specific assessment of air quality does not appear necessary.

Major Accidents and Disasters

The Planning Authority consider it would be worthwhile to include a summary or table just to highlight each of the potential risks and provide a brief explanation as to why these are not deemed to be relevant or necessary of further detailed consideration within the EIA Report. For any risks which are deemed worthy of fuller assessment, this should be detailed in the relevant chapter of the EIA Report.

It should be noted that hydrogen is classed as a hazardous substances and this component of the proposed development is likely to require hazardous substances consent (which would be a separate application made to South Lanarkshire Council on the basis of the hydrogen plant being proposed within that authority). As a hazardous substance, this may have risks to public health and/or raise considerations in respect of major accidents or disasters, so this issue may require further consideration within the EIA Report.

Other Matters

Utilities:- Much like telecommunications, utility providers should be consulted to discuss the location of, and any potential impacts on, their infrastructure.

Waste:- The Planning Authority consider that discussion should be made within the EIA Report of the potential sources of waste and how waste might be suitably dealt with (for example forestry waste used for brash matting, etc.), although these matters might be able to be addressed in each relevant chapter instead of a specific section.

Potential Grid Connections:- If a grid connection route is known at the time of applying for permission, the route and associated environmental impacts can be reported and assessed in detail within the EIA Report, though the Planning Authority notes that grid connections are often dealt with separately and is content with either approach.

Population and Human Health:- Provided the relevant chapters make it clear that public health has been addressed where relevant, then a specific chapter on human health and safety would not be necessary.

Decommissioning and Restoration:- Although not a specific topic, an assessment of the likely impacts of decommissioning of the proposed development on all of the environmental topics shall form part of the EIA Report (though it is noted for some topics this could be scoped out). This will ensure a reasonable idea as to what those impacts may be and what possible mitigation would be required. The application shall be accompanied by a decommissioning report which sets out a costed breakdown of the decommissioning, restoration and aftercare works likely on site, based on the observations made within the EIA Report regarding decommissioning.

The decommissioning report will require to be reviewed by the Council's independent consultants to inform the expected financial guarantee quantum which the Council would seek to secure via a Section 75 legal agreement. The Applicant should advise what mechanism they intend to secure this, such as a bond. These matters would inform the Council's assessment of the application.

The complete removal of the development, including access tracks and ancillary infrastructure, as part of the decommissioning and restoration process is the preferred approach of this Council unless a better alternative (taking account of all relevant environmental, social and economic issues) can otherwise be demonstrated by the Applicant.

Planning Monitoring Officer:- The Council promotes the use of a Planning Monitoring Officer (PMO) on all major infrastructure developments. The PMO is appointed by the Council to assist in the assessment of detailed environmental planning conditions and to monitor and report on the construction works. The Council asks that developers fund the cost of the PMO and that this is secured by a Section 75 legal agreement. The benefits of the PMO use include more robust discharge of planning conditions, communities having greater certainty that proper monitoring is taking place and the developer is doing what they said they would do, and ultimately it provides an independent overview that can be relied upon during the construction phase and afterwards by the Council and the developer.

The use of the PMO need not necessarily be an integral part of the EIA Report, however, the Council's approach should be given consideration as part of the wider suite of monitoring and environmental best practice considered by the EIA Report.

Closing Comments

The Applicant is advised to ensure that all requirements of the up to date

regulations and guidance is complied with in undertaking the EIA and subsequent compilation of the EIA Report. The Applicant is advised to contact the relevant consultees to seek their views/input into the various chapters to ensure all matters raised are adequately dealt with and based on as up to date a position as possible.

Yours faithfully

Graham Mitchell
Interim Team Leader – Development Management

Chief Governance Officer, Solicitor to the Council and Council Monitoring Officer:
David Mitchell

Telephone: 01563 576790

Email: submittoplanning@east-ayrshire.gov.uk

Appendix 1 – suggested additional consultees

East Ayrshire Council Access Officer;

Ayrshire Roads Alliance;

Scottish Power Energy Networks;

Scotland Gas Networks;

The Coal Authority;

East Ayrshire Council Environmental Health Service;

Nith District Salmon Fisheries Board;

River Doon Salmon Fisheries Board;

Ayrshire Rivers Trust'

Scottish Wildlife Trust, and

Local community councils.

Chief Executive Eddie Fraser



Governance

Chief Governance Officer David Mitchell

If telephoning or calling please ask for: BILL GILCHRIST

Direct Dial Tel: (01563) 576790 Email: bill.gilchrist@east-ayrshire.gov.uk

TO: DAVID WILSON, OPERATIONS MANAGER, BUILDING STANDARDS AND
DEVELOPMENT MANAGEMENT
The Opera House, Kilmarnock

FROM: BILL GILCHRIST
TEAM LEADER
POLLUTION CONTROL/CORPORATE ENFORCEMENT UNIT

REF: WG/

YOUR REF: 22/0003/S36SCP

DATE: 25 OCTOBER 2022

APPLICATION NO: 22/0003/S36SCP

PROPOSAL: Request for Scoping Opinion for proposed Section 36 application

ADDRESS: Hagshaw Energy Cluster - Western Expansion

I refer to your recent communication regarding the above, and can advise that I am satisfied that the EIA to be developed will encompass those areas of concern to the Environmental Health Service, including noise impacts and impacts on Private Water Supplies having the potential to be affected by the developments, and this Service will be able to provide detailed information on any PWS within East Ayrshire which may have the potential to be so impacted.

Regulatory Services, Environmental Health
Civic Centre South Building
16 John Dickie Street
KILMARNOCK, KA1 1HW



Community and Enterprise Resources
Executive Director **David Booth**
Planning and Regulatory Services

Kirstin Keyes
By email

Our Ref: P/22/1444
Your Ref: EC00004623
If calling ask for: Stuart Ramsay

Date: 30 January 2023

Dear Ms Keyes

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017

SCOPING OPINION REQUEST FOR THE ERECTION OF UP TO 72 TURBINES WITH TIP HEIGHTS OF UP TO 230M, SOLAR PHOTOVOLTAIC (PV) PANELS (C. 50 MW), ON-SITE ENERGY STORAGE (C. 100 MW) AND ASSOCIATED INFRASTRUCTURE, HAGSHAW ENERGY CLUSTER, DOUGLAS WEST

I refer to your request for comments to inform a scoping opinion made under regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

Following internal consultation, South Lanarkshire Council, as Planning Authority would offer the following comments, noting that the following comments are made in relation to the above scoping opinion request only and do not provide comment on the proposals themselves.

The structure of the scoping report is considered clear and sets out a prudent approach to the topics that may give rise to likely significant environmental effects and should be fully assessed in the EIA Report. The topics listed in the scoping report are acceptable to the Council and should be fully assessed within the EIA Report. The Council would also request that a standalone chapter that contains a summary of all the proposed mitigation and enhancement measures associated with the Environmental Impact is proposed as part of any EIA Report.

Whilst content with the topics, methodology and structure of the proposed EIA Report, the Council would also request the following additional comments are considered by the Scottish Government when forming their 'scoping opinion'.

Landscape and Visual Amenity

The scope of the LVIA set out in chapter 5 of the Scoping Report is considered acceptable, noting the 15 no. proposed viewpoint locations. The cumulative assessment of any LVIA should be maintained as up to date as possible prior to submission as this local area is receiving a lot of interest for potential wind farm developments, and therefore the cumulative assessment will be an important part of the submitted LVIA.

Council Offices, Floor 6, Almada Street, Hamilton, ML3 0AA
Email stuart.ramsay@southlanarkshire.gov.uk Phone: 07551 840251



Ecology and Nature Conservation

Chapter 6 of the Scoping Report states that the non-avian Ecological Impact Assessment (EclA) will assess the potential for likely significant effects on Important Ecological Features (IEFs) (i.e. features above a certain conservation value) during the construction, operational and decommissioning phases of the Proposed Development. It is noted that the EclA will be presented within the Ecology and Nature Conservation chapter of the submitted EIA Report.

Biodiversity

Reference to the following document is advised in all aspects of the wind farm development: <https://www.nature.scot/doc/guidance-good-practice-during-wind-farm-construction>. Particular ref to P4-17:

pp4 1.5 CARBON EMISSIONS Good Practice approach to development on peat and carbon savings – a summary of recommendations: “One of the key aims of wind farm development is to reduce carbon emissions. Wind farm developments, through the materials used, the construction processes employed and the potential emissions from disturbed soils and habitats, do result in carbon emissions. Guidance from the Scottish Government provides a methodology to explore potential carbon emission savings and losses associated with a wind farm development in forestry or on peatland. The report recognises that in some circumstances the payback of wind farm development could be significantly affected by the construction methods used and the degree of restoration of the site. This guidance seeks to ensure that good practice is adopted to reduce the carbon emissions associated with wind farm development”.

pp5 - 1.6 OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT “Wind farms present an excellent opportunity for biodiversity enhancement. These sites tend to encounter little disturbance from humans and machinery once construction is complete. We recommended that a site-specific biodiversity action plan be devised for each proposal, as separate from any Habitat Management Plan”.

South Lanarkshire Council welcomes the proposals in the following sections of the report:

6.4 Proposed Scope of Survey and Assessment Consultation

6.4.2 The EIA Report will consider the following study areas: nature conservation designations, habitats, bats, other protected mammals, amphibians, reptiles and ad hoc records made during other survey work within 50 m of potential works areas and fish.

6.6 Mitigation

6.6.1 The potential mitigation requirements in relation to habitats have already been highlighted above at paras 6.4.9 to 6.4.11. If it is considered that mitigation will be necessary to reduce any other adverse ecological effects, then an integrated mitigation and enhancement package will be proposed which will address ecological effects and which reflects local objectives in terms of biodiversity and achieving overall environmental gain through the Proposed Development. Mitigation will comprise embedded mitigation, fully integrated into standard design and construction measures, as well as additional targeted mitigation.

6.6.12 The Proposed Development will, in return, deliver a substantial SPA & SSSI Recovery and Management Fund capable of funding a number of the management measures set out in the CAP to help reverse the decline of the SPA/SSSI. This will be enabled by using a proportion of the energy revenues. To inform peatland/habitat restoration potential across the SPA, a Peatland Restoration Feasibility Assessment (PRFA) will be undertaken to determine priority peatland restoration areas within the SPA which could be funded by the SPA & SSSI Recovery and Management Fund. The PRFA will therefore help ensure habitat restoration measures are well targeted and best able to deliver tangible ecological (and carbon) benefits.

Peat Management Plan

10.4.17 Should the design be unable to completely avoid areas of peat, a site-specific Stage 1 (outline) Peat Management Plan (PMP) would be prepared to assess the potential volumes of peat excavation required and identify opportunities for re-use.

Noise and Vibration

Chapter 8 of the Scoping Report considers the potentially significant effects of noise during the site preparation and construction, operation, and decommissioning phases of the proposals.

Consultation with East Ayrshire Council's noise consultant is welcomed and has been initiated within the consultation process. It is envisaged that, as suggested within the report, this will continue throughout the scoping and Environmental Impact Assessment stages.

The legislation and guidance identified is acceptable and relevant to the development proposed.

At this time South Lanarkshire Council do not recommend the apportionment of limits to individual receptors, preferring to use the controlling receptor principal. Available headroom should not be assumed where it cannot feasibly be achieved. Where the IoA standard condition is applied, this should conform to this principle. Directivity may be taken into consideration however a more conservative approach would be to assume hemispherical propagation from all developments. The ground attenuation should be no more than 0.5 and the relative humidity and temperature should be 70% and 10°C respectively for noise propagation calculations. It should be noted that when collecting background data for an NMP quiet day-time periods are defined as:

- All evenings from 6pm to 11pm,
- Saturday afternoon from 1pm to 6pm,
- Sunday, 7am to 6pm.
- Night-time is defined as 11pm to 7am

Data collected from these periods should be utilised. The data should exclude precipitation and be representative of wind speeds and wind directions.

It is recognised that noise measurement positions have been determined and adjusted to ensure the accuracy of the baseline measurement. As suggested, the SoDAR should have been in place when evaluating relevant data to identify outliers and unrepresentative noise events such as precipitation within the scatter plot data.

South Lanarkshire Council welcome negotiation to determine the background levels where windfarm contribution must be evaluated and cannot be excluded.

It is acknowledged that the wind turbine distribution and conditioning are complex, and influenced by inter authority distribution and with this future section 36 application to the Scottish Government. A collaborative approach is therefore welcomed to assess the environmental impact of the development.

Cultural Heritage

Chapter 9 of the Scoping Report provides an overview of the Archaeology and Cultural Heritage context for the Proposed Development. It sets out the relevant legislative and policy framework and the guidance relevant to the EIA. The methodology that will be employed in the assessment is set out and an initial description of the baseline is also provided.

West of Scotland Archaeology Service (WOSAS) would normally insist on a 1km or larger buffer zone around the inner study area when assessing direct effects of such proposals, to give a better understanding of the surrounding potentialities for unrecorded remains, however given the enormous scale of this site are content with the size of the inner study area. For clarity, the assessment of setting should include NSR sites out to 5km (sections 9.4.19 & 9.5.4). The stated appointment of an archaeological clerk of works is welcomed (9.6). The proposals for further consultation on the selection of setting receptors once a finalised design is arrived at is also welcomed (9.7.3). The scope of the assessment and study areas is agreed (subject to a post felling walkover survey and LIDAR to better assess the forested areas in the first instance). WOSAS are also satisfied with the general statements on mitigation, noting that the details can't be agreed until later in the process (ie further consultation [section 9.7.3] and agreement of a written scheme of investigation). WOSAS agree with the matters to be scoped in/out, relative to Cultural Heritage.

Traffic and Transportation

Access & Impact

Paragraph 3.2.16 of the Scoping Report states that access for abnormal loads and HGVs will be via Junction 11 (M74), along the existing private haul road reaching the main portion of the proposed windfarm site using existing/proposed tracks through windfarms at Douglas West, Douglas West Extension, Cumberhead Farm, Nutberry and finally Cumberhead West.

Areas A (29No turbines) and B (31No turbines) are located east of the B743 which splits the application site. Area C (12No turbines) is located west of the B743. The report states that all abnormal loads and HGVs will cross the B743 at Linburn Farm/Priesthill Farm access to reach Area C, solar power generation and battery storage area. This crossing of the B743 is in East Ayrshire therefore the detailing of any road improvements at this location would be a matter for them. The use of this crossing avoids HGV traffic being routed through Douglas, Glespin, Muirkirk and Strathaven which the Council would fully support.

Paragraph 3.2.17 of the Scoping Report proposes that LGVs and personnel vehicles use the existing Dungavel Forest access off the B743 in South Lanarkshire. It also proposed that LGVs and cars use existing entrances at Linburn Farm and Priesthill Farm; these two accesses are in East Ayrshire, however, could result in vehicle trips along the B743 within South Lanarkshire. It is noted that the B743 is considered a strategic route used for traffic diversions by South Lanarkshire and East Ayrshire whenever required due to closures on the A70 or A71. There are also concerns about the suitability of the route in parts in terms of its physical composition and geometry. Given the foregoing, the Council's preference is that all construction traffic use the proposed route from Junction 11 (M74), via the existing haul road and windfarm tracks referred to above.

For the avoidance of doubt, the B745 would not be accepted for use under any circumstances due to its condition and geometry; in some areas it is effectively single track. As such the B745 would need to be excluded from any potential 'Agreed Route'.

Further consideration may be given to accepting the use of the B743 for cars and anything up to a transit sized small van, where the applicant can demonstrate that projected vehicle movements of cars/small vans does not exceed a 10% threshold when assessed against existing background traffic flows along the route south of the B745/B743 junction near Dungavel Detention Centre.

The Scoping Report also proposes that these locations at Dungavel, Linburn Farm and Priesthill Farm be used for ongoing operational access, albeit any blade swaps and decommissioning would continue to use the Junction 11 (M74) route. It would be expected that this access for blade repairs/decommissioning includes any future HGV visits to site.

Paragraph 3.2.18 of the Scoping Report states that borrow pits are being investigated. If no suitable areas are identified, then an allowance for importation of aggregate materials will be required and should be addressed within the EIA report.

Notwithstanding all of the above, a Transport Assessment (TA) will be required to assess the development impacts. The TA should include the following;

1. Figure 3.2 shows 3No wind turbines located east of the B743 (at Brown Hill); these turbines should be located a minimum distance from the edge of the public road to prevent issues in event of toppling.
2. Delivery route plans to be included in the EIA report for abnormal loads from the M74 to each development area. Routes for HGV movements should also be detailed. This will eventually be used to develop an 'Agreed Route' plan for inclusion within planning agreements.

3. An anticipated development programme to be included in the EIA, broken down to show monthly movements for HGV and abnormal loads, and in case of HGV movements this should be subdivided by construction activity e.g., timber extraction, stone delivery, concrete delivery, steel delivery, compound, cabling etc. For avoidance of doubt, this should include works for the Hydrogen facility, solar panels and battery storage works. This will inform the profile of trips and peak movements.
4. Scenario to be included for importation of aggregates in the event that suitable borrow pits cannot be identified. Borrow pits and their estimated volumes should be clarified where such pits are expected to be used. Details of volumes/vehicle movements associated with any expected removal of surplus material are also required.
5. An assessment of baseline traffic against anticipated trips for all construction vehicle movements at key locations along the route within South Lanarkshire. This will include the B743 assessment for potential use by cars and transit type small vans proposed in the Scoping Report. It should be noted that the Council may require subsequent assessment of the B743 route width to ensure two-way vehicles can pass without verge overrun, depending on the findings of the threshold assessment. **A separate Scoping Agreement shall be required between SLC Roads and Traffic Consultant before any survey work is undertaken for the Transport Assessment. This will include agreement on survey locations, threshold levels, committed developments, sensitivity tests for nearby live windfarm sites etc., and traffic growth rates.**
6. Impact on existing walking and cycling routes to be assessed. The applicant should seek advice from the Council's Access Development Officer (CAG@southlanarkshire.gov.uk).
7. Swept path analysis to identify pinch points requiring road widening, overrun areas and/or alterations to street furniture as part of an Abnormal Load Route Assessment (ALRA). The applicant may wish to contact the Council's Bridges and Structures Section to verify whether any structures are affected by the route (james.gray@southlanarkshire.gov.uk).

Grid Connection

Paragraph 3.2.2 of the Scoping Report states that the windfarm has a grid connection agreement, however, provides no detail of the route or location of the final tie-in, albeit this may be to an existing connection off the public road within the wider Hagshaw windfarm cluster.

8. It is recognised that cable routing can generate its own challenges therefore the Council's Roads Service would welcome early discussions on route choice and whether it will have any impact on the public road.

Visibility

If the B743 is being accepted as an access for cars and small, transit sized vans, the proposed access onto the B743, which is subject to the national speed limit, should benefit from a 4.5metre by 215 metre visibility splay in both directions.

It is acknowledged that vehicle speeds may be lower than the signed speed limit given the local characteristics of the road, which may allow for a reduction in the visibility splay requirements. The Council would, therefore, be willing to consider a reduction in the visibility splay where the applicant can demonstrate, by means of a continuous 7-day vehicle speed survey, that the 85th percentile speed, that is the speed at or below which 85% of motorists consider it safe to travel at with regards to the prevailing road conditions, is lower than the signed speed limit in force on this section of road. The resultant 85th percentile speed (wet weather) for each direction can be compared to the provisions in Table 8 of the SCOTS National Roads Development Guide to determine an appropriate junction visibility splay for each direction.

Separate vehicle speed survey points should be established on each approach at the limit of the anticipated visibility splay and not at the access itself. The two survey points may yield different results therefore visibility splays may be different in each direction.

Visibility splay distances in each direction should be measured from the centreline of the proposed access and the visibility envelope clearly marked on the site layout to identifying any obstructions that may need to be cleared. The applicant must demonstrate that they have legal rights to remove everything within the visibility envelope that exceeds 0.9metres in height above the adjacent road channel level. Furthermore, the applicant would need to demonstrate that they have legal rights to ensure that nothing exceeding 0.9 metres in height shall be planted, allowed to grow, or be erected within the visibility envelope.

Depending on the length of the visibility splay the applicant may also need to demonstrate how the splays can be achieved in the vertical plane considering physical characteristics such as neighbouring boundary features (walls/hedges/fences/steep verges). The applicant may need to undertake a topographical survey of the verge features and levels in both directions to help demonstrate what can be achieved.

9. An access visibility assessment will be required, as above, if the B743 is subsequently accepted as an access for cars/small vans, subject to review and findings under item 5 above.

Drainage

The Council's ***Developer Design Guidance: Flood Risk Assessments and Sustainable Drainage Systems (May 2020)*** highlights requirements in respect of Flood Risk Assessment and Drainage Strategy. The Council's Flood Risk Management Team would be able to provide advice on their requirements for information in support of the current application, including proposals for future maintenance access and responsibilities.

Notwithstanding the above comments, any works associated with formation of the site access off the B743 shall be designed to prevent surface water discharging onto the public road. This can be examined as the detail comes forward.

Statutory Approval

A development of this nature will require agreement under Section 56 of the Roads (Scotland) Act 1984 for the formation of any site access off the B743. As part of a future Section 56 application the applicant will be expected to submit details of all existing and proposed utilities either affected or located within the scope of their works.

A Stage 2 Road Safety Audit will be required for all works affecting the existing public road. This should be submitted with the design proposals along with the Designer's Response. This will be expected to examine the proposed B743 access and any significant works to existing roads to provide improve swept paths and visibility splays.

Other

The developer will need to provide arrangements for turning areas to enable all vehicles to enter and exit site in a forward gear. They shall have arrangements in place for wheel wash facilities during the construction phase to prevent mud and debris being deposited onto the public road. Construction phase car parking will be required based on estimated peak staffing levels. No construction vehicles will be permitted to park on any part of the public road.

Furthermore, the construction access route will be subject to roads dilapidation survey, undertaken in conjunction with the Roads Area Office before, during and on completion of all site work, with the frequency of interim inspections as directed by the Roads Area Office. Written reports shall include photographs, records plans and defect descriptions for each inspection and be submitted for record purposes within timescales set by the Council. The applicant will be responsible for repairing any damage to the road deemed by the Council to be a consequence of their activities within timescales and specification acceptable to the Council.

10. The above requirements can be addressed within a Traffic Management Plan.

11. The windfarm developer will be expected to enter into a Section 96 Agreement.

Socio Economics, Recreation and Tourism

Chapter 12 considers the potential socio-economic, recreation and tourism effects from the Proposed Development. This includes consideration of local tourism and recreation activity, employment generation and any indirect or induced effects from the Proposed Development.

Public non-motorised access

There is presumption of public access to operational wind farms. This should be taken into account and reference to this document is advised in all aspects of wind farm construction: <https://www.nature.scot/doc/guidance-good-practice-during-wind-farm-construction>. Particular reference should be made to p25-27 in relation to public access and access rights in Scotland. Extract: 'Sites chosen for wind farm development are often used for outdoor recreation, both by local residents and, in some cases, visitors from further afield. The number of users will often be small, but some sites may be visited more frequently, depending on existing access arrangements, the attractiveness of the site and its proximity to where people live. The development is an opportunity to create a legacy of improved provision for outdoor recreation. Most developers and landowners will therefore gain significant benefits, including better relations with local communities, from positive management and provision for public access both during construction and operation.'

As per the guidance, an AMP (Access Management Plan) should be developed to cover arrangements for access provision and management during construction and post-construction. This should be a condition for the development as follows:

No development shall commence unless and until a detailed Access Management Plan (AMP) has been submitted to, and approved in writing by, the Planning Authority. The AMP shall be produced in consultation with the local authority's Countryside and Greenspace Service and a programme of community consultation shall be undertaken on a draft AMP. Proposals shall incorporate and identify the local authority's Core Path and Wider Network (including recorded rights of way) and provide signage where the network identifies links. The approved AMP must be implemented in full within the timescales set out.

Reason: In the interests of amenity and in order to retain effective planning control.

Suggested elements of an AMP are as follows, although not all may be relevant in relation to site location etc:

1. Identification of any existing formal and informal path network within and connected to the application site.
2. Proposals for improvements of any existing paths on the site. This may include upgrading (e.g. path surface) installation of gates, access controls and signage.
3. Identification of potential new path routes and access improvements while considering all potential non-motorised access: pedestrian, cycle/mountain bike, equestrian, mobility (mobility scooter etc, these are motorised modes of access which are exceptions and come under rights of outdoor access.) Improvements may include construction of new paths e.g., to form circuits, installation of gates, access controls and signage.

All the foregoing while considering, where relevant:

- a. Existing active travel, public transport and green transport plans
- b. Safe routes to school
- c. Links to local services, leisure and community facilities

- d. Features of interest
- e. Links to the wider countryside

4. Implementation and phasing of works that might affect public access and any mitigation including identification of any temporary diversion paths that could be used during wind farm construction phase to help maintain a level of public access.

5. Consultation on the AMP with relevant community councils and other community and user groups, such as South Lanarkshire Horse and Pony Access Group

Conclusion

Overall, the scope of topics set out within the Scoping Report are considered acceptable by South Lanarkshire Council, subject to the incorporation of the chapter specific advice listed above.

It is again reiterated that this Scoping Response is a technical response in relation to the Scoping Opinion Request and the EIA Regulations and does not provide any advice on the planning merits or other of the proposals and therefore does not prejudice the outcome of any planning application that may be submitted.

Yours faithfully

HQ Manager



Haggerstone L (Linda)

From: Laura Denholm <laura.denholm@hes.scot>
Sent: 26 October 2022 11:38
To: Keyes K (Kirstin)
Cc: Econsents Admin
Subject: Hagshaw Energy Cluster - Western Expansion - Scoping - HES Response
Attachments: 20221026 Hagshaw Energy Cluster - Western Expansion - Scoping - HESResponse.pdf

Please see our response attached.

Kind regards

Laura

Laura Denholm | Business Support Officer – Casework Technician | Heritage Directorate Historic Environment Scotland | Àrainneachd Eachdraidheil Alba Longmore House, Salisbury Place, Edinburgh, EH9 1SH
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By email to: Econsents_Admin@gov.scot

Kirstin Keyes
Case Manager
Energy Consents Unit

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Enquiry Line: 0131-668-8716
HMConsultations@hes.scot

Our case ID: 300061204
Your ref: EC00004623
26 October 2022

Dear Kirstin Keyes

**The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Hagshaw Energy Cluster - Western Expansion
Scoping Report**

Thank you for your consultation which we received on 04 October 2022 about the above scoping report. We have reviewed the details in terms of our historic environment interests. This covers world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs).

The relevant local authority archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings. In this case, you should contact [West of Scotland Archaeology Service](#),

Proposed Development

We understand that the proposed development comprises a mixed renewable energy development consisting of up to 72 wind turbines up to 230m in height, solar photovoltaic panels, onsite energy storage and a green hydrogen production facility, to a total of c. 0.65 GW capacity, with associated extensive infrastructure. The hydrogen production facility will be considered separately by the planning authority.

Scope of assessment

We agree with the scope of the proposed assessment and are content with the assessment methodology laid out in the scoping report.

However, we would note that, at this stage, it is not possible to agree whether the mitigation measures in paragraph 9.6 will be satisfactory, as no assessment has yet been made of the impacts of the proposed development on the historic environment assets in the area. We would direct the applicants to section C.9 of the [EIA Handbook](#) for a more detailed discussion of mitigation hierarchy. We would be happy to discuss mitigation



measures with the applicant once an initial assessment of the impacts of the development has been carried out.

We largely agree with the matters to be scoped in and scoped out of assessment, as outlined in paragraphs 9.5.4 – 9.5.10. However, we would also wish to see an assessment of the potential impacts of the development on **SM4275 Cairn Kinney**, which falls just outside the 10km study zone. We welcome that impacts on **LB14413 Dumfries House** and **New Lanark World Heritage site**, which are beyond the 10km study area are being considered. We would also request that all designated historic environment assets within the 10km range should be assessed, and if they are excluded, whether on the basis of the ZTV or not, a written explanation for their exclusion should be included in the EIA Report.

Assets for our Interests

It may be feasible to site a wind and solar farm in this area, but there is potential for some sections of the current layout to have significant impacts on scheduled monuments.

There are two sets of scheduled monuments in the area which could experience moderate or greater impacts from the development. These monuments and their settings are discussed in more detail in the Annex to this letter. In brief, they consist of hilltop cairns including **SM2469 Glen Garr, cairn, SM2848 Dungavel Hill, cairn, SM2924 Blacksidend, cairn, SM4275 Cairn Kinney, SM4361 Cairn Table, two cairns, Wetherhill cairn (unscheduled monument; Canmore refs NS73SW2 and 45569), and Harting Rig cairn (unscheduled monument; WOSAS HER ref 9121);** and industrial monuments, including **SM2931 Glenbuck Ironworks, 470m NW of Glenbuck House and SM6640 Muirkirk, remains of tar works, mines and structures E of Garpel Water.**

The scoping report proposes 8 visualisations for cultural heritage interests (Table 9.5 and Figure 7.2). We would expect that, where preliminary assessment indicates that the proposed development would be visible from or in views towards a scheduled monument, wireframes should be created to assess the impact on the monument. Where a significant impact on the setting of a monument is identified, photomontages should also be prepared.

We recommend, in particular, that views from the following monuments should be taken in addition to those currently proposed –

- SM6640 Muirkirk, remains of tar works mines and structures E of Garpel Water
- SM4275 Cairn Kinney
- SM4361 Cairn Table, two cairns
- Wetherhill cairn (unscheduled monument; Canmore refs NS73SW2 and 45569)



We note that viewpoints from SM4275 Cairn Kinney, SM4361 Cairn Table, and SM6640 Muirkirk are all listed in the draft [Development Framework for the Hagshaw Energy Cluster](#). These should be assessed by a suitably qualified heritage specialist. The locations for the viewpoints for the cairns should be from the cairns themselves. The visualisation for SM6640 Muirkirk Tar Works should show the location and extent of the solar arrays. Consideration should also be given as to whether views towards or over the cairns form key elements of their setting and contribute to their cultural significance, in which case, visualisations of these should be created if the proposed development would also be visible.

A Cairn Table viewpoint appears to form part of the wider LVIA suite of illustrations, but for our interests, we require that the viewpoint should be specifically from one of the cairns. If this can be provided using the LVIA viewpoint that would be ideal, but if the LVIA requires a different location, we will still need a view from the cairns looking towards the other monuments.

We welcome that the additional heritage assets of A-listed **LB14413 Dumfries House** and **New Lanark World Heritage Site**, which are beyond the 10km study area are being considered. If helpful, we would welcome a discussion regarding key views for the visualisations relating to these assets.

Further information

Guidance about national policy can be found in our 'Managing Change in the Historic Environment' series available online at www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/managing-change-in-the-historic-environment-guidance-notes. Technical advice is available on our Technical Conservation website at <https://conservation.historic-scotland.gov.uk/>.

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Mary MacLeod Rivett and they can be contacted by phone on 0131 668 8710 or by email on mary.macleod@hes.scot.

Yours sincerely

Historic Environment Scotland



ANNEX

Group 1: Hilltop cairns.

- SM2469 Glen Garr, cairn
- SM2848 Dungavel Hill, cairn
- SM2924 Blacksidend, cairn
- SM4275 Cairn Kinney
- SM4361 Cairn Table, two cairns
- Wetherhill cairn (unscheduled monument; Canmore refs NS73SW2 and 45569)
- Harting Rig cairn (unscheduled monument; WOSAS HER ref 9121)

The settings of these cairns are defined by their dominant locations on substantial hill summits, often overlooking the head waters or upper reaches of the main river systems in the area. They vary in their exact relationships to their surroundings; some occupy plateau hill summits where the emphasis is on long range views and the relationship between the cairn and the hilltop plateau, while others are located or angled to be seen from, or take in views of, specific areas of the landscape below.

Many of these monuments are substantial structures, obviously designed to be seen over long distances and almost certainly in some cases to be intervisible with each other. At this stage of the consultation process, it has not been possible to test this potential for visual inter-relationships in the field.

The turbine elements of the development have the potential to interrupt intervisibility between these cairns, or to appear behind them in views from other monuments, diminishing their dominance in such views. The level of impact will depend on the final size and location of the individual turbines.

Group 2: Industrial monuments

- SM2931 Glenbuck Ironworks, 470m NW of Glenbuck House
- SM6640 Muirkirk, remains of tar works, mines and structures E of Garpel Water

The turbines will appear as large but distant features from these monuments but given the number of wind farms in the area already, there is potential for cumulative impacts that we cannot predict at this time. The Muirkirk monument also appears to be located directly across the valley from the solar array.

These are both large industrial complexes with locations determined for pragmatic reasons of access, safety, and proximity to raw materials. Their settings can be considered to be primarily focussed on relationships between different elements within



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the monuments themselves (e.g. quarry/mine areas and furnaces at Glenbuck) and related structures or areas in the vicinity (e.g. the relationship between the tar works and the village of Muirkirk).

Historic Environment Scotland

26 October 2022

Haggerstone L (Linda)

From: David Kelly <David.Kelly@nature.scot>
Sent: 15 November 2022 17:13
To: Econsents Admin
Cc: Ramsay, Stuart; submittoplanning@east-ayrshire.gov.uk; Theo Philip (Theo@3renergy.co.uk)
Subject: ECU00004623 - Scoping - Hagshaw Energy Cluster Western Expansion - NatureScot response
Attachments: ECU00004623 - Scoping - Hagshaw Cluster Western Expansion - NatureScot response.pdf

Dear Sir/Madam

Please find attached NatureScot's response to the scoping request for the proposed Hagshaw Cluster - Western Expansion development, for the attention of Kirstin Keyes.

Yours faithfully

David Kelly | Area Officer

NatureScot | Cadzow Court, 3 Welhall Road, Hamilton, ML3 9BG | 01738 457032

[nature.scot](https://www.nature.scot) | @nature.scot | *Scotland's Nature Agency* | *Buidheann Nàdair na h-Alba*

As am I currently mostly working from home, please contact me by email in the first instance.

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Thoiribh an aire airson adhbharan gnothaich, 's dòcha gun tèid sùil a chumail air puist-dealain a' tighinn a-steach agus a' dol a- mach bho NàdarAlba.

Kirsten Keyes
Case Manager
Energy Consents Unit
The Scottish Government

15 November 2022

Our ref: CDM168610

By email to: Econsents_Admin@gov.scot

Dear Kirstin

Electricity Act 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Request for Scoping Opinion for Proposed Section 36 Application for Hagshaw Energy Cluster – Western Expansion
Reference: ECU00004623

Thank you for your consultation dated 4 October 2022 on the scope of the Environmental Impact Assessment (EIA) for the proposed Hagshaw Energy Cluster – Western Expansion. Thank you also for agreeing to an extension to our consultation period. This has allowed us to consider both the Scoping Report and the further explanation of the proposed approach to Habitats Regulations Appraisal (HRA) provided to us by the applicant by email on 13 October 2022.

1. Background

- 1.1 At its closest, the proposed development site is located approximately 2.45km north of Muirkirk, East Ayrshire and lies within both the East Ayrshire and South Lanarkshire planning authority areas. The application site extends to approximately 4151 hectares (ha), comprising mainly of open moorland and commercial forestry.
- 1.2 Much of the application site is within the boundaries of both the Muirkirk & North Lowther Uplands Special Protection Area (SPA) and the Muirkirk Uplands Site of Special Scientific Interest (SSSI). Part of the application site lies within the boundaries of both the SPA and the Blood Moss & Slot Burn SSSI.
- 1.3 The proposal is for a mixed renewable energy development which includes:
 - Up to 72 wind turbines up to 230m to blade tip (c.500 megawatts (MW))
 - Solar photovoltaic panels (c.50 MW), and

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- On-site energy storage (c.100 MW)
- A green hydrogen production facility (c.40 MW). We note that permission for this element of the development is to be sought from South Lanarkshire Council through Section 32 of the Town and Country Planning (Scotland) Act 1997.

- 1.4 The associated infrastructure will include site access, internal access tracks, crane hardstandings, underground cabling, an on-site substation and maintenance building, temporary construction compounds, concrete batching plant(s), temporary laydown areas, borrow pit search areas and a met mast(s). Other than a c.200m section of new track, the main access to the site would be via a network of existing ex-open cast mine and forestry tracks.
- 1.5 We have had several discussions with the applicant and their representatives on this proposal prior to the submission of the Scoping Report, including during a site visit in May 2022. We have also provided initial comments on the proposed scope of ecological and ornithological surveys required at the site, again in May 2022.
- 1.6 There are several issues arising from this scoping response which are likely to benefit from, or require, further discussion should the applicant be minded to progress this proposal. We will be pleased to continue our dialogue with them.

2. Preliminary view on the Proposed Development

- 2.1 We recognise that the applicant is seeking to develop a project which delivers benefits across multiple sectors. In its decisions, actions and advice relating to the natural heritage, NatureScot is generally required under the Natural Heritage (Scotland) Act 1991 and Deer (Scotland) Act 1996 to take appropriate account of socio-economic interests, including the needs of agriculture, fisheries and forestry and the interests of owners and occupiers of land and of local communities. These are known as our ‘balancing duties’. However, the assessment of plans and projects that may affect European sites is an area which is exempt from these requirements. **In these cases, NatureScot must base its decisions, actions and advice only on what is required to avoid adverse impacts on the integrity of the European site.**

2.2 The proposed development is predicted in the Scoping Report to require 42ha of habitat within the SPA to be removed to facilitate the infrastructure footprint. In addition, further areas of the site may be rendered unavailable to its qualifying interests due to the effects of displacement around infrastructure.

- 2.3 At this stage, it appears unlikely that assessment will be able to ascertain that a development of this scale and nature in this location will not adversely affect the integrity of the Muirkirk & North Lowther Uplands Special Protection Area. The applicant should therefore be aware that in its current form this proposal is likely to result in an objection from us.
- 2.4 Our final advice and position will however be based on full and detailed consideration of the information provided in support of any subsequent application for Section 36 consent.

Cadzow Court, 3 Wellhall Road, Hamilton ML3 9BG

Cùirt Cadzow, 3 Rathad Wellhall, Hamilton ML3 9BG

01698 421668 [nature.scot](https://www.nature.scot)

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3. General scoping advice

- 3.1 The applicant should refer to our general scoping and pre-application advice for both onshore wind farms¹ and solar farms². These provide guidance on the issues that developers and their consultants should consider for wind farm and solar developments, including information on recommended survey methods, sources of further information / guidance, methods of assessment, and data presentation. Attention should be given to the full range of advice included in the guidance notes.
- 3.2 These guidance documents will be updated over time to reflect any changes to available information and our guidance, so users should ensure they download the most up to date versions before use.

4. Specific scoping advice

Protected areas

General requirements

- 4.1 The developer should assess the direct and indirect impacts of the proposed development on protected areas and their qualifying interests / notified features in the context of their conservation objectives / site management statements. The assessment should be for the proposal on its own and cumulatively with other plans or projects also affecting the relevant protected area. Details of protected areas, including their conservation objectives / site management statements, can be found in the [Sitelink](#) section of our website.

Muirkirk & North Lowther Uplands Special Protection Area (SPA)

- 4.2 The proposal could affect the Muirkirk & North Lowther Uplands SPA, classified for its breeding hen harrier, peregrine, merlin, short-eared owl and golden plover, and for its non-breeding (wintering) hen harrier.
- 4.3 The site's status means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the "Habitats Regulations") or, for reserved matters, The Conservation of Habitats and Species Regulations 2017 apply. Consequently, Scottish Ministers will be required to consider the effect of the proposal on the SPA before it can be consented, commonly known as Habitats Regulations Appraisal (HRA). A [summary](#) of the legislative requirements is available on our website.
- 4.4 There is clearly a connection between the proposal and the site's qualifying interests by virtue of its location within the SPA and on surrounding land within the core breeding season foraging ranges of the site's qualifying interests. This proposal is therefore likely to

¹ <https://www.nature.scot/general-pre-application-and-scoping-advice-onshore-wind-farms>

² <https://www.nature.scot/doc/general-pre-application-and-scoping-advice-solar-farms>

have a significant effect on all of the qualifying interests of the Muirkirk & North Lowther Uplands SPA. Consequently, Scottish Ministers, as competent authority, will be required to carry out an appropriate assessment in view of the site's conservation objectives for its qualifying interests.

- 4.5 To help you do this, we propose to carry out an appraisal to inform your appropriate assessment.
- 4.6 We note that the applicant intends to produce a 'Report to Inform the Appropriate Assessment' (RIAA) as part of the documents supporting any subsequent application. The RIAA should fully assess the potential impacts of the proposal, including those identified in sections 7.51 and 7.71 – 7.7.2 of the Scoping Report and elsewhere in this response, in relation to the site's conservation objectives for its qualifying interests. All elements of the proposed development, at all stages (i.e. construction, operation and decommissioning), which can either individually or in combination with other plans or projects affect the conservation objectives must be considered. A key element of the assessment will be how the proposal could influence recovery of the SPA.
- 4.7 Once this information has been made available, we will be able to give full consideration to this proposal.
- 4.8 Based on the information available at present, and given its location is approximately 8km from the SPA, we consider that it is unlikely that the green hydrogen production facility will have a significant effect on any qualifying interests either directly or indirectly. At this stage, an appropriate assessment of this aspect of the proposal, the undertaking of which would be the responsibility of South Lanarkshire Council, therefore appears unlikely to be required.
- 4.9 To assist the applicant prepare the RIAA, and the EIA Report more generally, we highlight that:
- We disagree with the proposed approach to setting the baseline for the appraisal of impacts on the SPA described in the Scoping Report, and supplemented by the further detail provided by email on 13 October 2022. Comment on this issue is provided in Annex 2.
 - The EIA Report must be clear in respect of what the proposals for mitigation are, fully describe how these are to be delivered, and assess their likelihood of success.
 - When undertaking an appropriate assessment to ensure a proposal would not adversely affect the integrity of a European site, the competent authority can take mitigation measures into account. However, the distinction between *mitigation measures* and *compensatory measures* is important in this context. **Compensatory measures may not be taken into account in carrying out an appropriate assessment.** Compensatory measures can only be considered where adverse effects *on site integrity have not been excluded but the proposal is nevertheless going ahead,*

in the absence of alternative solutions, for imperative reasons of overriding public interest.

In our view, the description of the proposed Species & Habitat Management Plan, particularly given its stated purpose, places this as a likely compensatory measure. As such it would not be appropriate to consider the Species & Habitat Management Plan as part of the RIAA or appropriate assessment.

In respect of the proposed SPA & SSSI Recovery and Management Fund, while we remain slightly unclear as to whether the intention behind this is linked to offsetting negative effects of the proposal, or as a completely separate source of 'biodiversity gain', we would also consider this measure to be compensation rather than mitigation, and thus also excluded from consideration during the RIAA and appropriate assessment.

Further general comment on compensatory measures is given in Annex 3.

Muirkirk Uplands Site of Special Scientific Interest (SSSI)

- 4.10 The application site overlaps with an area of the Muirkirk Uplands SSSI. The SSSI is of national importance for its upland habitat assemblage, blanket bog, breeding bird assemblage, breeding and non-breeding hen harrier, breeding short-eared owl, and its fossil-bearing rocks.
- 4.11 We agree that the SSSI should be scoped into the assessment. Based on the information available at present, particular attention should be given to direct and indirect habitat loss, and disturbance, displacement and mortality of the site's bird interests.
- 4.12 Given the predicted loss of habitat from the SSSI as a result of the proposal, coupled with the potential effects of displacement around infrastructure, at this stage we consider that the impacts of this proposal are likely to result in adverse effects on the objectives of designation and the overall integrity of the area that cannot be avoided by mitigation. Therefore, the applicant should be aware that we may also object to this proposal on this basis.

Blood Moss & Slot Burn SSSI

- 4.13 The application site also overlaps with the Blood Moss & Slot Burn SSSI. The SSSI is of national importance for its fossil-bearing rocks and blanket bog.
- 4.14 Although we note that the SSSI lies outside of the currently identified indicative development layout, we agree that the SSSI should be scoped into the assessment. Based on the information available at present, particular consideration should be given to the potential for indirect habitat loss within the site (e.g. as a result of hydrological changes).

Birk Knowes SSSI

- 4.15 Birk Knowes SSSI lies immediately adjacent to, but outside, the application site boundary. The SSSI is of national importance for both its fossil-bearing rocks and its rocksequence.
- 4.16 We advise that this SSSI should also be scoped into the assessment. While the development proposal as currently shown would not appear to directly impact the site, the indicative development layout shows a proposed turbine in close proximity to the site. The EIA should therefore include an assessment of whether the proposed proximity of infrastructure poses any risk to the stability of the rock faces within the site, during both construction and operation.
- 4.17 Altering the proposed development layout to provide a greater separation distance from the SSSI may allow this site to be scoped out.

Carbon-rich soils, deep peat and priority peatland habitat

- 4.18 Large parts of the site are mapped as 'Class 1' on the Carbon & Peatland Map 2016. Class 1 areas are nationally important carbon-rich soils, deep peat and priority peatland habitat and are likely to be of high conservation value. In this case much of the mapped area, but not all, overlaps with a) the Muirkirk & North Lowther Uplands SPA, where peatland habitat forms part of the habitats supporting the SPA qualifying interests, and b) the Muirkirk Uplands and Blood Moss & Slot Burn SSSIs, where blanket bog is a notified feature (in the case of the Muirkirk Uplands both in its own right and as part of the upland habitat assemblage).
- 4.19 We welcome that the applicant has undertaken Phase 1 peat probing at the site and will supplement the information gained from this through more detailed Phase 2 probing carried out in accordance with current best practice guidelines³, extended National Vegetation Classification survey and an assessment of blanket bog condition. The results of this work should be used to inform the iterative layout and design of the development, the assessment of impacts, and in the preparation of associated supporting material, including where necessary, a peat slide assessment and peat management plan. We recommend early engagement with SEPA with regard to proposals for excavated peat reuse and disposal.
- 4.20 The final siting and design of the proposed development and how this may affect peatland, including as a supporting habitat for SPA qualifying interests and as a notified SSSI feature, must be fully described and assessed in the EIA Report.
- 4.21 Given the Scottish Government's commitment to improving the extent of healthy peatlands, and the condition of damaged peatlands, it is important that any land-use change with the potential to result in loss and damage to peatlands, is either diverted to other areas or, if appropriate, adequately mitigates or compensates for that loss. Where peatland enhancement or restoration is proposed as compensation for loss of peatland

³ <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17852-1/CSavings/PSG2011>

habitat, the area of enhancement/restoration should significantly exceed the area impacted.

Concluding remarks

Where not addressed above, our responses to those specific questions posed in the Scoping Report relevant to our remit are given in Annex 1 of this response.

This advice is provided by NatureScot, the operating name of Scottish Natural Heritage. While we are supportive of the principle of renewable energy, it is given without prejudice to a full and detailed consideration of the impacts of the proposal if it is submitted as a formal application. We hope it will assist you in your consideration of this scoping request.

Should you wish to discuss this response, or require any additional advice, please contact me via the email address below in the first instance.

Yours sincerely

David Kelly

Operations Officer, West Central Scotland

David.Kelly@nature.scot

cc Stuart Ramsay, South Lanarkshire Council
 Planning & Economic Development, East Ayrshire Council
 Theo Phillip, 3R Energy

Annex 1

Planning & Policy Context

We note the applicant's proposal to take account of the Hagshaw Cluster Development Framework. The Framework has recently been approved by the planning committees of both East Ayrshire and South Lanarkshire Councils and is now undergoing a period of public consultation before being finalised. Until formally adopted (which we anticipate being towards the end of 2022) the Framework does not yet have the status of non-statutory guidance.

We would highlight that this first version of the Development Framework is focussed on the existing cluster of wind farms centred on Hagshaw Hill. It does not directly deal with applications outwith the cluster, nor does it change existing planning policy. Whilst supportive in principle of extensions and repowering within the cluster, the Framework does not directly influence applications for new proposals adjacent to or outwith the cluster. Whilst we therefore welcome the intention to refer to the principles contained within the Framework, we also consider the Framework will be of limited relevance to the determination of this application.

Landscape & Visual

Given the high concentration of existing, consented and proposed wind energy developments within the immediate area, wind farm development at this location will need to demonstrate a good fit with existing schemes. It is our view that key issues for the iterative development and subsequent assessment of this proposal will include:

- Wind farm design (e.g. turbine layout and height(s))
- Cumulative landscape and visual impacts in both day-time and night-time.

Do you agree with the proposed Study Areas?

We note that the Zone of Theoretical Visibility (ZTV) has been prepared out to 35km. We agree that this is a suitable initial study area for the development proposed.

Given that the proposed development comprises several development areas, as detailed on Figure 2.1 and in paragraph 3.2.15 of the Scoping Report, individual ZTVs for each of these should be included in the EIA Report. This is to allow the predicted visibility of each element of the proposal to be easily understood (and will also assist in informing the scope of the individual assessments - e.g. solar array and green hydrogen). The ZTVs should be produced in accordance with NatureScot⁴ guidance to the required radii relevant to each component of the development.

Do you agree with the proposed viewpoint locations? Do they cover all elements of the proposed development?

⁴ <https://www.nature.scot/doc/general-pre-application-and-scoping-advice-solar-farms#Landscape+and+visual> and <https://www.nature.scot/doc/visual-representation-wind-farms-guidance>

We consider that the viewpoints (Paragraph 5.4.13 and Table 5.1) are satisfactory for assessment of the wind energy development component of the proposed development. For the solar array and green hydrogen components, we advise that these elements will require individual assessment, to include cumulative assessment, with associated viewpoints. Representative viewpoints for these assessments should be based on their ZTVs. Mapping showing the viewpoints overlaid on the ZTVs should be included in the application. We would be pleased to discuss appropriate viewpoints for these elements of the proposal with the applicant on receipt of ZTVs.

Due to the height of the proposed turbines, the proposed development will require aviation lighting. Night-time visualisations are proposed from representative viewpoints 2 and 5. We advise inclusion of an additional night-time visualisation from Loudoun Hill (proposed viewpoint 8) given the popularity of this viewpoint and its location to the north-west of the proposal. Night-time visualisations should be produced to show worst case scenario intensity lighting (2000cd), and should show the cumulative picture and include turbine lights of other 'at application' developments in the view, including variation applications.

Do you agree with the matters to be scoped out?

We would require further information in the form of baseline lighting intensity mapping to confirm that the proposal to scope out turbine lighting effects on landscape character is appropriate.

We also advise that effects on the special qualities of designated landscapes are scoped into the assessment, in particular the River Ayr Special Landscape Area (SLA), Southern Uplands SLA, and the Douglas Valley SLA.

Do you agree that the proposed scope of the assessment is appropriate?

We do not agree with the methodology put forward for the baseline assessment or photomontages (paragraph 5.4.21 of the Scoping Report), given that consented schemes are increasingly more liable to change (e.g. height increase) and that this approach would be contradictory to paragraph 5.4.18, which states that visualisations will be prepared in line with NatureScot guidance.

We are not in agreement with the 20km restriction, which would exclude viewpoint 14 (Paragraph 5.4.20), and advise that photomontages be produced for all 15 viewpoints.

Are there any other wind farms you are aware of within the 20km study area to be included in the cumulative assessment?

We advise that details of the developments to be included in the cumulative assessment, and their status, should be sought from the relevant planning authorities and agreed with the consenting authority. The cumulative assessment should be as up to date as possible and would suggest a 'cut off date', agreed with the consenting authority, may be useful in this respect.

However, we are aware that:

- Kennoxhead Extension is now consented.
- The following wind farm proposals within South Lanarkshire also lie within 20km of the site:
 - Low Drumclog: 3 x 180m turbines at application (P/22/0228)
 - Little Gala: 7 x 180m turbines at application (P/22/0881)
 - Hallsburn Farm: 3 x 149.9m turbines at application (P/22/1139)
 - Hawkwood: 6 x 250m turbines at scoping (P/22/0904)
- The following wind farm proposals within East Ayrshire lie within 20km of the site:
 - Drum: 8 x 180m turbines at scoping (21/0002/EIASCP)

Ecology & Nature Conservation

Is the scope of the proposed assessment, including proposed study areas, and approach to mitigation appropriate?

Subject to the following comments, we are broadly in agreement with the scope of, and approach to, the proposed assessment:

- Both the study and survey areas (which we note are defined as the spatial extent of the consideration of effects arising from the development and the area covered by each survey type respectively) should allow for consideration of the effects of micro-siting within the limits sought.
- The survey area for potential bat roosting features should extend to 200m plus rotor radius of the boundary of the proposed wind energy elements of the proposal.
- The developments to be included in the cumulative assessment should be defined with reference to the scale at which the assessment is being undertaken. The ecological basis for the search area or reference population used for each feature assessed should be explained in the EIA Report.

In respect of the proposed approach to mitigation:

- For all turbines, a buffer of at least 50m should be maintained between turbine blade tips and key habitat features for bats. Additionally, we recommend that mitigation proposals include a commitment to ‘feathering’ turbine blades to reduce their rotation speed during periods when the turbines are idling.

Are there any other receptors that should be included in the assessment?

In respect of Table 7.2, we advise that the following receptors should also be scoped into the assessment:

- Habitats of conservation importance (e.g. those listed on Annex 1 of the EC Habitats Directive or UK Biodiversity Action Plan Priority Habitats) occurring outside protected

areas, or which may occur within protected areas but do not form part of the notified features.

- Groundwater Dependent Terrestrial Ecosystems
- Other protected species as appropriate following completion of survey work (i.e. water voles and red squirrel).
- Important plant species identified during survey work.

Are there any other bodies or organisations who should be consulted with on the scope of assessments?

Due to the presence of publically funded projects within the application boundary, both Peatland Action and the Scottish Government Rural Payments and Inspections Division should be contacted for details of relevant Peatland Action and Agri-Environment Climate Scheme projects which may be affected by the proposed development and to discuss the implications of any such effects for individual projects and information/assessment requirements.

We also suggest further discussion with the operators of the Dungavel Wind Farm regarding habitat management proposals. It is our understanding that off-site delivery relates to measures that cannot be delivered within that site (e.g. blanket bog restoration), but that habitat enhancement for hen harrier is still proposed within the site.

Do the consultees wish to confirm the specific sites they want to be included in terms of cumulative impacts?

We advise that details of the developments to be included in the cumulative assessment, and their status, should be sought from the relevant planning authorities and agreed with the consenting authority. The cumulative assessment should be as up to date as possible at the time of submission. A 'cut-off date' for the assessment, agreed with the consenting authority, may be useful in this respect.

Are you content that decommissioning effects are scoped out based on the assumptions outlined above?

Please see our response below.

Ornithology

Is the scope of the proposed assessment, including proposed study areas, and approach to mitigation appropriate?

Scope of assessment and study areas

Generally, the study areas and broad scope of the assessment in terms of the desk study, the surveys to be carried out, the potential impacts and effects, including cumulative, to be considered appears appropriate.

The assessment should present worst-case and best-case scenarios for the extent of the SPA and SSSI which may become unavailable to their bird interests as a result of the proposal. These scenarios should consider both direct habitat loss to infrastructure and potential displacement.

While potential impacts (displacement and collision risk) may be low for SPA qualifiers (though perhaps less so for SSSI assemblage species) given the decline in population levels, **a key requirement of the assessment will be the consideration of how the development could affect the recovery of the SPA.** This is likely to require assessment based on the whole data run available from the SPA baseline. We would be pleased to discuss this further with the applicant.

Approach to mitigation

Mitigation should address any potential effects on the qualifying interests. European Commission guidance on [Managing Natura 2000 sites](#) makes it clear that mitigation measures should be an integral part of the specifications of a plan or project, or may be listed as a condition for project approval. More recent European guidance on wind energy developments goes into some detail as to how the impacts of such proposals may be mitigated, all of which relates to the siting, design and scale of wind farms and their associated infrastructure, or the timing of their construction or operation.

Siting turbines away from historical harrier nesting locations and incorporating this into the project design, as is proposed, is in principle mitigation. However, we would highlight that:

- Turbine positioning has been determined in reference to historic hen harrier nesting sites, but not the location of other qualifying interests. Mitigation proposals will require to address any potential effects on all qualifying interests; if turbines are placed to avoid impacts on one species, but impact on others as a result, this is not appropriate as mitigation.
- The mitigation has not been applied to all historic hen harrier nest locations, with locations of relatively more recent breeding attempts within close proximity to proposed turbines.
- A 1.5km separation from historic hen harrier nest locations still places turbines within the potential core breeding season foraging range of the species. Given this, and the suggestion that conservation management may be undertaken in these previously used areas, the potential for increased collision risk if the areas were to be recolonised and whether that would prevent recovery to favourable status will require to be assessed.

Minimising the extent of SPA habitat impacted by the proposal, and incorporating this into the project design, is also likely to constitute mitigation. However, where the intention is to reduce, rather than offset, impacts the conservation objectives for the site could still be undermined.

How the measures outlined in section 7.6.4 of the Scoping Report to address any potential effects during construction should be treated will depend on what potential effects have been identified within the HRA. These measures may be mitigation or just an additional precautionary measure.

Do you agree with the scope of species being included in the assessment and the associated surveys?

Scope of species included in the assessment

Based on the results reported to date, the species/receptors scoped in for assessment appears generally appropriate. However, given the notified features of the SSSI, impacts on the breeding bird assemblage will also need to be considered. Any significant use of the SPA by the breeding peregrine found within the survey buffer should be assessed in the RIAA.

Associated surveys

While we will require to see full details of the work done presented in the EIA Report, we are broadly content with the survey work undertaken to date. However, we advise that:

- There are some gaps in the viewshed coverage of the proposed turbines. This will require to be accounted for in the assessment.
- We recommend two years of data is collected for the whole site.
- The solar photovoltaic element of the development will require to be suitably surveyed and assessed. We consider that the primary issue is likely to be potential habitat loss leading to displacement (displacement may be additional to the actual extent of panels as a buffer around them may be avoided). There is limited data available in a UK context currently to help assess this as most large scale solar has been in areas outwith designated sites and away from sensitive species.

Are there any other bodies or organisations who should be consulted with on the scope of assessments?

Not that we are aware of.

Do the consultees wish to confirm the specific sites they want to be included in terms of cumulative impacts?

We advise that details of the developments to be included in the cumulative assessment, and their status, should be sought from the relevant planning authorities and agreed with the consenting authority. The cumulative assessment should be as up to date as possible at the time of submission. A 'cut-off date' for the assessment, agreed with the consenting authority, may be useful in this respect.

As is proposed in the Scoping Report, we advise that:

- For the SPA qualifying interests, the in-combination assessment should include developments within the relevant connectivity distances of the SPA for the species concerned.
- For 'wider-countryside species', the assessment should be made at the Natural Heritage Zone level, unless there is an alternative ecologically- relevant reference population which would be a more appropriate basis for the assessment.

Are you content that decommissioning effects are scoped out based on the assumptions outlined above?

As part of the proposed development lies within the Muirkirk & North Lowther Uplands SPA, we advise that decommissioning effects should not be scoped out of the assessment. Where decommissioning activities are either within or could affect a European site, consideration of the Habitats Regulations is required. This should be done at the application stage.

Do you have any suggestions relating to the scope and objectives for the Proposed Development's mitigation and enhancement, including the Species and Habitats Management Plan and the SPA & SSSI Recovery and Management Fund?

As a general observation, there is a presumption in the Scoping Report that much of the issues facing the SPA are on-site and habitat/land management based. This probably is not the case for all species (and we would note that habitat targets were considered to be met for all qualifying interests other than golden plover in the most recent SPA Site Condition Monitoring). For example the wider health of hen harrier populations is probably a key driver in lack of recolonization.

We consider predator control is likely to be a key measure in addressing pressures on the site's qualifying interests. However, and while it is a non-statutory document, from the assessment presented in the CABB-funded Conservation Action Plan by RSPB, the pulling back of forestry from the edge of the SPA, tackling regeneration on moorland and revising grazing levels where habitats are under-grazed may be key actions from a habitat perspective.

Hydrology, Geology & Hydrogeology

Do the consultees agree that, subject to further information coming to light from field surveys, consultation and desk study, the proposed assessment methodology, including proposed study areas, is appropriate?

We welcome the recognition that site includes areas of peatland restoration works carried out under Peatland Action. We advise that the benefits of this work are likely to extend outside of the physical footprint of the project area boundary into adjacent peatland. This should be taken account of in the site design.

Do the consultees have any information not outlined in the Scoping Report that would inform the impact assessment for geology, peat, hydrology and hydrogeology?

Although not strictly relevant to this question, we suggest that the key to Figure 10.5b: Bedrock Geology and Faults is checked for accuracy. Birk Knowes SSSI and land in the immediate vicinity lies within the Patrick Burn Formation. However, Figure 10.5b appears to indicate another classification for this area.

Annex 2

Habitats Regulations Appraisal baseline

Where a plan or project will have a likely significant effect on a European site, as in this case, an appropriate assessment must be undertaken in view of the site's conservation objectives. There is agreement between the applicant and NatureScot on this point.

The purpose of appropriate assessment is to assess the implications of plans or projects in respect of a site's conservation objectives, either individually or in combination with other plans or projects. The conservation objectives are set to meet the obligations of Article 6(2) of the Habitats Directive to avoid significant deterioration of natural habitats and the habitats of species and disturbance of the species for which the site has been designated.

The conclusions of the appropriate assessment should enable the competent authority to ascertain whether the plan or project will not adversely affect the integrity of the site concerned. If a plan or project does not undermine the conservation objectives, then the integrity of the site should be maintained or, where relevant, have the ability to be restored. Conversely, if any of the conservation objectives could be undermined, it would not be possible to ascertain that the integrity of the site would not be adversely affected.

The integrity of a European site is more complex than the existence or abundance of its qualifying populations of birds. While 'integrity' is not defined within the Habitats Directive or the Habitats Regulations, Revised Circular 6/95 (as amended, Annex E, Appendix A) advises that the integrity of a site is *"the coherence of its ecological structure and function, across its whole area, **which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified**"* [emphasis added]. The European Commission⁵ subscribes to a very similar definition.

In identifying and assessing the impacts of a plan or project in view of a site's conservation objectives European Commission guidance (2021) [Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6\(3\) and \(4\) of the Habitats Directive 92/43/EEC](#) advises that *"...effects should be analysed in view of the site-specific conservation objectives, which implies that the analysis needs to be done not only in relation to the current condition of the habitats and species significantly present within the site **but also in relation to their desired condition as defined by the conservation objectives***. [emphasis added]"

There is therefore a requirement that SPAs, even if there are no birds there, should be kept in such a condition that if/when the qualifying birds return the site is in such a state that they can use the site as occurred at the time of classification. Conditions at the site should therefore allow for a recovery in numbers.

The applicant proposes that the baseline for the assessment is set as per their proposal outlined in the Scoping Report (i.e. the current condition of this part of the SPA, as evidenced by the site-

⁵ [European Commission \(2019\). Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. Publications office of the European Union, Luxembourg](#)

specific survey and desk-study data, and further evidence on the wider SPA as a whole), and further justified in their email of 13 October 2022.

NatureScot disagrees with this proposed approach and takes the view that the baseline for the appraisal is the population levels or habitat extents at the time that the site was first designated, and which are recorded on the site's Standard Data Form.

We accept that, with the exception of short-eared owl, the qualifying interests of the SPA are assessed to be in unfavourable condition at present. We would however note that the last assessed condition of the breeding hen harrier feature of the Muirkirk Uplands SSSI is favourable, reflecting variation in population health across the SPA at the time of assessment (2008), and that SPA qualifying interests have been recorded during the baseline surveys for the proposed development.

While contemporary data, as gathered by the applicant, should therefore also be considered within the HRA, in view of the above we continue to advise that the assessment must address the implications of the proposal for the population levels or habitat extents for which the site was originally classified.

In their email of 13 October, the applicant has requested any additional advice relating to the applicability of the approach set out in the [NatureScot guidance](#) on Using "New Style" Conservation Objectives for Special Areas of Conservation (SACs). Our reading of this query is that the applicant is asking whether the approach to carrying out an HRA that we have set out in that short note will also apply to HRAs for an SPA. This note does not change our approach to HRAs, it simply reminds people that the 'question' is whether the plan/project will *undermine* the COs, not 'meet' them. This can be equally applied to the SPA conservation objectives, as plans and projects should not undermine these.

Annex 3

Compensatory measures

Information on the process and steps in developing compensatory measures is provided in a detailed guidance note by the European Commission on [Article 6 of the Habitats Directive](#). The EC guidance lists the following actions as examples of compensatory measures:

- restoration or enhancement of habitats within existing sites – restoring non-qualifying habitat or improving the remaining habitat in proportion to the loss due to the plan or project on the site;
- habitat recreation or restoration on a new or enlarged site;
- designation of an alternative new site

Proposals for habitat enhancement or restoration put forward to offset negative effects on European sites may arise under three likely scenarios (although some cases may involve multiple proposals that fall into different categories). These three scenarios are outlined below together with an explanation of whether they would constitute mitigation or compensation.

1. Management of habitat within a European site to address impacts on habitat elsewhere within the same site - likely to constitute compensatory measures. An example of compensatory measures in this category would be the enhancement of an area within an SPA to provide habitat of increased value for foraging in order to offset the loss of another area of foraging habitat within the SPA.
2. Management of habitat outwith a European site to address impacts on habitat within the site – likely to constitute compensatory measures because one or more of the conservation objectives have been undermined and there remains an adverse effect on site integrity. For example, provision of alternative or enhanced foraging habitat outside but adjacent to an SPA to offset loss of (or displacement from) foraging habitat within the SPA.
3. Management of habitat outwith a European site to address impacts also outwith the site but affecting its conservation objectives (this is likely to apply only to European sites with mobile species as qualifying interests) – could constitute either mitigation or compensatory measures depending on whether any of the conservation objectives for the site are undermined. For example, provision of an alternative foraging area for SPA birds outside the site to offset the loss of another foraging area, also outside the site. If such a measure allowed the population of the qualifying species to be maintained, without undermining the distribution of the qualifying species within the site and with no negative impacts on the other conservation objectives, then it could be regarded as mitigation. But if negative effects which undermined the conservation objectives remained, despite the provision of an alternative foraging area, then it must be considered as a compensatory measure.



Kristin Keyes
Case Manager
Energy Consents Unit

SEPA email contact:
Planning.sw@sepa.org.uk

7 November 2022

By email only to: Econsents_Admin@gov.scot.

Dear Kristin Keyes

**ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS
2017
REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR HAGSHAW
ENERGY CLUSTER – WESTERN EXPANSION.**

Thank you for consulting SEPA on the scoping opinion for the above development proposal by your email received on 4 October 2022. We would welcome engagement with the applicant at an early stage to discuss any of the issues raised in this letter.

Advice to the planning authority

We consider that the following key issues must be addressed in the Environmental Impact Assessment process. To **avoid delay and potential objection**, the information outlined below and in the attached appendix must be submitted in support of the application.

- a) Map and assessment of all engineering works within and near the water environment including buffers, details of any flood risk assessment and details of any related CAR applications.
- b) Map and assessment of impacts upon Groundwater Dependent Terrestrial Ecosystems and buffers.
- c) Map and assessment of impacts upon groundwater abstractions and buffers.
- d) Peat depth survey and table detailing re-use proposals.
- e) Map and table detailing forest removal.
- f) Map and site layout of borrow pits.

- g) Schedule of mitigation including pollution prevention measures.
- h) Borrow Pit Site Management Plan of pollution prevention measures.
- i) Map of proposed waste water drainage layout.
- j) Map of proposed surface water drainage layout.
- k) Map of proposed water abstractions including details of the proposed operating regime.
- l) Decommissioning statement.

Further details on these information requirements and the form in which they must be submitted can be found in the attached appendix. We also provide site specific comments in the following section which can help the developer focus the scope of the assessment.

1. Site specific comments Peat

- 1.1. Detailed information on our requirements is provided in section 3 below. Based on the phase 1 peat probing (fig 10.4) there appears to be deep peat across much of the site. All peat above 1 meter depth is considered deep peat and all reasonable efforts must be made to avoid both pristine, near-natural peatland and > 1 metre deep peat. In this case, where much of the site is on peat, we expect the application to be supported by a comprehensive site-specific Peat Management Plan.
- 1.2. We note that, following the “design chill”, phase 2 peat probing will be undertaken. We would welcome the opportunity to engage on this as the layout and design progresses, to avoid delay and potential objection at a later stage. In this case, we would recommend the developer consider widening the phase 2 peat probing to include the microsite tolerance as this may be helpful in demonstrating that the impacts on peat have been minimised
- 1.3. In terms of restoration, as set out above, avoidance must be considered as the first principle. We note in section 10.2.4 that reference is made to peatland restoration that has already been carried out. The restored area must be avoided. If additional restoration is required, we would expect the area of restoration to more than compensate for area lost.

Groundwater Dependent Terrestrial Ecosystems (GWDTE)

- 1.4. The site is partially situated on or near designated areas including for blanket bog. It is proposed to scope in GWDTEs into the EIA, which we agree with. Please refer to Section 4 below for our detailed requirements. A map should be included in the EIA report, showing GWDTE with all proposed infrastructure overlaid.

Impacts on Watercourses

- 1.5. A significant proportion of the site drains to important spawning tributaries on the River Ayr and Douglas Water catchments. The sites are generally boggy, wet and poorly drained, we would therefore highlight there is the potential for water quality impacts from the construction works. Given the sensitivities of the catchment area as a whole, we would

recommend that monitoring probes are installed to monitor water quality during construction and detailed baseline water quality/fisheries data is obtained in advance of construction commencing.

- 1.6. All infrastructure (except watercourse crossings and tracks leading up to them) should be at least 50 m from the top of the banks of watercourses, including smaller scale watercourses. If infrastructure is proposed to be located within the 50m watercourse buffer (including small scale watercourses) then we would expect detailed design and robust mitigation information to be provided and agreed prior to any development commencing on site.
- 1.7. The watercourse crossings should be appropriate to the watercourse sensitivity but oversized bottomless arched culverts or traditional style bridges should be installed where migratory fish populations are present.

Hydrogeology

- 1.8. The Scoping Report is satisfactory with regards to scoping into the EIA the identification and risk assessment of potentially sensitive groundwater receptors. We agree with scoping a Private Water Supply risk assessment into the EIA, and the proposed radius.
- 1.9. The details of the abstraction and discharge associated with the proposed Green Hydrogen Production Facility are not clear in the Scoping Report. It is unclear whether an abstraction from the water environment (surface water or groundwater) will be required - this should be clarified in the EIAR. If the proposed abstraction is from the water environment (surface water or groundwater) then at the proposed rate the developer would need to apply for a CAR licence from SEPA. Refer to Section 2 of Appendix 1 for further information. Assessments submitted in support of a licence application will need to consider the former mining activities in the area, particularly in relation to water quality.
- 1.10. If former surface mine backfill is identified on the site (to be clarified at EIAR) then we will recommend additional mitigation measures should be outlined in a Construction Environmental Management Plan (CEMP). These are required to prevent potential water quality impacts from backfill leachates or run-off derived from excavated backfill material.
- 1.11. Although stabilisation of any mine workings on site is not currently proposed in the Scoping Report, as it is reported that there may be past mining on the site, The developer should refer to Appendix 2 of this letter relating to stabilisation of mine workings with PFA grouts.
- 1.12. The Scoping Report mentions dewatering of peat. As temporary dewatering during construction phase (e.g. turbine foundations, borrow pits) is required then further detail on CAR requirements can be found on SEPA's website at:
http://www.sepa.org.uk/water/water_regulation/regimes.aspx

Regulatory advice for the applicant

2. Regulatory requirements

3. Please note our site-specific comments above, as well as our general requirements in Appendices 1 & 2. Proposed engineering works within the water environment will require

authorisation under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended). Management of surplus peat or soils may require an exemption under The Waste Management Licensing (Scotland) Regulations 2011. Proposed crushing or screening will require a permit under The Pollution Prevention and Control (Scotland) Regulations 2012. It is likely that the hydrogen production component of the development will require authorisation from us under Part A of Section 4.2(a)(i) of the Pollution Prevention and Control (Scotland) Regulations (PPC). The Control of Major Accident Hazards Regulations 2015 may also apply.

- 3.1. Consider if other environmental licences may be required for any installations or processes.
- 3.2. Details of regulatory requirements and good practice advice for the applicant can be found on the [Regulations section](#) of our website. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the local compliance team at: sws@sepa.org.uk

If you have queries relating to this letter, please contact me.

Yours sincerely

Jess Taylor
Planning Officer
Planning Service

ECopy to: Kirstin.Keyes@gov.scot

Disclaimer

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at this time. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning or similar application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application or similar application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. For planning applications, if you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found on our [website planning pages](#).

Appendix 1: Detailed scoping requirements

This appendix sets out our scoping information requirements. There may be opportunities to scope out some of the issues below depending on the site. Evidence must be provided in the submission to support why an issue is not relevant for this site in order **to avoid delay and potential objection**.

If there is a delay between scoping and the submission of the application then please refer to our website for our latest information requirements as they are regularly updated; current best practice must be followed.

We would welcome the opportunity to comment on the draft submission. As we can process files of a maximum size of only 25MB the submission must be divided into appropriately named sections of less than 25MB each.

1. *Site layout*

- 1.1. All maps must be based on an adequate scale with which to assess the information. This could range from OS 1: 10,000 to a more detailed scale in more sensitive locations. Each of the maps below must detail all proposed upgraded, temporary and permanent site infrastructure. This includes all tracks, excavations, buildings, borrow pits, pipelines, cabling, site compounds, laydown areas, storage areas and any other built elements. Existing built infrastructure must be re-used or upgraded wherever possible. The layout should be designed to minimise the extent of new works on previously undisturbed ground. For example, a layout which makes use of lots of spurs or loops is unlikely to be acceptable. Cabling must be laid in ground already disturbed such as verges. A comparison of the environmental effects of alternative locations of infrastructure elements, such as tracks, may be required.

2. *Engineering activities which may have adverse effects on the water environment*

- 2.1. The site layout must be designed to avoid impacts upon the water environment. Where activities such as watercourse crossings, watercourse diversions or other engineering activities in or impacting on the water environment cannot be avoided then the submission must include justification of this and a map showing:
 - a) All proposed temporary or permanent infrastructure overlain with all lochs and watercourses.
 - b) A minimum buffer of 50m around each loch or watercourse. If this minimum buffer cannot be achieved each breach must be numbered on a plan with an associated photograph of the location, dimensions of the loch or watercourse and drawings of what is proposed in terms of engineering works.
 - c) Detailed layout of all proposed mitigation including all cut off drains, location, number and size of settlement ponds.
- 2.2. If water abstractions or dewatering are proposed, a table of volumes and timings of groundwater abstractions and related mitigation measures must be provided. We anticipate that the proposed hydrogen production will require a significant volume of water. If a new private abstraction is planned, then this will require authorisation from SEPA under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). We will require the following information to determine if the abstraction is feasible in this location:

- Source e.g. ground water or surface water;
- Location e.g. grid ref and description of site;
- Volume e.g. quantity of water to be extracted;
- Timing of abstraction e.g. will there be a continuous abstraction;
- Nature of abstraction e.g. sump or impoundment;
- Proposed operating regime e.g. details of abstraction limits and hands off flow;
- Survey of existing water environment including any existing water features;
- Impacts of the proposed abstraction upon the surrounding water environment. This may require modelling work.

2.3. Further advice and our best practice guidance are available within the water [engineering](#) section of our website. Guidance on the design of water crossings can be found in our [Construction of River Crossings Good Practice Guide](#).

2.4. Refer to our flood risk [Standing Advice](#) for advice on flood risk. Watercourse crossings must be designed to accommodate the 0.5% Annual Exceedance Probability (AEP) flows, or information provided to justify smaller structures. If it is thought that the development could result in an increased risk of flooding to a nearby receptor then a Flood Risk Assessment must be submitted in support of the planning application. Our [Technical flood risk guidance for stakeholders](#) outlines the information we require to be submitted as part of a Flood Risk Assessment. Please also refer to Controlled Activities Regulations (CAR) Flood Risk Standing Advice for Engineering, Discharge and Impoundment Activities.

3. *Disturbance and re-use of excavated peat and other carbon rich soils*

3.1. Scottish Planning Policy states (Paragraph 205) that "Where peat and other carbon rich soils are present, applicants must assess the likely effects of development on carbon dioxide (CO₂) emissions. Where peatland is drained or otherwise disturbed, there is liable to be a release of CO₂ to the atmosphere. Developments must aim to minimise this release."

3.2. The planning submission must a) demonstrate how the layout has been designed to minimise disturbance of peat and consequential release of CO₂ and b) outline the preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, drainage channels, cable trenches, or the storage and re-use of excavated peat. There is often less environmental impact from localised temporary storage and reuse rather than movement to large central peat storage areas.

3.3. The submission must include:

- a) A detailed map of peat depths (this must be to full depth and follow the survey requirement of the Scottish Government's Guidance on [Developments on Peatland - Peatland Survey \(2017\)](#)) with all the built elements (including peat storage areas) overlain to demonstrate how the development avoids areas of deep peat and other sensitive receptors such as Groundwater Dependent Terrestrial Ecosystems.
- b) A table which details the quantities of acrotelmic, catotelmic and amorphous peat which will be excavated for each element and where it will be re-used during reinstatement. Details of the proposed widths and depths of peat to be re-used and how it will be kept wet permanently must be included.

- 3.4. To avoid delay and potential objection proposals must be in accordance with [Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste](#) and our [Developments on Peat and Off-Site uses of Waste Peat](#).
- 3.5. Dependent upon the volumes of peat likely to be encountered and the scale of the development, applicants must consider whether a full Peat Management Plan (as detailed in the above guidance) is required or whether the above information would be best submitted as part of the schedule of mitigation.
- 3.6. Please note we do not validate carbon balance assessments except where requested to by Scottish Government in exceptional circumstances. Our advice on the minimisation of peat disturbance and peatland restoration may need to be taken into account when you consider such assessments.

4. *Disruption to Groundwater Dependent Terrestrial Ecosystems (GWDTE)*

- 4.1. GWDTE are protected under the Water Framework Directive and therefore the layout and design of the development must avoid impact on such areas. The following information must be included in the submission:
 - a) A map demonstrating that all GWDTE are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it.
 - b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all GWDTE affected.
- 4.2. Please refer to [Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems](#) for further advice and the minimum information we require to be submitted.

5. *Existing groundwater abstractions*

- 5.1. Excavations and other construction works can disrupt groundwater flow and impact on existing groundwater abstractions. The submission must include:
 - a) A map demonstrating that all existing groundwater abstractions are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it.
 - b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all existing groundwater abstractions affected.
- 5.2. Please refer to [Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems](#) for further advice on the minimum information we require to be submitted.

6. *Forest removal and forest waste*

- 6.1. Key holing must be used wherever possible as large scale felling can result in large amounts of waste material and in a peak release of nutrients which can affect local water quality. The supporting information should refer to the current Forest Plan if one exists and measures should comply with the Plan where possible.
- 6.2. Clear felling may be acceptable only in cases where planting took place on deep peat and it is proposed through a Habitat Management Plan to reinstate peat-forming habitats. The submission must include:
 - a) A map demarcating the areas to be subject to different felling techniques.
 - b) Photography of general timber condition in each of these areas.
 - c) A table of approximate volumes of timber which will be removed from site and volumes, sizes of chips or brash and depths that will be re-used on site.
 - d) A plan showing how and where any timber residues will be re-used for ecological benefit within that area, supported by a Habitat Management Plan. Further guidance on this can be found in [Use of Trees Cleared to Facilitate Development on Afforested Land – Joint Guidance from SEPA, SNH and FCS](#).

7. *Borrow pits*

- 7.1. Scottish Planning Policy states (Paragraph 243) that “Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries, they are time-limited; tied to a particular project and appropriate reclamation measures are in place.” The submission must provide sufficient information to address this policy statement.
- 7.2. In accordance with Paragraphs 52 to 57 of Planning Advice Note 50 Controlling the Environmental Effects of Surface Mineral Workings (PAN 50) a Site Management Plan should be submitted in support of any application.
- 7.3. The following information should also be submitted for each borrow pit:
 - a) A map showing the location, size, depths and dimensions.
 - b) A map showing any stocks of rock, overburden, soils and temporary and permanent infrastructure including tracks, buildings, oil storage, pipes and drainage, overlain with all lochs and watercourses to a distance of 250 metres. You need to demonstrate that a site specific proportionate buffer can be achieved. On this map, a site-specific buffer must be drawn around each loch or watercourse proportionate to the depth of excavations and at least 10m from access tracks. If this minimum buffer cannot be achieved each breach must be numbered on a plan with an associated photograph of the location, dimensions of the loch or watercourse, drawings of what is proposed in terms of engineering works.
 - c) You need to provide a justification for the proposed location of borrow pits and evidence of the suitability of the material to be excavated for the proposed use, including any risk of pollution caused by degradation of the rock.

- d) A ground investigation report giving existing seasonally highest water table including sections showing the maximum area, depth and profile of working in relation to the water table.
- e) A site map showing cut-off drains, silt management devices and settlement lagoons to manage surface water and dewatering discharge. Cut-off drains must be installed to maximise diversion of water from entering quarry works.
- f) A site map showing proposed water abstractions with details of the volumes and timings of abstractions.
- g) A site map showing the location of pollution prevention measures such as spill kits, oil interceptors, drainage associated with welfare facilities, recycling and bin storage and vehicle washing areas. The drawing notes should include a commitment to check these daily.
- h) A site map showing where soils and overburden will be stored including details of the heights and dimensions of each store, how long the material will be stored for and how soils will be kept fit for restoration purposes. Where the development will result in the disturbance of peat or other carbon rich soils then the submission must also include a detailed map of peat depths (this must be to full depth and follow the survey requirement of the Scottish Government's Guidance on [Developments on Peatland - Peatland Survey \(2017\)](#)) with all the built elements and excavation areas overlain so it can clearly be seen how the development minimises disturbance of peat and the consequential release of CO₂.
- i) Sections and plans detailing how restoration will be progressed including the phasing, profiles, depths and types of material to be used.
- j) Details of how the rock will be processed in order to produce a grade of rock that will not cause siltation problems during its end use on tracks, trenches and other hardstanding.

8. *Pollution prevention and environmental management*

- 8.1. One of our key interests in relation to developments is pollution prevention measures during the periods of construction, operation, maintenance, demolition and restoration.
- 8.2. A schedule of mitigation supported by the above site specific maps and plans must be submitted. These must include reference to best practice pollution prevention and construction techniques (for example, limiting the maximum area to be stripped of soils at any one time) and regulatory requirements. They should set out the daily responsibilities of ECOWs, how site inspections will be recorded and acted upon and proposals for a planning monitoring enforcement officer. Please refer to [Guidance for Pollution Prevention](#) (GPPs).

9. *Pollution Prevention and Control Regulations*

- 9.1. It is likely that the hydrogen production component of the development will require authorisation from us under Part A of Section 4.2(a)(i) of the Pollution Prevention and Control (Scotland) Regulations (PPC). The applicant will require to provide full details of the proposed energy production / storage plans with the submission to allow us to comment on the potential consentability of the activities. Our Development Management Guidance on SEPA regulated sites and processes includes advice for the applicant on the information that will be needed to support the submission.

- 9.2. Any proposed boiler may also require a PPC permit and the Medium Combustion Plant Directive (MCPD) may be applicable. Information will be required on your proposed boiler including the net rated thermal input. We can provide more advice on this once further consideration is given to scale of system.
- 9.3. Further details about PPC and the Medium Combustion Plant Directive are available from <https://www.sepa.org.uk/regulations/pollution-prevention-and-control/> and <https://www.sepa.org.uk/regulations/pollution-prevention-and-control/medium-combustion-plant/>

10. Control of Major Accident Hazards (COMAH)

- 10.1. The COMAH Regulations are applicable to any establishment storing, or otherwise handling, large quantities of chemicals or substances of a hazardous nature. Hydrogen is a 'Named Dangerous Substance' in the COMAH Regulations (Schedule 1 Part 2) with a Lower Tier (LT) threshold of 5 tonnes and an Upper Tier (UT) threshold of 50 tonnes. The applicant should determine the inventory of substances that will be stored on site and compare this against the thresholds defined in the COMAH Regulations to confirm whether the site will fall within the scope of COMAH. Further details are available on our [COMAH](#) webpage. It is at the applicant's risk should the site be deemed to fall within the COMAH Regulations and additional measures including design changes considered necessary in the future.

11. Life extension, repowering and decommissioning

- 11.1. Proposals for life extension, repowering and/or decommissioning must demonstrate accordance with SEPA Guidance on the [life extension and decommissioning of onshore wind farms](#). Table 1 of the guidance provides a hierarchical framework of environmental impact based upon the principles of sustainable resource use, effective mitigation of environmental risk (including climate change) and optimisation of long term ecological restoration. The submission must demonstrate how the hierarchy of environmental impact has been applied, within the context of latest knowledge and best practice, including justification for not selecting lower impact options when life extension is not proposed.
- 11.2. The submission needs to demonstrate that there will be no discarding of materials that are likely to be classified as waste as any such proposals would be unacceptable under waste management licensing. Further guidance on this may be found in the document [Is it waste - Understanding the definition of waste](#).

Appendix 2 - Stabilisation of mine workings with PFA grouts

If stabilisation works are identified as being required to facilitate the development, then an appropriate risk assessment for the proposed stabilisation of mine workings with PFA grout should be produced prior to this activity being undertaken on site.

The pouring of grout below the water table is a controlled activity under General Binding Rule (GBR) 16 of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). GBR 16 includes a requirement that no material coming into contact with groundwater shall cause pollution of the water environment. SEPA considers that an assessment should be undertaken to assess whether the use of PFA grout will meet the requirements of GBR 16. If the activity causes pollution, SEPA may take enforcement action in accordance with these regulations.

NOTE: If use of grout containing blaes is proposed, instead of PFA, then this activity requires the operator to apply for a CAR Registration.

SEPA therefore recommends that the assessment be undertaken inline with the guidance document: ***Stabilising mine workings with PFA grouts. Environmental code of practice. 2nd Edition, BRE Report 509.***

In general, a detailed review of the assessment by SEPA is not considered necessary and the document should primarily serve the developer, to ensure no pollution occurs as a result of the activity. If the ***preliminary and simple risk assessments*** identify that the site is higher risk and conceptually complex, then a ***complex risk assessment*** is required. At this stage it may be prudent for the developer to highlight this to SEPA through additional consultation.

Additional Information

Further details relating to CAR requirements can be found on SEPA's website at; http://www.sepa.org.uk/water/water_regulation/regimes.aspx

Consultation with The Coal Authority is recommended.

Key points to note in relation to the water environment when undertaking mine workings grouting:

- An adequate hydrogeological conceptual model is required (e.g. an assessment of ground conditions, depth to groundwater, likely flow of groundwater, depth/size of old mines workings etc). Ideally, the conceptual model would be backed up with site specific ground investigation and monitoring data.
- It is recommended that the applicant/agent carries out an appropriate water features survey to identify what there is in the surrounding area that might be affected by the grout.
- Note that potential hazards and impacts may not necessarily be confined to the proposed development site. Applicants should consider and mitigate as necessary risks both within and outwith the development site.
- It should be noted that even if mine waters are currently low (i.e. below workings to be grouted), groundwater levels might, in the future, rebound into the grouted zone if mine water pumping were to cease. SEPA would recommend that both scenarios are considered.
- If the excavation works require dewatering, the applicant may be required to demonstrate that this will not adversely affect the hydrogeological regime. Any adverse effects will depend on the size and duration of the excavation works.

From: radionetworkprotection@bt.com
Sent: 13 October 2022 14:13
To: Econsents Admin
Cc: radionetworkprotection@bt.com; Keyes K (Kirstin)
Subject: WID11990 - Scottish Government:- Scoping Report - Request for comment - Hagshaw Energy Cluster_Western Expansion **ECU00004623**



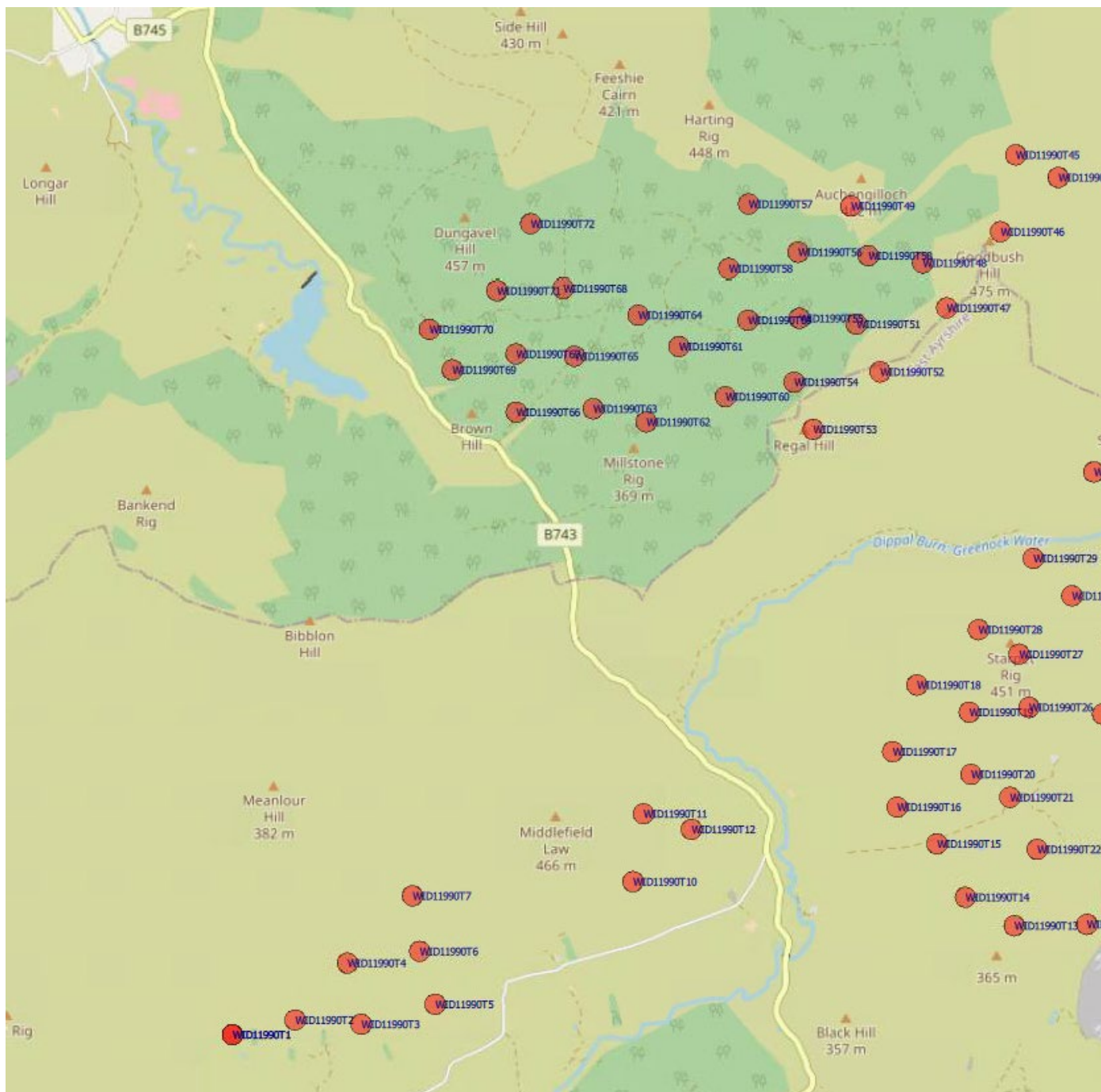
OUR REF: WID11990T1-T72

YOUR REF: ECU00004623

Thank you for your email dated 04/10/2022.

We have studied this Wind Farm proposal with respect to EMC and related problems to BT point-to-point microwave radio links. The conclusion is that the grid references provided in "Table B1 Appendix 3.1" for the proposed locations for 72 Turbines should not cause interference to BT's current and presently planned radio network.

Proposed Locations Turbines T1-T72



BT requires 100m minimum clearance from any structure to the radio link path. If the proposed locations change please let us know and we can reassess this for you.

Please note this refers to BT Radio Links only, you will need to contact other providers separately for information relating to other supplier links / equipment.

Please direct all queries to radionetworkprotection@bt.com

Regards

Debra Baldwin
Engineering Services - Radio Planning
Networks



This email contains information from the BT Group that might be privileged or confidential. And it's only meant for the person above. If that's not you, we're sorry - we must have sent it to you by mistake. Please email us to let us know, and don't copy or forward it to anyone else. Thanks.

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From: [Olivia Morrad](#)
To: [Keyes K \(Kirstin\)](#)
Subject: 20221222 Scottish Government:- Scoping Report - Request for comment - Hagshaw Energy Cluster_Western Expansion. Email to ScotGov
Date: 22 December 2022 11:16:43
Attachments: [image001.png](#)

Good morning

Thank you for your email.

I write to confirm that the assets of Crown Estate Scotland are not affected by this proposal and we therefore have no comments to make.

Kind regards

Olivia

Olivia Morrad
Assistant Portfolio Co-ordinator
Crown Estate Scotland

t: 0131 376 1506 / 07407378899

Our team are currently working from home. Mail is occasionally being collected from our offices (addresses are at www.crownestatescotland.com/contact-us). Where possible, please email or call us rather than post mail.

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From: Kirstin.Keyes@gov.scot <Kirstin.Keyes@gov.scot>
Sent: Tuesday, October 4, 2022 1:00 PM
Subject: Scottish Government:- Scoping Report - Request for comment - Hagshaw Energy Cluster_Western Expansion

! CAUTION ! This email originated from outside of the organisation. <u>Do not click links or open attachments unless you recognise the sender and know the content is safe.</u>
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Dear Consultee,

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION.

On **22 September 2022**, **ITP Energised Limited**, on behalf of Spirebush Limited (the Applicant) submitted a request for a scoping opinion from the Scottish Ministers for the proposed section 36 application for the **Hagshaw Energy Cluster – Western Expansion** in line with regulation 12 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The proposed development is for up to 72 wind turbines with a maximum blade to tip height of 230m, and associated infrastructure. The proposed development spreads across the planning authorities of East Ayrshire Council and South Lanarkshire Council, whereby it adjoins the “Hagshaw Cluster” approximately 2.45km to the north of Muirkirk.

Under regulation 12, Scottish Ministers are required to provide a scoping opinion outlining the information they consider should be included in the EIA report. Ministers are also required to consult the relevant consultation bodies and any other interested party which is likely to have an interest in the proposed development by reason of its specific environmental responsibilities or local and regional competencies.

The scoping report and supporting information can be viewed at the Scottish Government’s Energy Consents Unit website www.energyconsents.scot by:

- clicking on **Search** tab; then,
- clicking on **Simple Search** tab; then,
- typing **Hagshaw Energy Cluster_Western Expansion** into **Search by Project Name** box then clicking on **Go**;
- then clicking on **EC00004623** and then click on **Documents** tab.

To allow Scottish Ministers to provide a comprehensive scoping opinion, we ask that you review the scoping report and advise on the scope of the environmental impact assessment for this proposal. Please advise if there are any further matters you would like Ministers to highlight for consideration and inclusion in the assessment, particularly site specific information.

I would be grateful for your comments by **25 October 2022**. Please note that reminders will not be issued, therefore if we have not received any comments from you, nor a request for an extension by 25 October 2022, we will assume that you have no comments to make.

The scoping report, the site location plan and the remaining figures are available on our website referenced above. If you have any trouble accessing the documents, please contact me.

Please send your response (in PDF format if possible) to me and cc in Econsents_Admin@gov.scot.

Kind regards,

Kirstin

Please note that my working week is Tuesday – Friday.

Kirstin Keyes | Case Manager | Energy Consents Unit

The Scottish Government | 0131 244 1197 | 07825015398 | kirstin.keyes@gov.scot

To view our current casework please visit www.energyconsents.scot



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From: Oulaghan, Teena C2 (DIO Estates-SafegdMgr1) <Teena.Oulaghan100@mod.gov.uk>
Sent: 31 October 2022 13:33
To: Econsents Admin
Cc: Keyes K (Kirstin)
Subject: 20221031_MOD_Response_Letter_ECU00004623
Attachments: 20221031_MOD_Response_Letter.pdf

Good afternoon

Please find attached MOD response to recent scoping request.

Kindest regards

Teena Oulaghan

Safeguarding Manager
Estates – Safeguarding

St George's House | Defence Infrastructure Organisation Head Office |
DMS Whittington | Lichfield | Staffordshire | WS14 9PY

Mobile Tel: Redacted

Website: www.gov.uk/dio/ | **Twitter:** @mod_dio

Read DIO's blog: <https://insidedio.blog.gov.uk/>



Due to covid-19 I am working from home until further notice.

In line with the latest guidance, I am working offline where possible to ease the pressure on the IT network, so I will only be checking emails and Skype periodically. This means I might not respond as promptly as usual, so if you need my attention more urgently, please call me on 07970170934.



Defence Infrastructure Organisation

Teena Oulaghan
Safeguarding Manager
Ministry of Defence
Safeguarding Department
St George's House
DIO Headquarters
DMS Whittington
Lichfield
Staffordshire
WS14 9PY

Your Reference: ECU00004623

Telephone [MOD]: Redacted

Our Reference: DIO10056498

E-mail: teena.oulaghan100@mod.gov.uk

Kirstin Keyes
Energy Consents Unit
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
G2 8LU

By email only

31 October 2022

Dear Kirstin,

Application reference: ECU00004623
Site Name: Hagshaw Energy Cluster Western Expansion
Proposal: Request for Scoping Opinion for proposed Section 36 Application for Hagshaw Energy Cluster – Western Expansion.
Site address: Collieston Wind Farm, Dunscore.

Thank you for consulting the Ministry of Defence (MOD) in relation to the scoping through your communication dated 04 October 2022.

The Defence Infrastructure Organisation (DIO) Safeguarding Team represents the MOD as a consultee in UK planning and energy consenting systems to ensure that development does not compromise or degrade the operation of defence sites such as aerodromes, explosives storage sites, air weapon ranges, and technical sites or training resources such as the Military Low Flying System.

I am writing to advise you that the MOD has concerns with the proposal.

The proposal concerns a development of 72 turbines with maximum blade tip heights of 230.00 metres above ground level, solar photovoltaic (PV) panels, and an on-site energy storage. The proposed development has been assessed using the location data (Grid References) below provided in Scoping Report dated September 2022.

Turbine no.	Easting	Northing
1	265555	629121
2	266045	629221
3	266557	629172

4	266464	629651
5	267135	629310
6	267027	629725
7	266985	630158
8	267490	630185
9	268292	630434
10	268698	630217
11	268795	630741
12	269164	630609
13	271646	630609
14	271273	630019
15	271065	630440
16	270764	630735
17	270742	631167
18	270946	631678
19	271345	631456
20	271345	630972
21	271641	630785
22	271841	630374
23	272209	629780
24	272562	630950
25	272379	631410
26	271809	631479
27	271745	631895
28	271435	632094
29	271877	632635
30	272167	632336
31	272482	631976
32	272888	631770
33	273088	632279
34	272804	632571
35	272576	632905
36	273328	632770
37	273129	633146
38	272366	633292
39	272849	633443
40	272693	633856
41	273249	634044
42	272945	634423
43	273459	634627
44	272157	635577
45	271832	635761
46	271697	635169
47	271263	634600
48	271087	634944
49	270544	635402
50	270667	635013
51	270560	634494
52	270732	634118
53	270200	633688

54	270064	634058
55	270118	634553
56	270124	635056
57	269751	635442
58	269583	634946
59	269720	634550
60	269528	633961
61	269179	634361
62	268909	633783
63	268500	633898
64	268870	634614
65	268368	634310
66	267903	633890
67	267915	634342
68	268296	634838
69	267417	634234
70	267249	634553
71	267782	634837
72	268059	635339
Corner Point of Solar array	266187	628410
Corner Point of Solar array	266405	628773
Corner Point of Solar array	267702	629454
Corner Point of Solar array	269400	629955
Corner Point of Solar array	269634	629708
Corner Point of Solar array	268104	628799
Centre Point of Battery Storage:	269301	629494

The principal safeguarding concerns of the MOD with respect to this development of wind turbines relates to their potential to create a physical obstruction to air traffic movements.

Physical Obstruction

In this case the development falls within Tactical Training Area 20T (TTA 20T), an area within which fixed wing aircraft may operate as low as 100 feet or 30.5 metres above ground level to conduct low level flight training. The addition of turbines in this location has the potential to introduce a physical obstruction to low flying aircraft operating in the area.

To address the impact up on low flying given the location and scale of the development, the MOD would require that conditions are added to any consent issued requiring that the development is fitted with aviation safety lighting and that sufficient data is submitted to ensure that structures can be accurately charted to allow deconfliction.

As a minimum the MOD would require that the development be fitted with MOD accredited aviation safety lighting in accordance with the Air Navigation Order 2016.

Summary

The MOD has concerns with this proposal due to the potential impact to low flying aircraft operating in the development area.

The MOD must emphasise that the advice provided within this letter is in response to the information detailed in the developer's "Scoping Report" dated September 2022. Any variation of the parameters (which include the location, dimensions, form, and finishing materials) detailed may significantly alter how the development relates to MOD safeguarding requirements and cause adverse impacts to safeguarded defence assets or capabilities. In the event that any amendment, whether considered material or not by the determining authority, is submitted for approval, the MOD should be consulted and provided with adequate time to carry out assessments and provide a formal response.

I hope this adequately explains our position on the matter. If you require further information or would like to discuss this matter further, please do not hesitate to contact me.

Further information about the effects of wind turbines on MOD interests can be obtained from the following websites:

MOD: <https://www.gov.uk/government/publications/wind-farms-ministry-of-defence-safeguarding>

Yours sincerely
Redacted

Teena Oulaghan
Safeguarding Manager

13 October 2022

Kirstin Keyes
Energy Consents Unit
The Scottish Government
By email

Edinburgh Airport
EH12 9DN
Scotland

T: +44 (0)844 448 8833
W: edinburghairport.com

Dear Kirstin

Your Ref: ECU00004623
Development: Hagshaw Energy Cluster – Western Expansion
Our Ref: EDI3341

This proposal has been examined from an aerodrome safeguarding perspective and conflicts with safeguarding criteria.

We therefore object to the development on the following grounds:

No turbine tower of any turbine may be erected, unless and until such time as the Scottish Ministers receive confirmation from the Airport Operator in writing that: (a) an IFP Assessment has demonstrated that an IFP Scheme is not required; or (b) if an IFP Scheme is required such a scheme has been approved by the Airport Operator; and (c) if an IFP Scheme is required the Civil Aviation Authority has evidenced its approval to the Airport Operator of the IFP Scheme (if such approval is required); and (d) if an IFP Scheme is required the scheme is accepted by NATS AIS for implementation through the AIRAC Cycle (or any successor publication) (where applicable) and is available for use by aircraft.

Reason: In the interests of aviation safety.

Definitions:

"IFP Scheme" means a scheme to address the potential impact of the turbines on the instrument flight procedures of Edinburgh Airport.

"IFP Assessment" means a safeguarding assessment against current and any possible future IFPs. This assessment must be undertaken by a UK CAA Approved Procedure Design Organisation (APDO).

Further information on IFP Safeguarding and a quote for this assessment can be obtained by contacting safeguarding@edinburghairport.com.

Where a Planning Authority proposes to grant permission against the advice of Edinburgh Airport, it shall notify Edinburgh Airport, the Civil Aviation Authority and the Scottish Ministers as specified in the Safeguarding of Aerodromes Direction 2003.

Yours sincerely

Signature Redacted

Claire Brown
Edinburgh Airport Limited
safeguarding@edinburghairport.com

Haggerstone L (Linda)

From: #GLA Safeguarding <GLASafeguard@glasgowairport.com>
Sent: 02 November 2022 15:20
To: Econsents Admin
Subject: Hagshaw West FAO Kristin Keyes
Attachments: GLA4221 FR ADV 02112022.pdf

Dear Kristin

Please see attached

Kind regards

Kirsteen



#GLA Safeguarding
#GLA Safeguarding

Redacted
✉ glasafeguard@glasgowairport.com
🌐 www.glasgowairport.com



📍 Glasgow Airport, Erskine Court, St Andrews Drive, Paisley, PA3 2TJ

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FAO Kirstin Keyes
Energy Consents Unit
By Email

2nd November 2022

Dear Kirstin

Re: ELECTRICITY ACT 1989

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017
REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR
HAGSHAW ENERGY
CLUSTER – WESTERN EXPANSION
Our reference: GLA4221**

I refer to your request for scoping opinion received in this office on 4th October 2022.

The scoping report submitted has been examined from an aerodrome safeguarding perspective and we would make the following observations:

- The site is outwith the obstacle limitation surfaces for Glasgow Airport;
- It is within the radar and instrument flight procedures safeguarding areas and may impact. Detailed assessments will be required and a requirement for mitigation is highly likely.

Our position with regard to this proposal will only be confirmed once the turbine details are finalized and we have been consulted on a full planning application. At that time we will carry out a full radar impact assessment and will consider our position in light of, inter alia, operational impact and cumulative effects.

Yours sincerely
Redacted

Kirsteen MacDonald

Safeguarding Manager
Glasgow Airport
Redacted

Kirsteen.MacDonald@glasgowairport.com

From: Ian Hutchinson <ihutchinson@glasgowprestwick.com>
Sent: 26 October 2022 11:11
To: Keyes K (Kirstin); Econsents Admin
Cc: Steve Thomson
Subject: Scoping Report - GPA comment - Hagshaw Energy Cluster_Western Expansion
Attachments: 26 Oct 22 - Hagshaw energy Cluster Western Expansion - Scoping Opinion - GPA response.pdf

Hi Kirstin

Please find attached the formal response from Glasgow Prestwick Airport (GPA) Ltd regarding the Hagshaw Energy Cluster Western Expansion (**ECU00004623**)

Kind regards,

Ian



Glasgow Prestwick Airport Ltd.
Aviation House
Prestwick
KA9 2PL
Scotland
United Kingdom

Ian Hutchinson

Safeguarding Manager

T: (+44) 01292 511038

M:

ihutchinson@glasgowprestwick.com

www.glasgowprestwick.com



By email only

The Scottish Government
Energy Consents Unit
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU
FAO: Kirstin Keyes

25 October 2022

Dear Kirstin

Glasgow Prestwick Airport

ELECTRICITY ACT 1989

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017**

**REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR HAGSHAW
ENERGY CLUSTER WESTERN EXPANSION.**

Glasgow Prestwick Airport Ltd ("the Airport") has reviewed the Scoping Consultation documents available on the Energy Consents Unit planning portal for the Hagshaw Energy Cluster Western Expansion (**ECU00004623**) and respond to the scoping consultation on aviation matters only.

The Airport's Windfarm Safeguarding Assessment Process

1. In aviation, safety in the air is paramount. That being the case, the Airport has considered the proposal in line with its Windfarm Safeguarding Assessment Process. The steps of that process are to be undertaken to ensure that the Airport meets the requirements imposed upon it through the Civil Aviation Publications (CAPs) which are promulgated by the Airport's regulator, the Civil Aviation Authority (CAA).

Glasgow Prestwick Airport Ltd
Aviation House, Prestwick, Ayrshire, Scotland, KA9 2PL

T: +44 (0)1292 511055
www.glasgowprestwick.com

Redacted

E: sthompson@glasgowprestwick.com

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HR/Public/Form/087 Version 2

The safeguarding assessment process has identified potential adverse effects on the Airport's primary surveillance radar, Instrument Flight Procedures (IFPs) and VHF Communication Equipment. Those issues having been identified, the Airport conducted an Air Traffic Control (ATC) Operational Impact Assessment which is provided for in its Windfarm Safeguarding Assessment Process.

The Airport's ATC Operational Impact Assessment (Preliminary)

2. The preliminary ATC Operational Assessment indicates that while this proposed development lies outwith Glasgow Prestwick Airport's Controlled Airspace (CAS), it is in an area where the Airport's ATC regularly provide an air traffic service, and as such if any of the turbines are confirmed visible to the Airport's primary surveillance radar then mitigation will be required, together with a review of any impact on our flight procedures or aeronautical charts as published in the UK Aeronautical Information Publication (AIP) for Glasgow Prestwick Airport (EGPK).
3. Other issues raised in the ATC Operational Impact Assessment include, but are not limited to:
 - i. the need for aviation lighting for obstacles above 150m in height;
 - ii. potential loss of VHF Ground to Air communications in the vicinity of the windfarm as a consequence of the large turbines.

Primary Surveillance Radar (PSR)

4. Preliminary Radar Line of Sight ("RLoS") analysis at the maximum turbine tip heights of 230m for the proposed Hagshaw energy Cluster Western Expansion indicates that there is a high likelihood that some of the proposed turbines will be visible to the Airport's primary radar(s). Further assessments will therefore be required to establish and confirm the actual number of turbines which will be visible to the Airport's primary radar(s).

Turbines visible to the Airport's primary radar(s) cause turbine clutter on the Airport's radar controllers display(s). They may also cause other degradative effects on the airspace above and in the vicinity of the turbines (e.g. shadowing, loss of base radar cover, etc).

With regard to the clutter on the Airport ATC radar controllers display(s), the Airport's Terma Scanner 4002 radar ("Terma") contains software which provides the potential for Terma to be optimised to mitigate the clutter. However, mitigation is not an automatic process nor is it guaranteed to work. In line with the Airport's Windfarm Safeguarding Assessment Process, it will be necessary to conduct baseline flight trials and radar modelling assessments to assess the anticipated Probability of Detection ("PD") in the airspace above the turbines post windfarm construction and post optimisation of Terma.

The anticipated PD will of course have to be acceptable from an aviation safety perspective. Although it is possible to estimate the PD following optimisation of Terma, the results are not guaranteed. The actual PD which is achieved after optimisation will have to be confirmed by a post construction flight trial with support from Terma engineers.

Assuming that an acceptable, and confirmed, PD is achieved post optimisation, the mitigation will have to be kept in place by the Airport for the lifetime of the windfarm. There will be costs and risks for the Airport in that process.

Instrument Flight Procedures (IFPs)

5. The developer is fully engaged with the airport and IFP assessments have already been undertaken, identifying issues with the Air Traffic Control Safety Minimum Altitude Chart (ATCSMAC) and Minimum Safety Altitude (MSA) in the vicinity of the development due to the height of the turbines (230m). Further discussions are underway to produce a resolution to these issues.

Technical Safeguarding – VHF Communication Equipment(s)

6. Preliminary analysis indicates it may be necessary to conduct a detailed Technical Safeguarding Assessment in respect of the protection of the Airport's VHF Radio Navigation Equipment in accordance with *CAP670 - Part B, Section 4: GEN 02: Technical Safeguarding of Aeronautical Radio Stations Situated at UK Aerodromes and Appendix A to GEN 02: Methodology for the Prediction of Wind Turbine Interference Impact on Aeronautical Radio Station Infrastructure*.

Glasgow Prestwick Airport Ltd
Aviation House, Prestwick, Ayrshire, Scotland, KA9 2PL

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Redacted

E: sthompson@glasgowprestwick.com

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The need for this assessment requires further discussion with the Developer and the Airport would welcome early dialogue. Any adverse effects identified as a result of any assessment will require to be mitigated for the lifetime of the windfarm.

Solar Farm – Aviation Impact

7. The Airport is content that that there will be no glint and glare that could impact the ATC Control Tower Building from the proposed solar photovoltaic (PV) installation located at the proposed development due to terrain shielding. However, given the size of the proposed solar farm, the Airport would appreciate further discussions with the Developer in respect of a Glint and Glare Assessment considering the effect on overflying aircraft, in particular general aviation aircraft operating under visual flight rules (VFR) in the vicinity of the proposed solar farm that are receiving an air traffic service from the Airport.

Aviation Lighting

8. The Airport is interested as to how the Developer intends to address the aviation warning obstruction lighting as required by UK CAA for obstacles greater than 150m in height above local ground level in accordance with Article 222 of the UK Air Navigation Order (ANO) 2016. While solely a matter for the CAA to consider, should the final aviation lighting scheme consider the use of Aircraft Detection Lighting System (ADLS) dependent upon Electronic Conspicuity (EC) Equipment and be part of any proposed lighting scheme, GPA respectfully request that they are consulted with further.

Cumulative Impact

9. The Airport also raises concerns in respect of the cumulative impact, due to other proposed windfarms in the vicinity of the proposed Hagshaw Energy Cluster Western Expansion. Those risks include: (1) Terma not being able to provide the required level of mitigation; and (2) adverse impact on VHF Communication Equipment(s). The cumulative issues across the whole coverage volume are likely to result in the Airport having to procure and install (at the appropriate point) additional surveillance and communication equipment to address the cumulative impact of multiple windfarms in close proximity to each other.

Hagshaw Energy Cluster Western Expansion Scoping Opinion

10. The Airport request that any proposed Aviation Impact Assessment considers the issues raised in this response letter, namely:

- i. A detailed Radar Line of Sight analysis against the Airport's primary surveillance radar(s);
- ii. An aviation glint and glare assessment.
- iii. A VHF radio communication assessment in the vicinity of the proposed windfarm against the Airport's VHF Ground to Air radio equipment(s) infrastructure;
- iv. Full details of the proposed Aviation lighting scheme.

Conclusions

11. The development raises aviation safety concerns which have the potential to have an operational impact on the Airport as an Air Navigation Services Provider (ANSP). The Airport welcomes early dialogue and engagement with the Developer to address the issues which arise and are detailed in this response. As part of that engagement, the Airport is working through its full ATC Operational Impact Assessment and the Technical Safeguarding Assessment(s) to consider the various impacts of the proposal and how they are to be addressed. As part of that dialogue, the Airport would wish to discuss the terms of a suitable mitigation agreement to address the cost and risks which will be imposed upon it as a result of the proposed development.

12. The Airport would be minded to object to the proposed development until all technical and operational aviation safety matters detailed above are addressed to the satisfaction of the Airport, and a mitigation agreement is put in place for the life of the windfarm.

13. The Airport is currently fully engaged with the Developer and is already several steps into the process of resolving the aviation safety issues discussed above.



Yours faithfully

Redacted

Ian Hutchinson

Safeguarding Manager

For and on behalf of Glasgow Prestwick Airport Limited

Glasgow Prestwick Airport Ltd

Aviation House, Prestwick, Ayrshire, Scotland, KA9 2PL

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Redacted

E: sthompson@glasgowprestwick.com

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From: [JRC Windfarm Coordinations](#)
To: [Keyes K \(Kirstin\)](#)
Cc: [Econsents Admin](#); [ScotlandGas Networks](#); [Scottish Power](#)
Subject: Hagshaw Energy Cluster_Western Expansion - Scottish Government:- Scoping Report - Request for comment - [WF186984]
Date: 13 October 2022 10:25:55

Dear kirstin,

A Windfarms Team member has replied to your co-ordination request, reference **WF186984** with the following response:

Please do not reply to this email - the responses are not monitored.

If you need us to investigate further, then please use the link at the end of this response or login to your account for access to your co-ordination requests and responses.

Dear Kirsten,

Site Ref: EC00004623

Site Name: Hagshaw Energy Cluster Western Expansion

Turbine at NGR:

Turbine X Coord Y Coord Tip Height

1	265555	629121	
2	266045	629221	
3	266557	629172	
4	266464	629651	
5	267135	629310	
6	267027	629725	
7	266985	630158	
8	267490	630185	
9	268292	630434	
10	268698	630217	
11	268795	630741	
12	269164	630609	
13	271646	629786	
14	271273	630019	
15	271065	630440	
16	270764	630735	
17	270742	631167	
18	270946	631678	230
19	271345	631456	230
20	271345	630972	230

21	271641	630785	230
22	271841	630374	
23	272209	629780	
24	272562	630950	230
25	272379	631410	230
26	271809	631479	230
27	271745	631895	230
28	271435	632094	230
29	271877	632635	230
30	272167	632336	230
31	272482	631976	230
32	272888	631770	230
33	273088	632279	230
34	272804	632571	230
35	272576	632905	230
36	273328	632770	230
37	273129	633146	230
38	272366	633292	230
39	272849	633443	230
40	272693	633856	230
41	273249	634044	230
42	272945	634423	230
43	273459	634627	230
44	272157	635577	230
45	271832	635761	230
46	271697	635169	230
47	271263	634600	230
48	271087	634944	230
49	270544	635402	230
50	270667	635013	230
51	270560	634494	230
52	270732	634118	230
53	270200	633688	230
54	270064	634058	230
55	270118	634553	230
56	270124	635056	230
57	269751	635442	230
58	269583	634946	230
59	269720	634550	230
60	269528	633961	230
61	269179	634361	230
62	268909	633783	230
63	268500	633898	230
64	268870	634614	230

65	268368	634310	230
66	267903	633890	230
67	267915	634342	230
68	268296	634838	230
69	267417	634234	230
70	267249	634553	230
71	267782	634837	230
72	268059	635339	230

Max Hub Height: 192m Max Rotor Radius: 38m

*This proposal is ***cleared*** with respect to radio link infrastructure operated by:*

Scottish Power and Scotia Gas Networks

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal. Please note that due to the large number of adjacent radio links in this vicinity, which have been taken into account, clearance is given specifically for a location within the declared grid reference (quoted above).

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted. JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, you are advised to seek re-coordination prior to submitting a planning application, as this will negate the possibility of an objection being raised at that time as a consequence of any links assigned between your enquiry and the finalisation of your project.

JRC offers a range of radio planning and analysis services. If you require any assistance, please contact us by phone or email.

Regards

Wind Farm Team

*Friars House
Manor House Drive
Coventry CV1 2TE
United Kingdom*

Office: 02476 932 185

JRC Ltd. is a Joint Venture between the Energy Networks Association (on behalf of the UK Energy Industries) and National Grid.

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We hope this response has sufficiently answered your query.

If not, please **do not send another email** as you will go back to the end of the mail queue, which is not what you or we need. Instead, **reply to this email by clicking on the link below or login to your account** for access to your co-ordination requests and responses.

<https://breeze.jrc.co.uk/tickets/view.php?id=28504>

Haggerstone L (Linda)

From: David McLatchie <Redacted>
Sent: 24 October 2022 18:16
To: Keyes K (Kirstin)
Cc: Econsents_Admin@gov.scot.
Subject: Re: Scottish Government:- Scoping Report - Request for comment - Hagshaw Energy Cluster_Western Expansion
Attachments: Scoping Reoprt.pdf

Hi Kirstin,

Please find attached the Community Council response to the Scoping Report.

Regards

David McLatchie

Chairman Muirkirk Community Council

HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION SCOPING REPORT

I write on behalf of Muirkirk Community Council and confirm that in our opinion the scoping report is comprehensive, and covers all aspects of the environmental impact of the proposed wind farm including the S.P.A This also takes into consideration the potential impact of construction traffic and mitigates this by use of existing wind farm roads which will be extended should the project go ahead.

Given the foregoing we have no negative comments and given the community benefits that will arise if the wind farm were to proceed it will result in a positive result for the community at large.

Regards
David McLatchie
Chairman Muirkirk Community Council



From: [David/Bob Norman email redacted](#)
To: [Keyes K \(Kirstin\)](#)
Subject: Hagshaw Energy Cluster The Western Expansion (3renergy)
Date: 02 November 2022 13:56:51

Hello my name is Bob Norman, I am the chairman of the Muirkirk Enterprise Group here in Muirkirk Garan House 26 /28 KA18 3RA. I would like to say we have discussed the Hagshaw Energy Cluster The Western Expansion with 3renergy and I have to say we are fully behind the project. The benefits it will bring not just to our community but to other communities as well, with the advantage of reducing our carbon footprint in the world. Regards Bob Norman

Sent from [Mail](#) for Windows

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 14 October 2022 12:27
To: Keyes K (Kirstin)
Cc: Econsents Admin
Subject: RE: Scottish Government:- Scoping Report - Request for comment - Hagshaw Energy Cluster_Western Expansion [SG34117]
Attachments: SG34117 Hagshaw Energy Cluster - Western Expansion - TOPA Issue 1.pdf

Our Ref: SG34117

Dear Sir/Madam

We refer to the application above. The proposed development has been examined by our technical safeguarding teams and conflicts with our safeguarding criteria.

Accordingly, NATS (En Route) plc **objects to the proposal**. The reasons for NATS's objection are outlined in the attached report TOPA SG34117.

We would like to take this opportunity to draw your attention to the legal obligation of local authorities to consult NATS before granting planning permission. The obligation to consult arises in respect of certain applications that would affect a technical site operated by or on behalf of NATS (such sites being identified by safeguarding plans that are issued to local planning authorities).

In the event that any recommendations made by NATS are not accepted, local authorities are obliged to follow the relevant directions within Planning Circular 2 2003 - Scottish Planning Series: Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) (Scotland) Direction 2003 or Annex 1 - The Town And Country Planning (Safeguarded Aerodromes, Technical Sites And Military Explosives Storage Areas) Direction 2002.

These directions require that the planning authority notify both NATS and the Civil Aviation Authority ("CAA") of their intention. As this further notification is intended to allow the CAA to consider whether further scrutiny is required, the notification should be provided prior to any granting of permission.

It should also be noted that the failure to consult NATS, or to take into account NATS's comments when determining a planning application, could cause serious safety risks for air traffic.

Should you have any queries, please contact us using the details below.

Yours faithfully

NATS

NATS Safeguarding
E: natssafeguarding@nats.co.uk
4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk



NATS Public

From: Kirstin.Keyes@gov.scot <Kirstin.Keyes@gov.scot>

Sent: 04 October 2022 13:00

Subject: [EXTERNAL] Scottish Government:- Scoping Report - Request for comment - Hagshaw Energy Cluster_Western Expansion

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear Consultee,

ELECTRICITY ACT 1989

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION.

On **22 September 2022**, **ITP Energised Limited**, on behalf of Spirebush Limited (the Applicant) submitted a request for a scoping opinion from the Scottish Ministers for the proposed section 36 application for the **Hagshaw Energy Cluster – Western Expansion** in line with regulation 12 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The proposed development is for upto 72 wind turbines with a maximum blade to tip height of 230m, and associated infrastructure. The proposed development spreads across the planning authorities of East Ayrshire Council and South Lanarkshire Council, whereby it adjoins the “Hagshaw Cluster” approximately 2.45km to the north of Muirkirk.

Under regulation 12, Scottish Ministers are required to provide a scoping opinion outlining the information they consider should be included in the EIA report. Ministers are also required to consult the relevant consultation bodies and any other interested party which is likely to have an interest in the proposed development by reason of its specific environmental responsibilities or local and regional competencies.

The scoping report and supporting information can be viewed at the Scottish Government’s Energy Consents Unit website www.energyconsents.scot by:

- clicking on **Search** tab; then,
- clicking on **Simple Search** tab; then,
- typing **Hagshaw Energy Cluster_Western Expansion** into **Search by Project Name** box then clicking on **Go**;
- then clicking on **EC00004623** and then click on **Documents** tab.

To allow Scottish Ministers to provide a comprehensive scoping opinion, we ask that you review the scoping report and advise on the scope of the environmental impact assessment for this proposal. Please advise if there are any further matters you would like Ministers to highlight for consideration and inclusion in the assessment, particularly site specific information.

I would be grateful for your comments by **25 October 2022**. Please note that reminders will not be issued, therefore if we have not received any comments from you, nor a request for an extension by 25 October 2022, we will assume that you have no comments to make.

The scoping report, the site location plan and the remaining figures are available on our website referenced above. If you have any trouble accessing the documents, please contact me.

Please send your response (in PDF format if possible) to me and cc in Econsents_Admin@gov.scot.

Kind regards,

Kirstin

Please note that my working week is Tuesday – Friday.

Kirstin Keyes | Case Manager | Energy Consents Unit

The Scottish Government | 0131 244 1197 | 07825015398 | kirstin.keyes@gov.scot

To view our current casework please visit www.energyconsents.scot



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6. Technical and Operational Assessment (TOPA)

For Hagshaw Energy Cluster – Western
Expansion

Wind Farm Development

NATS ref: SG34117

Scottish Government ref: ECU00004623

Issue 1

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6.1 Publication History

Issue	Month/Year	Change Requests and summary
1	October 2022	Scoping Request

Document Use

External use: Yes

Referenced Documents

1. Background

1.1. En-route Consultation

NATS en-route plc is responsible for the safe and expeditious movement in the en-route phase of flight for aircraft operating in controlled airspace in the UK. To undertake this responsibility it has a comprehensive infrastructure of RADAR's, communication systems and navigational aids throughout the UK, all of which could be compromised by the establishment of a wind farm.

In this respect NATS is responsible for safeguarding this infrastructure to ensure its integrity to provide the required services to Air Traffic Control (ATC).

In order to discharge this responsibility NATS is a statutory consultee for all wind farm applications, and as such assesses the potential impact of every proposed development in the UK.

The technical assessment sections of this document define the assessments carried out against the development proposed in section 3.

2. Scope

This report provides NATS En-Route plc's view on the proposed application in respect of the impact upon its own operations and in respect of the application details contained within this report.

Where an impact is also anticipated on users of a shared asset (e.g. a NATS RADAR used by airports or other customers), additional relevant information may be included for information only. While an endeavour is made to give an insight in respect of any impact on other aviation stakeholders, it should be noted that this is outside of NATS' statutory obligations and that any engagement in respect of planning objections or mitigation should be had with the relevant stakeholder, although NATS as the asset owner may assist where possible.

3. Application Details

Scottish Government submitted a request for a NATS technical and operational assessment (TOPA) for the development at Hagshaw hill Energy Cluster – Western Expansion Wind Farm. It will comprise turbines as detailed in Table 1 and contained within an area as shown in the diagrams contained in Appendix B.

Turbine	Lat	Long	East	North	Tip Height (m)
1	55.5372	-4.1320	265555	629121	230
2	55.5383	-4.1243	266045	629221	230
3	55.5380	-4.1161	266557	629172	230
4	55.5422	-4.1178	266464	629651	230
5	55.5394	-4.1070	267135	629310	230
6	55.5431	-4.1089	267027	629725	230
7	55.5469	-4.1098	266985	630158	230
8	55.5473	-4.1018	267490	630185	230
9	55.5498	-4.0893	268292	630434	230
10	55.5479	-4.0827	268698	630217	230
11	55.5527	-4.0814	268795	630741	230
12	55.5516	-4.0755	269164	630609	230
13	55.5448	-4.0358	271646	629786	230
14	55.5468	-4.0418	271273	630019	230
15	55.5506	-4.0453	271065	630440	230
16	55.5531	-4.0502	270764	630735	230
17	55.5570	-4.0508	270742	631167	230
18	55.5616	-4.0478	270946	631678	230
19	55.5598	-4.0414	271345	631456	230
20	55.5554	-4.0411	271345	630972	230
21	55.5538	-4.0364	271641	630785	230
22	55.5502	-4.0330	271841	630374	230
23	55.5449	-4.0269	272209	629780	230
24	55.5555	-4.0219	272562	630950	230
25	55.5596	-4.0250	272379	631410	230
26	55.5601	-4.0340	271809	631479	230
27	55.5638	-4.0352	271745	631895	230
28	55.5655	-4.0402	271435	632094	230
29	55.5705	-4.0335	271877	632635	230
30	55.5679	-4.0288	272167	632336	230
31	55.5647	-4.0236	272482	631976	230
32	55.5630	-4.0171	272888	631770	230
33	55.5676	-4.0141	273088	632279	230
34	55.5702	-4.0188	272804	632571	230
35	55.5731	-4.0225	272576	632905	230
36	55.5721	-4.0106	273328	632770	230
37	55.5754	-4.0139	273129	633146	230
38	55.5765	-4.0260	272366	633292	230
39	55.5780	-4.0185	272849	633443	230
40	55.5817	-4.0211	272693	633856	230
41	55.5835	-4.0124	273249	634044	230
42	55.5868	-4.0174	272945	634423	230

43	55.5888	-4.0093	273459	634627	230
44	55.5970	-4.0304	272157	635577	230
45	55.5985	-4.0357	271832	635761	230
46	55.5932	-4.0375	271697	635169	230
47	55.5880	-4.0441	271263	634600	230
48	55.5910	-4.0471	271087	634944	230
49	55.5950	-4.0559	270544	635402	230
50	55.5915	-4.0538	270667	635013	230
51	55.5868	-4.0552	270560	634494	230
52	55.5835	-4.0523	270732	634118	230
53	55.5795	-4.0606	270200	633688	230
54	55.5828	-4.0629	270064	634058	230
55	55.5872	-4.0623	270118	634553	230
56	55.5918	-4.0624	270124	635056	230
57	55.5951	-4.0685	269751	635442	230
58	55.5906	-4.0709	269583	634946	230
59	55.5871	-4.0686	269720	634550	230
60	55.5818	-4.0713	269528	633961	230
61	55.5853	-4.0771	269179	634361	230
62	55.5800	-4.0811	268909	633783	230
63	55.5809	-4.0876	268500	633898	230
64	55.5875	-4.0821	268870	634614	230
65	55.5846	-4.0899	268368	634310	230
66	55.5807	-4.0971	267903	633890	230
67	55.5848	-4.0971	267915	634342	230
68	55.5893	-4.0913	268296	634838	230
69	55.5836	-4.1049	267417	634234	230
70	55.5865	-4.1078	267249	634553	230
71	55.5892	-4.0994	267782	634837	230
72	55.5937	-4.0953	268059	635339	230

Table 1 – Turbine Details

4. 6.2 Assessments Required

The proposed development falls within the assessment area of the following systems:

En-route Surv	Lat	Long	nm	km	Az (deg)	Type
Great Dun Fell Radar	54.6841	-2.4509	75.0	138.9	314.6	CMB
Lowther Hill Radar	55.3778	-3.7530	13.7	25.4	318.2	CMB
Perwinnes Radar	57.2123	-2.1309	115.9	214.7	213.9	CMB
Tiree Radar	56.4556	-6.9230	108.2	200.4	117.7	CMB
En-route Nav	Lat	Long	nm	km	Az (deg)	Type
None						
En-route AGA	Lat	Long	nm	km	Az (deg)	Type
None						

Table 2 – Impacted Infrastructure

4.1.

En-route RADAR Technical Assessment

4.1.1. Predicted Impact on Lowther RADAR

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.2. Predicted Impact on Cumbernauld RADAR

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.3. Predicted Impact on Glasgow RADAR (Eastern portion of Development)

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal over the eastern portion of the development, and therefore this part of the development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.4. En-route operational assessment of RADAR impact

Where an assessment reveals a technical impact on a specific NATS' RADAR, the users of that RADAR are consulted to ascertain whether the anticipated impact is acceptable to their operations or not.

Unit or role	Comment
Prestwick Centre ATC	Unacceptable
Military ATC	Acceptable

Note: The technical impact, as detailed above, has also been passed to non-NATS users of the affected RADAR, this may have included other planning consultees such as the MOD or other airports. Should these users consider the impact to be unacceptable it is expected that they will contact the planning authority directly to raise their concerns.

4.2. En-route Navigational Aid Assessment

4.2.1. Predicted Impact on Navigation Aids

No impact is anticipated on NATS' navigation aids.

4.3. En-route Radio Communication Assessment

4.3.1. Predicted Impact on the Radio Communications Infrastructure

No impact is anticipated on NATS' radio communications infrastructure.

5. 6.3 Conclusions

5.1. En-route Consultation

The proposed development has been examined by technical and operational safeguarding teams. A technical impact is anticipated, this has been deemed to be unacceptable.

6.4 Appendix A – Background RADAR Theory

Primary RADAR False Plots

When RADAR transmits a pulse of energy with a power of P_t the power density, P , at a range of r is given by the equation:

$$P = \frac{G_t P_t}{4\pi r^2}$$

Where G_t is the gain of the RADAR's antenna in the direction in question.

If an object at this point in space has a RADAR cross section of σ , this can be treated as if the object re-radiates the pulse with a gain of σ and therefore the power density of the reflected signal at the RADAR is given by the equation:

$$P_a = \frac{\sigma P}{4\pi r^2} = \frac{\sigma G_t P_t}{(4\pi)^2 r^4}$$

The RADAR's ability to collect this power and feed it to its receiver is a function of its antenna's effective area, A_e , and is given by the equation:

$$P_r = P A_e = \frac{P G_t \lambda^2}{4\pi r^2} = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4}$$

Where G_r is the RADAR antenna's receive gain in the direction of the object and λ is the RADAR's wavelength.

In a real world environment this equation must be augmented to include losses due to a variety of factors both internal to the RADAR system as well as external losses due to terrain and atmospheric absorption.

For simplicity these losses are generally combined in a single variable L .

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4 L}$$

Secondary RADAR Reflections

When modelling the impact on SSR the probability that an indirect signal reflected from a wind turbine has the signal strength to be confused for a real interrogation or reply can be determined from a similar equation:

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r_t^2 r_r^2 L}$$

Where r_t and r_r are the range from RADAR-to-turbine and turbine-to-aircraft respectively. This equation can be rearranged to give the radius from the turbine within which an aircraft must be for reflections to become a problem.

$$r_r = \sqrt{\frac{\lambda^2}{(4\pi)^3} \frac{\sigma G_t G_t P_t}{r_t^2 P_r L}}$$

Shadowing

When turbines lie directly between a RADAR and an aircraft not only do they have the potential to absorb or deflect, enough power such that the signal is of insufficient level to be detected on arrival.

It is also possible that azimuth determination, whether this done via sliding window or monopulse, can be distorted giving rise to inaccurate position reporting.

Terrain and Propagation Modelling

All terrain and propagation modelling is carried out by a software tool called ICS Telecom (version 11.1.7). All calculations of propagation losses are carried out with ICS Telecom configured to use the ITU-R 526 propagation model.

Appendix B – Diagrams

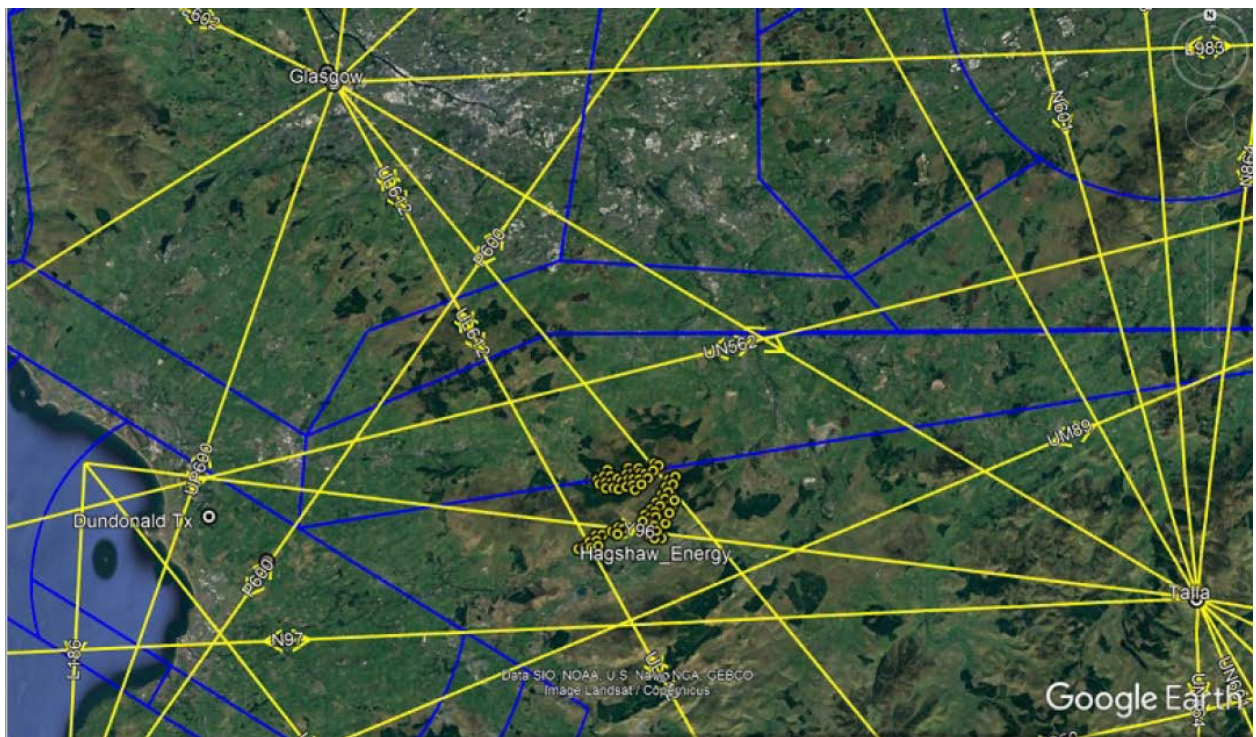
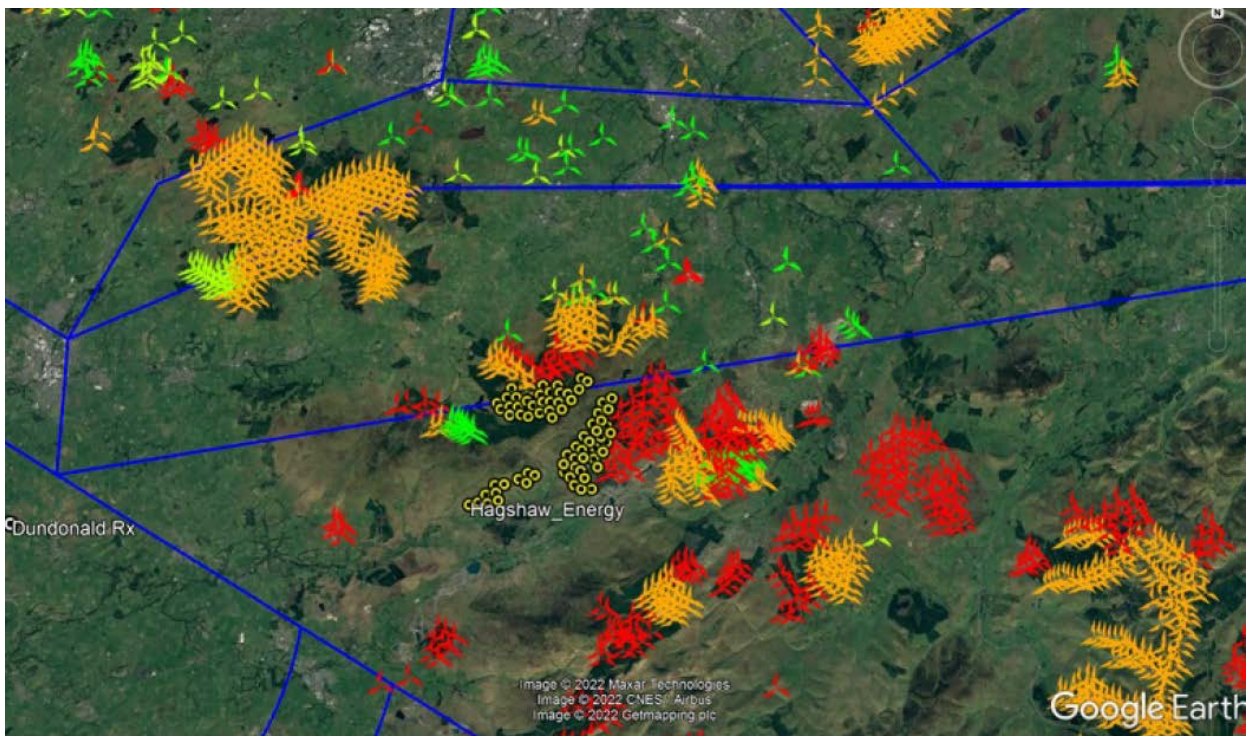


Figure 1: Proposed development location shown on an airways chart



Figures 2: Proposed development shown alongside other recently assessed applications

■ consented/built	■ impact -accepted	■ impact -objection	■ mitigated
■ mitigation -proposed	□ no impact	□ refused/withdrawn	

From: ONR Land Use Planning <ONR-Land.Use-Planning@onr.gov.uk>
Sent: 17 October 2022 10:47
To: Econsents Admin
Subject: ONR Land Use Planning - Application EC00004623
Attachments: image001.png

Dear Sir/Madam,

With regard to planning application EC00004623, ONR makes no comment on this proposed development as it does not lie within a consultation zone around a GB nuclear site.

You can find information concerning our Land Use Planning consultation process here: (<http://www.onr.org.uk/land-use-planning.htm>).

Kind regards,

Vicki Enston
Land Use Planning
Office for Nuclear Regulation
ONR-Land.Use-planning@onr.gov.uk



Kirstin Keyes
Case Manager
Energy Consents Unit
The Scottish Government

01 November 2022

Dear Kirstin,

ELECTRICITY ACT 1989

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2017**

**REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION
FOR HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION.**

Thank you for consulting RSPB Scotland on the above request for a Scoping Opinion on this proposal.

RSPB Scotland has significant concerns with the proposal due to its location within and adjacent to the European designated site Muirkirk and North Lowther Uplands Special Protected Area (SPA) and nationally designated Muirkirk Uplands SSSI.

The SPA is designated for hen harrier (breeding/wintering), short-eared owl, merlin, peregrine and golden plover. The North Lowther Uplands SSSI, which underpins part of the SPA, is designated for breeding hen harrier and an important assemblage of upland breeding birds and a nationally important mosaic of upland habitats.

Although the overlap with the SPA is recognised, we do not think that the Scoping Report has given sufficient attention to the protected sites issues or clearly identified the requirement for the project to undergo a Habitats Regulations Appraisal (HRA). From the information available at this stage, we do not believe it would be possible to establish beyond reasonable scientific doubt that the proposal would not result in an adverse impact on site integrity.

If it cannot be ascertained that the proposed wind farm will not adversely affect the integrity of the SPA, the provisions of Article 6(4) of the Habitats Directive are applied,

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Twitter: @RSPBDandG
rspb.org.uk/Scotland



The RSPB is part of Bird Life International, a Partnership of conservation organisations working to give nature a home around the world.

Chair of Council: Kevin Cox **President:** Dr Amir Khan **Chairn, Committee for Scotland:** Dr Vicki Nash **Director, RSPB Scotland:** Anne McCall.
The Royal Society for the Protection of Birds (RSPB) is a registered charity: England and Wales no. 207076, Scotland no. SC037654 Registered

which firstly requires the consideration of alternatives. Given this is not the only location that a windfarm could be located in Scotland or indeed in the UK, we do not see how this test could be met.

Aside from short-eared owl which is 'favourable maintained'¹, the latest site condition information shows the SPA designated features as being 'unfavourable declining' or 'unfavourable no change'. Any proposal would be required to demonstrate that it would not be detrimental to the full recovery of the SPA and its designation species, as well as the achievement of the conservation objectives more generally.

It should be noted that the status of breeding hen harrier in the Muirkirk Uplands SSSI is assessed as 'favourable maintained' and the impact of a proposal on the status of this feature should be included as part of the EIA assessment.

Please find our comments on the Scoping Report in Annex 1 below.

Yours sincerely,

Signature redacted

Julia Gallagher

Senior Conservation Officer – Scottish Lowlands & Southern Uplands

¹ The last site condition monitoring for SEO was in 1998

ANNEX 1 – RSPB Scotland’s comments on Scoping Report for Hagshaw Rig Western Expansion

Designated Sites and Legislative Requirements

The proposed development would be partially within the Muirkirk and North Lowther Uplands SPA. Due to the nature, scale and location of the proposed development there would be likely significant effects on all of the qualifying features of the SPA. Therefore, an Appropriate Assessment will be required under the Conservation of Habitats and Species Regulations 2017 before the application for consent can be determined. In addition, an Appropriate Assessment under the Conservation (Natural Habitats, & c.) Regulations 1994, will be required in relation to any planning application for the hydrogen production facility. The Application must include sufficient information to allow the determining authorities to carry out Appropriate Assessments, as required.

From the information available at this stage, we do not believe an Appropriate Assessment could conclude, beyond reasonable scientific doubt, that the proposal would not result in an adverse impact on site integrity.

The project, in our view, would then need to proceed toward derogation (under regulation 49 and 53, the 1994 Habitats Regulations and Reg 64 and 68 of the 2017 Habitat Regulations). Firstly, alternative solutions must be considered, and if a project fails this test, it does not move to the next but must instead be refused.

Alternative solutions should include not only different locations, scales or design of development, or different processes but also alternative ways to meet the need. We consider there are alternative solutions to delivering low carbon energy at this scale out with SPAs within Scotland.

If it were concluded there were no alternative solutions, it would also have to be demonstrated that the project must be carried out for imperative reasons of overriding public interest (IROPI).

If the IROPI test were passed, then compensatory measures to ensure the overall coherence of the International Site Network would be required. Given we do not see that the ‘alternative solutions’ test could be passed, the project would not be expected to be able to move to this stage.

The proposed development would also overlap Muirkirk Uplands SSSI and Blood Moss and Slot Burn SSSI, therefore the EIA must additionally and fully consider the impacts on the protected features of the above named SSSIs.

EIA Considerations and Proposed Methodology

Effects on Muirkirk and North Lowther SPA

A study of figures in the Scoping report, (3.1), suggests that 49 turbines or around 68% of proposed turbines would be located within the SPA. Given the scale of development that is being proposed within an internationally designated site, the context of the location of this project is not given sufficient emphasis in the Scoping Report.

The Scoping report notes several negative pressures (paragraph 7.2.4) as having a negative impact on the site condition of the SPA. Whilst we do not disagree with this list,

'renewable abiotic energy' is also listed as a threat as noted in the Standard Data Form², which is understood to relate to renewable energy generation, including windfarms. It would seem remiss not to include this in this context.

In Paragraph 7.2.10 of the Scoping report, the Applicant has suggested that instead of assessing impacts on the populations of qualifying species as they were at the time of designation, they propose to use different approach to 'defining the 'HRA baseline'. They have proposed that the HRA would be 'based on a robust contemporary ornithological baseline, comprising such evidence combined with two years of ornithological surveys (2021 and 2022), completed in accordance with relevant NatureScot and other guidance' (7.2.12). We strongly disagree with this proposed methodology. The effect on the integrity of the whole SPA should be assessed with regard to its qualifying features and conservation objectives, and taking into account the species populations at time of designation.

We note that it is the determining authority, not the Applicant, who must carry out the Habitat Regulations Appraisal, including Appropriate Assessment, but we understand that the Applicant proposes to submit a shadow HRA, with any application.

Connectivity for SPA Species

Although the current proposal would include development partially within the MNLU SPA, connectivity of qualifying species using other parts of the SPA with connectivity to the proposed development must also be considered. NatureScot guidance³ should be referred to for connectivity distances for the relevant species.

EIA Assessment

The EIA should consider all the components of the proposal including, turbines, anemometer masts, solar panels, access roads (including the route on public roads to get the turbines on site), on site tracks, borrow pits, drainage, grid connection, substation and temporary construction buildings/storage compounds.

Paragraph 7.2.2 of the Scoping report states that 42ha of habitat will be lost through direct and indirect impact to habitat within the SPA. However, it is not clear what infrastructure is included in this calculation. Fig 2.1 illustrates areas A-D for various components of infrastructure which we assume has been calculated as the figure given of 42ha. We therefore, ask for clarity on this calculation.

Related to this, we highlight the requirement to assess the effect on the integrity of the whole SPA with regard to its qualifying features and conservation objectives and not just within the project boundary. The Scoping report emphasises the status of designated qualifying species breeding hen harrier at a sub-compartment level within the project boundary and/or within 2km, which does not reflect potential connectivity distances for this species which has a maximum foraging range of 10km. The same consideration applies for all qualifying species.

Decommissioning

In our opinion, decommissioning should be scoped into the EIA, to ensure impacts of the proposed development over its entire lifecycle are adequately considered. NatureScot

² JNCC (2018) <https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9003261.pdf>

³ SNH (2016) [Assessing Connectivity with Special Protected Areas](#)

Guidance⁴ recommends that it is good practice to include an outline Decommissioning and Restoration Plan (DRP) in the EIA report or other documents supporting a planning application. Further survey work may be required to inform the final decommissioning plan.

Operational Effects

It is our view that operational disturbance should be assessed. However, paragraph 7.7.2 does not include disturbance, yet it is included in the Table 7.2 of the Scoping report. This should be clarified in the EIA.

We question the size of buffer proposed as a precautionary measure to protect habitat in the locations of historical hen harrier nest sites through design (7.4.36) since it is not evidenced through relevant research relating to foraging activity associated with nest sites.

Survey coverage and methodology

Survey area

Figure 7.1 shows 'ornithological study areas' (although Figure 7.1 is described as 'Ornithology **Survey** Areas' in the content page on p4.) The study areas are defined by the Applicant as, 'the spatial extent of the consideration of effects on each species at the time of assessment' (footnote 13, p56). There does not seem to be a figure showing the survey areas for each year, and different survey areas were used in 2021 and 2022. Therefore, separate figures need to be presented in the EIAR for each year to reflect this.

Vantage point Surveys

We are concerned the viewsheds in Figure 7.2 do not cover the location of all proposed wind turbines. Furthermore, some VPs are located within the survey area and this limitation must be justified and explained in the EIA Report. NatureScot guidance⁵ states that survey areas for vantage point surveys should extend 500m beyond the outermost proposed turbines to consider inaccuracies of position for flight line observations.

Breeding Raptor surveys

In paragraph 7.4.4 the 'study area' for breeding raptor surveys is proposed as 2km from 'potential work areas'. It is not clear how the 'potential work areas' are being defined. The buffer areas for survey work should be from the site boundary as per NS' guidance on this.

Survey effort carried out in 2021 and 2022 covered different areas; with surveying 'concentrated' within the red line boundary in 2021, and within the project boundary plus a 2km buffer in 2022 (7.4.13-14). The 2km buffer should have been used in both years. This limitation must be considered in the overall assessment of current status of species at this site. This issue is particularly relevant given that it is stated that no qualifying species were recorded within the development boundary during 2021 survey effort. We also ask for clarity as to the reference on concentration of effort relating to methodology used.

⁴ SNH (2016) [Decommissioning and Restoration Plans for wind farms](#)

⁵ SNH (2017) [Recommended bird survey methods to inform impact assessment of onshore wind farms](#)

The Scoping Report states that "Surveys for raptors (including barn owl) were undertaken by SSRSG with '*cognisance of the methods described in Hardey et al.*' (2013) with four surveys undertaken each year in 2021 and 2022, throughout April, May, June and July" (7.4.12). If the survey methodology departs from the standard approach, this should be clearly outlined and justified in a technical appendix.

Black grouse

The scoping report states that one year of black grouse surveys were completed in 2022. It proposes that the 'study area' for black grouse will be 1.5km from potential work areas. As above, it is unclear what 'potential work areas' refers to and surveys should have been carried out 1.5km from the site boundary.

Paragraph 7.4.11 suggests that black grouse was recorded on site by the VP surveys, while 7.4.22 states that 'no evidence of black grouse leks were recorded during surveys'. We assume this is referring to non-lekking activity as being recorded through VP survey. If this is the case, although no lekking activity was recorded on site, since there has been only one year of survey for this species and black grouse was recorded on site, we strongly recommend that black grouse remains scoped into the EIA process and is not scoped out, as suggested. (Table 7.2)

Figure 7.1 does not include black grouse survey area.

Breeding Bird Surveys

Figure 7.1 shows that breeding bird 'study areas' do not cover the whole of the proposed Application Site plus a 500m buffer outside the project boundary. Furthermore, it is noted that surveys carried out in 2021 and 2022 covered different areas; the proposed turbine areas and a 500 m survey buffer (as of layout in April 2021), and the Proposed Development boundary, extending to cover all areas within 500 m of the proposed turbines, where access was available (7.4.15).

NatureScot guidance⁶ states that the main breeding and wintering bird survey areas should extend at least 500m beyond the development/planning application boundary, as potential collision risk, habitat loss and displacement could affect birds out with the proposal site.

This limitation must be considered in the overall assessment of current status and impact to species at this site.

Wintering bird surveys

Paragraph 7.4.17 in the Scoping report states that walk-over surveys for raptors during the wintering season will 'cover open areas of the site within 500m of site infrastructure'. This survey should include the whole of the application site and include a 2km buffer as advised in NatureScot guidance⁷ and to record the presence of designated species' roost sites (hen harrier, short-eared owl).

Cumulative and Incombination Assessment

Irrespective of our concerns that the development is proposed to be located within the Muirkirk and North Lowther SPA, there are existing pressures on the SPA from

⁶ SNH (2017) [Recommended bird survey methods to inform impact assessment of onshore wind farms](#)

⁷ SNH (2017) [Recommended bird survey methods to inform impact assessment of onshore wind farms](#)

developments on its boundary including onshore wind projects at various stages of the planning process, and forestry. These pressures should be included in the cumulative assessment. EU guidance⁸ states that *'it is important to note that the assessment of cumulative effects is not restricted to the assessment of similar types of plans or projects covering the same sector of activity (e.g. a series of wind farms). The assessment should include all types of plans or projects that could, in combination with the wind farm or wind energy plan under consideration, have a significant effect.'*

For instance, the same principles apply to other developments and activity such as forestry operations, and ultimately these should be considered in cumulative assessments. NatureScot's guidance, Assessing the [Cumulative Impacts of onshore Windfarms on Birds](#) should also be referred to.

The Scoping report indicates the cumulative scope is windfarms out to 35km; however Figure 5.3 only shows windfarms out to 20km. The extent of windfarms to be included within the cumulative assessment should be clarified.

Sufficient information must be submitted to inform the Appropriate Assessment, including information with regard to in-combination effects. This is required to assess whether the proposal, alone or in-combination with other plans and projects, could have an adverse effect on the integrity of the SPA and its species in light of the site's conservation objectives. It is noted that this requires the inclusion of plans and projects, whereas the EIA requirements relate only to projects. It is also noted that there is no set geographic limit on the assessment of the in-combination effects, and the integrity of the whole SPA must be considered.

Planning and Policy Context

Scottish Planning Policy (2014) will be incorporated into the fourth National Planning Framework once adopted. The wording of the Scoping Report at paragraphs 4.2.3-4.2.4 does not make it clear whether this will be reflected in the Planning Statement submitted with the EIA and application.

The Scoping report discusses relevant Climate Change and Energy Policy and Hydrogen Policy. However, the document does not mention relevant national policy on biodiversity and nature recovery. This is a significant omission given the proposal to develop within nationally and internationally protected sites for nature. We advise, for example, that the following policies should be included in the EIA for this project:

- The Scottish Biodiversity Strategy
- Scottish biodiversity strategy post-2020: statement of intent (Dec 2020)
- PAN 60 - Planning for Natural Heritage

Hagshaw Energy Cluster Development Framework

It is noted that the current proposal is not identified as being within the existing energy cluster area and that the Development Framework is not part of the development plan, for East Ayrshire or South Lanarkshire. However, it is suggested elsewhere at paragraph 7.2.13 and could be interpreted from the title of the proposed development (Hagshaw Energy Cluster – Western Expansion, or HEC-WE) that it is an extension to the existing 'cluster'. We suggest it should be clearly stated in the EIA that the proposed development (HEC-WE) is not an extension to the existing cluster, and that there is consequently no

⁸ European Commission (2020) Guidance document on wind energy developments and EU nature legislation

direct link to objectives of the draft Hagshaw Energy Cluster Development Framework, which includes objective to protect the SPA.

Specifically, we note that a key objective of the Framework is to:

'Protect the integrity of internationally and nationally designated areas, and important habitats and species during development of renewable energy and other projects in the cluster'⁹.

Although the Framework states that it does not seek to define the extent of the cluster, it does confirm that it has been largely influenced by a number of features, including the presence of the Muirkirk and North Lowther Uplands SPA and Muirkirk Uplands SSSI to the west and south-west (p.48).

Though the Framework may identify opportunity to improve habitat in the wider area, including the Muirkirk and North Lowther SPA, it is crucial to note that proposals within the cluster have avoided development within the SPA/SSSI boundaries.

Conservation Action Plan for the Muirkirk and North Lowther SPA

The Scoping report includes reference to the Conservation Action Plan (CAP) ¹⁰ produced by RSPB Scotland under the European funded CABB project. This plan is a comprehensive study of the history of the SPA relating to the status of its qualifying species and habitats and its management. It includes analysis of pressures that are likely to have contributed to its current status which includes cumulative impacts from wind farm development on its boundary (12.2; table 8.1.2). The CAP makes recommendations for management and conservation action which is likely to improve the status of the SPA. This includes a Vision to achieve:

"a connected landscape of appropriately restored active peat bogs supporting ecologically healthy river catchments; sustainably grazed botanically diverse heaths and grasslands with moorland habitat mosaics of varying sward heights and structures linked to well-managed moorland fringes of transitional grazing habitats. With low levels of predation and an absence of illegal disturbance it will be a place with thriving upland bird populations where upland waders and raptors in particular can safely forage and nest. As a result, the internationally and nationally important features of the area's designations will move towards favourable or recovering condition."

The Scoping report highlights the potential for £40m in funding if the proposed development were to be consented and the Applicant proposed that this would contribute to the realisation of the vision outlined in the CAP. However, in our view, the proposed idea of funding contributions to restore the SPA largely ignores the fact that the mechanism for this funding, i.e. a wind farm located partially within the SPA would have significant adverse impact and therefore contradict the achievement of the vision.

Paragraph 7.4.35 in the Scoping Report suggests that there is no evidence to suggest that qualifying bird populations will recover to the numbers that were present at the time of designation under a 'do-nothing' scenario. While we may not disagree with this we would

⁹ [Hagshaw Energy Cluster Development Framework Consultative Draft October 2022 low-res 26-10.pdf \(thehagshawenergycluster.co.uk\)](https://thehagshawenergycluster.co.uk) page 31

¹⁰ Conservation Action Plan for the Muirkirk and North Lowther Uplands Special Protection Area (SPA) Produced and published by the RSPB South & West Scotland Region Muirkirk and North Lowther Uplands Delivery Group, under the auspices of the Interreg VA-funded Cooperation Across Borders for Biodiversity (CABB) Advisory.

advise that this statement does not take into consideration the status of breeding birds outwith the SPA but with potential to re-establish within the SPA. We do not therefore, agree with the conclusion by the applicant that there is no likelihood that populations of qualifying bird species will increase over the next 40 years (7.4.1) although we acknowledge that achieving this is likely to be a challenge.

As per the CAP quoted above, there is direct reference in the vision that designations will "move towards favourable or recovering condition". The CAP includes an appraisal of mechanisms to achieve the restoration of the SPA through existing and future funding streams and conservation measures which includes the opportunity to access funds as part of development proposals, however, this is not suggested as being at the risk of directly impacting the SPA.

Avoidance, Mitigation and Compensation

Paragraph 7.6.2 of the Scoping Report states:

'The layout of the Proposed Development will avoid or limit removal of habitats used by SPA qualifying species to any significant degree'.

This statement downplays the fact that the proposal would result in the direct removal of habitat that constitutes part of Muirkirk and North Lowther SPA; furthermore it is unclear as to how this could be considered as following the mitigation hierarchy and avoiding negative impacts at the first stages in the process.

Haggerstone L (Linda)

From: Snape S (Stewart)
Sent: 20 October 2022 11:02
To: Econsents Admin; Keyes K (Kirstin)
Subject: Request for Scoping Opinion - Hagshaw Energy Cluster_Western Expansion - EC00004623
Attachments: Hagshaw Energy Cluster 171022.pdf

Dear Kirsten,

Please find a response on behalf of Scottish Forestry.

Kind regards
Stewart

Stewart Snape MICFor

Regulations and Development Manager, Central Scotland

Scottish Forestry

Central Scotland Conservancy | Bothwell House | Hamilton Business Park| Caird Park | Hamilton | ML3 0QA

Mobile: Redacted

stewart.snape@forestry.gov.scot

Website: forestry.gov.scot



BRAVE values are the roots that underpin Scottish Forestry, to create a workplace where our staff, and the people we work with, feel valued, supported and respected.

Be professional, **R**espect others, **A**ct with honesty and integrity, **V**alue teamwork and collaboration and **E**ncourage innovation and creativity.



Scottish
Forestry / Coilltearachd
na h-Alba

Scottish Forestry is the Scottish Government agency responsible for forestry policy, support and regulation.



Scottish
Forestry
Coilltearachd
na h-Alba

Central Scotland Conservancy
Bothwell House, Hamilton Business Park, Caird Park
Hamilton ML3 0QA

Email: centralscotland.cons@forestry.gov.scot
Tel: 0300 067 6006

Conservator
Keith D Wishart FICFor

Kirstin Keyes

Energy Consents Unit
Directorate for Energy and Climate Change
The Scottish Government

Tuesday 18th October 2022

ECU Planning Reference: EC00004623

Sent to Econsents_Admin@gov.scot; kirstin.keyes@gov.scot

Dear Kirstin

**ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017**

**REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR HAGSHAW ENERGY
CLUSTER – WESTERN EXPANSION.**

Thank you for the opportunity to comment on this scoping proposal.

Scottish Forestry

Scottish Forestry is an Executive Agency of Scottish Government and serves to protect and expand Scotland's forests and woodlands on behalf of Scottish Ministers for the benefit of the Scottish people. With respect to these responsibilities Scottish Forestry has an interest in all developments that have the potential to impact on local forests and woodlands and/or the forestry sector. Scottish Forestry (SF), as the Authority and Regulator with regard to the sustainable management of forests and woodland and holding Key Agency Status, should be consulted with throughout the development of this proposal to ensure that any proposed changes to the woodland are appropriate, address the requirements of the Scottish Governments Control of Woodland Removal Policy and are carried out in accordance with the UK Forestry Standard.

Comments

I am particularly concerned about the proposed deforestation and the potential effects it could have on the ecology and landscape of local and wider environs. Scottish Planning Policy paragraph 218, issued by the Scottish Government, refers to the Control of Woodland Removal Policy which seeks to protect the existing forest resource in Scotland, and supports woodland removal only where it would achieve significant and clearly defined additional public benefits. A proposal for compensatory planting may form part of the determination. The Planning (Scotland) Act 2019 also places a responsibility on Local Authorities to identify how it will protect, enhance and improve the resilience of its woodlands and should take cognisance of this when making planning decisions that could reduce or detrimentally effect their woodland extent.

It is encouraging to note that the developer recognises the key policy drivers mentioned above and that in response, they have clearly stated their commitment to mitigate the potential impact that this proposal will have on Dungavel forest. In particular, I note that the developer is content to work up compensatory planting arrangements as outlined in Section 14, paragraph 14.6..

Scottish Forestry is the Scottish Government agency responsible for
forestry policy, support and regulation

S e Coilltearachd na h-Alba a' bhuidheann-ghnìomha aig Riaghaltas
na h-Alba a tha an urra ri poileasaidh, taic agus riaghladh do choilltearachd



Scottish Government
Riaghaltas na h-Alba
gov.scot

I welcome the Various commitments given within Section 14 of the scoping report, but to avoid any doubt, I would recommend that the following be addressed explicitly within the EIA:

- A Long Term Forest Plan, compliant with the UK Forestry Standard, is submitted for approval by Scottish Forestry. SF recommends that the developer engages with the appropriate SF staff before and during the development of this plan.
- A Compensatory Planting Plan (content subject to agreement with Scottish Forestry) is provided that details the area of permanent deforestation that is required to accommodate the windfarm infrastructure and access. This plan should clearly articulate how that area has been calculated.
- The Compensatory Planting Plan should be compliant with the UK Forestry Standard and as a minimum include detail relating to species composition, design, cultivation and drainage, protection, deer management and ongoing maintenance requirements.
- The area of land upon which compensatory planting is proposed should be either under developer ownership or managed under a third party lease agreement of suitable timescale. This land should be capable of supporting woodland growth sufficient to result in the delivery of the required compensatory outcomes.
- Any appointed clerk of works should have an ecological background and their remit should include the monitoring of the establishment of any compensatory planting.

Yours sincerely

Redacted

Stewart Snape
Regulations and Development Manager
For Conservator
stewart.snape@forestry.gov.scot

From: DevelopmentOperations <DevelopmentOperations@scottishwater.co.uk>
Sent: 18 October 2022 09:09
To: Econsents Admin
Subject: Scottish Water – Application Response - DSCAS-0074108-J3K - KA18 3NL-HAGSHAW ENERGY CLUSTER – 2.45km to the north of Muirkirk. WESTERN EXPANSION.
Attachments: DSCAS-0074108-J3K -Planning Consultation.pdf

Dear Local Planner,

Please find attached Scottish Water's response to your application, this includes further information on how to progress your application to the next stage.

Kind Regards,

Ruth Kerr.

Ruth Kerr

Technical Analyst
North Regional Team

Strategic Development
Development Services
Dedicated Freephone Helpline: 0800 389 0379

DevelopmentOperations@scottishwater.co.uk

Scottish Water.

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Scottish Water

www.scottishwater.co.uk

Tuesday, 18 October 2022



Local Planner
Energy Consents Unit
5 Atlantic Quay
Glasgow
G2 8LU

Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number - 0800 3890379
E-Mail - DevelopmentOperations@scottishwater.co.uk
www.scottishwater.co.uk



Dear Customer,

HAGSHAW ENERGY CLUSTER, WESTERN EXPANSION.-2.45km to the north of
Muirkirk, KA18 3NL
Planning Ref: ECU00004623
Our Ref: DSCAS-0074108-J3K
Proposal: HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION. -
approximately 2.45km to the north of Muirkirk. --72 wind turbines with a
maximum blade to tip height of 230m, and associated infrastructure

Please quote our reference in all future correspondence

Audit of Proposal

Scottish Water has no objection to this planning application; however, the applicant should be aware that this does not confirm that the proposed development can currently be serviced. Please read the following carefully as there may be further action required. Scottish Water would advise the following:

Drinking Water Protected Areas

A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity.


6.4.1 Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not accept any surface water connections into our combined sewer system.


There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.


In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should contact Scottish Water at the earliest opportunity with strong evidence to support the intended drainage plan prior to making a connection request. We will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.


General notes:


 Scottish Water asset plans can be obtained from our appointed asset providers:


-  Site Investigation Services (UK) Ltd
-  Tel: 0333 123 1223
-  Email: sw@sisplan.co.uk
-  www.sisplan.co.uk

 Scottish Water's current minimum level of service for water pressure is 1.0 bar or 10m head at the customer's boundary internal outlet. Any property which cannot be adequately serviced from the available pressure may require private pumping arrangements to be installed, subject to compliance with Water Byelaws. If the developer wishes to enquire about Scottish Water's procedure for checking the water pressure in the area, then they should write to the Customer Connections department at the above address.

 If the connection to the public sewer and/or water main requires to be laid through land out-with public ownership, the developer must provide evidence of formal approval from the affected landowner(s) by way of a deed of servitude.

 Scottish Water may only vest new water or waste water infrastructure which is to be laid through land out with public ownership where a Deed of Servitude has been obtained in our favour by the developer.

 The developer should also be aware that Scottish Water requires land title to the area of land where a pumping station and/or SUDS proposed to vest in Scottish Water is constructed.

 Please find information on how to submit application to Scottish Water at [Customer Portal](#).

6.4.2 Next Steps:

All Proposed Developments

All proposed developments require to submit a Pre-Development Enquiry (PDE) Form to be submitted directly to Scottish Water via [our Customer Portal](#) prior to any formal Technical Application being submitted. This will allow us to fully appraise the proposals.

Where it is confirmed through the PDE process that mitigation works are necessary to support a development, the cost of these works is to be met by the developer, which Scottish Water can contribute towards through Reasonable Cost Contribution regulations.

Non Domestic/Commercial Property:

Since the introduction of the Water Services (Scotland) Act 2005 in April 2008 the water industry in Scotland has opened to market competition for non-domestic customers. All Non-domestic Household customers now require a Licensed Provider to act on their behalf for new water and waste water connections. Further details can be obtained at www.scotlandontap.gov.uk

Trade Effluent Discharge from Non-Domestic Property:

Certain discharges from non-domestic premises may constitute a trade effluent in terms of the Sewerage (Scotland) Act 1968. Trade effluent arises from activities including; manufacturing, production and engineering; vehicle, plant and equipment washing, waste and leachate management. It covers both large and small premises, including activities such as car washing and launderettes. Activities not covered include hotels, caravan sites or restaurants.

If you are in any doubt as to whether the discharge from your premises is likely to be trade effluent, please contact us on 0800 778 0778 or email TEQ@scottishwater.co.uk using the subject "Is this Trade Effluent?". Discharges that are deemed to be trade effluent need to apply separately for permission to discharge to the sewerage system. The forms and application guidance notes can be found [here](#).

Trade effluent must never be discharged into surface water drainage systems as these are solely for draining rainfall run off.

For food services establishments, Scottish Water recommends a suitably sized grease trap is fitted within the food preparation areas, so the development complies with Standard 3.7 a) of the Building Standards Technical Handbook and for best management and housekeeping practices to be followed which prevent food waste, fat oil and grease from being disposed into sinks and drains.

The Waste (Scotland) Regulations which require all non-rural food businesses, producing more than 50kg of food waste per week, to segregate that waste for separate collection. The regulations also ban

the use of food waste disposal units that dispose of food waste to the public sewer. Further information can be found at www.resourceefficientscotland.com

I trust the above is acceptable however if you require any further information regarding this matter please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,

Planning Application Team

Development Operations Analyst

Tel: 0800 389 0379

developmentoperations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

South Strathclyde Raptor Study Group RESPONSE TO SCOPING REPORT on Hagshaw Energy Cluster - Western Expansion

SSRSG response to the scoping report on the above subject is as follows

Summary

South Strathclyde Raptor Study Group are a division of the Scottish Raptor Study Group founded in 1980, a network of ~300 raptor experts who monitor raptor species across Scotland covering all of mainland Scotland and most of the islands.

We check over 5,000 known raptor territories for occupancy each year, and record the status, distribution and breeding success of each species. We have amassed a unique long-term dataset of raptor records, and this information is vital for understanding changes in population trends. Our results are published annually as part of the award-winning Scottish Raptor Monitoring Scheme. Our work has contributed to hundreds of scientific publications and is regularly used by conservation agencies to inform local, regional and national conservation plans and policies.

Monitoring and surveying Raptors is undertaken on a voluntary basis and between us we contribute thousands of days to fieldwork and data collection every year. Our members have varied backgrounds and are from many different professions but are united by their commitment to the protection and conservation of Scotland's raptors.

The proposed Hagshaw Custer Extension is planned for an area within SSRSG division. As such, we have studied the Scoping Report for the proposed WF extension and wish to outline our opinion on the effects of the proposal on the designated SPA

Background

SSRSG have been monitoring and surveying Raptors on the Muirkirk and North Lowther Uplands SPA for nearly fifty years. Over the last decade in particular, there have been a steady decline in the number of breeding raptors on the SPA including the footprint area of this proposal.

We have written to three separate chairpersons during that time advising and informing SNH/Nature Scot on the continued deterioration in habitat and breeding Raptor numbers in the SPA. There have been no significant steps taken by SNH/Nature Scot during that time to arrest this almost terminal decline in breeding Raptor numbers. In our opinion Nature Scot has a duty of care to maintain the SPA in line with the Raptor numbers at designation. This has certainly not been forthcoming.

We also understand that the baseline to be used for the purposes of the Habitats Regulations Appraisal that will inform any Appropriate Assessment that needs to be carried out by Scottish Ministers, is that baseline stated at Designation. In our view that reasoning is fundamentally flawed as it bears no relation to the current situation on the SPA. I would advise that the last breeding record on the SPA was in 2016, and the last breeding record within the proposed windfarm footprint buffer zone was in 2011

Conclusion

SSRSG are of the considered opinion that the relatively small reduction in the overall area of the Muirkirk and North Lowther Uplands SPA, as would be incurred by the aforementioned WF project proposal, would have little effect on the existing status of the SPA w.r.t. to Raptors, as outlined in the background information provided.

The loss of SPA designated territory would be more than mitigated by the proposed investment in the restoration of the SPA as outlined in the scoping report to improve breeding habitat, with a view to increasing Raptor numbers and eventual breeding pairs on the SPA.

The proposed methodology for recovery of habitat and thus attracting Raptors back to the SPA, using a defined structure with expert advice by scientists, conservation bodies and indeed SSRSG, has a proven track record with significant success in reinstating other Raptor species in similarly barren areas. SSRSG have been party to the successful model used in these previous Raptor recovery projects and consider this methodology to be best in class.

Kenneth Sludden

Sec./Treasurer

SSRSG

Haggerstone L (Linda)

From: The Coal Authority-Planning <TheCoalAuthority-Planning@coal.gov.uk>
Sent: 19 October 2022 11:19
To: Econsents Admin
Subject: EC00004623: HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION
Attachments: EC00004623 - TCA Response.pdf

For the Attention of: Ms K Keyes – Case Manager

Dear Ms Keyes

Please find attached our comments on the above Scoping Opinion.

Kind regards

Deb Roberts



Deb Roberts *M.Sc. MRTPI*

*Planning & Development Manager – Planning & Development Team T :
(01623) 637 281*

M: Redacted

E : planningconsultation@coal.gov.uk

W: gov.uk/government/organisations/the-coal-authority

My pronouns are: she / her

How to pronounce my name (phonetic spelling): Deb Roh-berts

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Email: planningconsultation@coal.gov.uk

Web: www.gov.uk/coalauthority

For the Attention of: Ms K Keyes – Case Manager
Energy Consents Unit
The Scottish Government

[By Email: Econsents_Admin@gov.scot]

19 October 2022

Dear Ms Keyes

EC00004623

ELECTRICITY ACT 1989

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND)
REGULATIONS 2017**

**REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR
HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION**

Thank you for your notification of 04 October 2022 seeking the views of the Coal Authority on the above EIA Scoping Opinion.

The Coal Authority is a non-departmental public body sponsored by the Department of Business, Energy & Industrial Strategy. As a statutory consultee, the Coal Authority has a duty to respond to planning applications and development plans in order to protect the public and the environment in mining areas.

With reference to Figure 1.1, Site Location plan, I can confirm that parts of the site lie within the Development High Risk Area (DHRA) as defined by the Coal Authority. Accordingly, there are coal mining features and hazards that need to be considered in relation to this project.

It is noted that the Development High Risk Area has been identified within the Scoping Report, September 2022 (Section 10.2.12 and illustrated on Figure 10.1) and therefore the applicant is aware that former coal mining affects parts of the proposed access track and hydrogen hub. However it does not appear that the applicant is aware that the DHRA is within an area where one of the wind turbines is proposed and in accordance with our records, one of the wind turbines could be over and / or within influence of a recorded mine entry (CA adit ref: 371630-001). The Coal Authority is of the opinion that building over the top of, or in close proximity to, mine entries should be avoided wherever possible, even after they have been capped, in line with our adopted policy:

<https://www.gov.uk/government/publications/building-on-or-within-the-influencing-distance-of-mine-entries>

Accordingly, site investigations to confirm the presence and condition of the mine entry would be required, or alternatively the position of the wind turbine should be amended to ensure adequate separation between the mine entry and wind turbine. For ease, the grid co-ordinates that the Coal Authority hold for the mine adit is Eastings 271624, Northings 607374.

Accordingly, former coal mining activity and how this affects the development at this site should form the basis of the Coal Mining Risk Assessment, or equivalent to inform the ES Chapter on Ground Conditions submitted in support of a formal application. This will enable the applicant's technical consultants to identify and mitigate any risk to the scheme as a result of former coal mining activity and for the applicant to demonstrate to the decision maker that the site is safe, stable and suitable for the development proposed.

I trust that the above comments are helpful. The Coal Authority looks forward to being consulted on the future planning application and associated EIA Report in due course.

Please do not hesitate to contact me if you would like to discuss this matter further.

Yours sincerely

Redacted

Deb Roberts M.Sc. MRTPI
Planning & Development Manager

General Information

Information on coal mining legacy affecting the site can be obtained from the Coal Authority. A variety of Coal Mining Report products which provide baseline information on coal mining legacy risks are available from www.groundstability.com (or a similar product from private land search suppliers).

An assessment of the risks associated with the presence of coal mining legacy should be prepared by a “competent body”. Links to the relevant professional institutions of competent bodies can be found at:

www.gov.uk/planning-applications-coal-mining-risk-assessments

Disclaimer

The above consultation response is provided by The Coal Authority as a Statutory Consultee and is based upon the latest available data on the date of the response, and electronic consultation records held by The Coal Authority since 1 April 2013. The comments made are also based upon only the information provided to The Coal Authority by the Local Planning Authority and/or has been published on the Council's website for consultation purposes in relation to this specific planning application. The views and conclusions contained in this response may be subject to review and amendment by The Coal Authority if additional or new data/information (such as a revised Coal Mining Risk Assessment) is provided by the Local Planning Authority or the Applicant for consultation purposes.

Haggerstone L (Linda)

From: Erskine A (Andrew)
Sent: 26 October 2022 15:02
To: Econsents Admin
Cc: McPhillips G (Gerard); Clement I (Iain); LOGAN Lesley (llogan@systra.com)
Subject: Hagshaw Energy Cluster Western Expansion TS Scoping Response Oct 22
Attachments: Hagshaw Energy Cluster Western Expansion TS Scoping Response Oct 22.pdf

Dear Sir/Madam,

Please find attached the Transport Scotland response to the Hagshaw Energy Cluster Western Expansion application.

Regards,

Andrew Erskine

Kirstin Keyes
Energy Consents Unit
The Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Your ref:
ECU00004623

Our ref:
GB01T19K05

Date:
25/10/2022

econsents_admin@gov.scot

Dear Sirs,

ELECTRICITY ACT 1989

THE ELECTRICITY (APPLICATIONS FOR CONSENT) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR HAGSHAW ENERGY CLUSTER – WESTERN EXPANSION.

With reference to your recent correspondence on the above development, we acknowledge receipt of the Scoping Report (SR) prepared by ITP Energised in support of the above development.

This information has been passed to SYSTRA Limited (SYSTRA) for review in their capacity as Term Consultants to Transport Scotland – Roads Directorate. Based on the review undertaken, we would provide the following comments.

Proposed Development

The proposed Hagshaw Energy Cluster Western Expansion will comprise up to 72 wind turbines with a maximum tip height of up to 230m as well as 50MW of solar energy, a 100MW battery energy storage system and a 40MW electrolyser plant for the production of green hydrogen fuel. The Energy Cluster Western Expansion will be located on a site approximately 2.45km north of Muirkirk and will span both East Ayrshire and South Lanarkshire Planning Authority areas. The nearest trunk road to the site is the M74 which lies approximately 15km to the east.

Assessment of Environmental Impacts

Chapter 11 of the SR presents the proposed methodology for the assessment of Traffic and Transport. This states that the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic are to be used as a screening tool for the assessment.

The SR also indicates that potential environmental impacts such as severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation and accidents will be considered and assessed where appropriate (i.e. where IEMA Guidelines for further assessment are breached). These specify that road links should be taken forward for detailed assessment if:

- Traffic flows will increase by more than 30%, or
- The number of HGVs will increase by more than 30%, or
- Traffic flows will increase by 10% or more in sensitive areas.

Transport Scotland is in agreement with this approach.

We note that during construction, it is proposed that all abnormal loads and HGVs will access the site from the public road network at the western roundabout of Junction 11 of the M74. In addition, lighter goods vehicles and personnel vehicles will be able to access the site from the existing local roads. Chapter 11 states that *“Data on traffic flows and accidents will be obtained for the roads likely to experience an increase in traffic arising from the Proposed Development.”* In addition, we note that the geographical scope of assessment will cover the slip roads to and from the M74 at Junction 11. Transport Scotland is satisfied with this and would add that the addition of construction generated traffic should be used to determine whether there are likely to be any significant environmental issues associated with increased traffic on the trunk road network, and whether there is a requirement for further trunk road assessment.

It is noted that National Road Traffic Forecasts (NRTF) ‘High’ growth factor is proposed to be applied to base traffic flows observed on trunk roads and motorways. Transport Scotland would state that NRTF ‘Low’ growth should be applied to trunk road flows in this instance.

Glint and Glare

We note that the location of the solar farm element of the development lies approximately 17km west of the M74. Transport Scotland is, therefore, satisfied that no glint and glare assessment is required for trunk road receptors.

Abnormal Loads Assessment

The SR does not provide any indication as to the likely Port of Entry for turbine components or the proposed route for abnormal loads. We would state that Transport Scotland will require to be satisfied that the size of turbines and BESS components proposed can negotiate the selected route and that their transportation will not have any detrimental effect on structures within the trunk road route path.

A full Abnormal Loads Assessment report should be provided that identifies key pinch points on the trunk road network. Swept path analysis should be undertaken and details provided with regard to any required changes to street furniture or structures along the route.

It should also be noted that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Manager(s) prior to the movement of any abnormal load.

I trust that the above is satisfactory and should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA’s Glasgow Office on 0141 343 9636.

Yours faithfully

Redacted

Iain Clement

**Transport
Scotland
Roads
Directorate**

cc Alan DeVenny – SYSTRA Ltd.

ANNEX B

Marine Scotland Science advice on freshwater and diadromous fish and fisheries in relation to onshore wind farm developments.

July 2020 updated April 2022

Marine Scotland Science (MSS) provides internal, non-statutory, advice in relation to freshwater and diadromous fish and fisheries to the Scottish Government's Energy Consents Unit (ECU) for onshore wind farm developments in Scotland.

Atlantic salmon (*Salmo salar*), sea trout and brown trout (*Salmo trutta*) are of high economic value and conservation interest in Scotland and for which MSS has in-house expertise. Onshore wind farms are often located in upland areas where salmon and trout spawning and rearing grounds may also be found. MSS aims, through our provision of advice to ECU, to ensure that the construction and operation of these onshore developments do not have a detrimental impact on the freshwater life stages of these fish populations.

The Electricity Works (Environmental Impact Assessment) (EIA) (Scotland) Regulations (2017) state that the EIA must assess the direct and indirect significant effects of the proposed development on water and biodiversity, and in particular species (such as Atlantic salmon) and habitats protected under the EU Habitats Directive. Salmon and trout are listed as priority species of high conservation interest in the Scottish Biodiversity Index and support valuable recreational fisheries.

A good working relationship has been developed over the years between ECU and MSS, which ensures that these fish species are considered by ECU during all stages of the application process of onshore wind farm developments and are similarly considered during the construction and operation of future onshore wind farms. It is important that matters relating to freshwater and diadromous fish and fisheries, particularly salmon and trout, continue to be considered during the construction and operation of future onshore wind farms.

In the current document, MSS sets out a revised, more efficient approach to the provision of our advice, which utilises our generic scoping and monitoring programme guidelines (<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren>). This standing advice provides regulators (e.g. ECU, local planning authorities), developers and consultants with the information required at all stages of the application process for onshore wind farm developments, such that matters relating to freshwater and diadromous fish and fisheries are addressed in the same rigorous manner as is currently being carried out and continue to be fully in line with EIA regulations. At the request of ECU, MSS will still be able to provide further and/or bespoke advice relevant to freshwater and diadromous fish and fisheries e.g. site specific advice, at any stage of the application process for a proposed development, particularly where a development may be considered sensitive or contentious in nature.

MSS will continue undertaking research, identifying additional research requirements, and keep up to date with the latest published knowledge relating to the

impacts of onshore wind farms on freshwater and diadromous fish populations. This will be used to ensure that our guidelines and standing advice are based on the best available evidence and also to continue the publication of the relevant findings and knowledge to all stakeholders including regulators, developers and consultants.

MSS provision of advice to ECU

- MSS should not be asked for advice on pre application and application consultations (including screening, scoping, gate checks and EIA applications). Instead, the MSS scoping guidelines and standing advice (outlined below) should be provided to the developer as they set out what information should be included in the EIA report;
- if new issues arise which are not dealt with in our guidance or in our previous responses relating to respective developments, MSS can be asked to provide advice in relation to proposed mitigation measures and monitoring programmes which should be outlined in the EIA Report (further details below);
- if new issues arise which are not dealt with in our guidance or in our previous responses, MSS can be asked to provide advice on suitable wording, within a planning condition, to secure proposed monitoring programmes, should the development be granted consent;
- MSS cannot provide advice to developers or consultants, our advice is to ECU and/or other regulatory bodies.
- if ECU has identified specific issues during any part of the application process that the standing advice does not address, MSS should be contacted.

7. MSS Standing Advice for each stage of the EIA process

Scoping

MSS issued generic scoping guidelines (<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren>) which outline how fish populations can be impacted during the construction, operation and decommissioning of a wind farm development and informs developers as to what should be considered, in relation to freshwater and diadromous fish and fisheries, during the EIA process.

In addition to identifying the main watercourses and waterbodies within and downstream of the proposed development area, developers should identify and consider, at this early stage, any areas of Special Areas of Conservation where fish are a qualifying feature and proposed felling operations particularly in acid sensitive areas.

If a developer identifies new issues or has a technical query in respect of MSS generic scoping guidelines then ECU should be informed who will then co-ordinate a response from MSS.

Gate check

The detail within the generic scoping guidelines already provides sufficient information relating to water quality and salmon and trout populations for developers at this stage of the application.

Developers will be required to provide a gate check checklist (annex 1) in advance of their application submission which should signpost ECU to where all matters relevant to freshwater and diadromous fish and fisheries have been presented in the EIA report. Where matters have not been addressed or a different approach, to that specified in the advice, has been adopted the developer will be required to set out why.

EIA Report

MSS will focus on those developments which may be more sensitive and/or where there are known existing pressures on fish populations (<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/fishreform/licence/status/Pressures>). The generic scoping guidelines should ensure that the developer has addressed all matters relevant to freshwater and diadromous fish and fisheries and presented them in the appropriate chapters of the EIA report. Use of the gate check checklist should ensure that the EIA report contains the required information; the absence of such information may necessitate requesting additional information which may delay the process:

Developers should specifically discuss and assess potential impacts and appropriate mitigation measures associated with the following:

- any designated area, for which fish is a qualifying feature, within and/or downstream of the proposed development area;
- the presence of a large density of watercourses;
- the presence of large areas of deep peat deposits;
- known acidification problems and/or other existing pressures on fish populations in the area; and
- proposed felling operations.

Post-Consent Monitoring

MSS recommends that a water quality and fish population monitoring programme is carried out to ensure that the proposed mitigation measures are effective. A robust, strategically designed and site specific monitoring programme conducted before, during and after construction can help to identify any changes, should they occur, and assist in implementing rapid remediation before long term ecological impacts occur.

MSS has published guidance on survey/monitoring programmes associated with onshore wind farm developments (<https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshore>) which developers should follow when drawing up survey and/or monitoring programmes.

If a developer considers that such a monitoring programme is not required then a clear justification should be provided.

Planning Conditions

MSS advises that planning conditions are drawn up to ensure appropriate provision for mitigation measures and monitoring programmes, should the development be given consent. We recommend, where required, that a Water Quality Monitoring Programme, Fisheries Monitoring Programme and the appointment of an Ecological Clerk of Works, specifically in overseeing the above monitoring programmes, is outlined within these conditions and that MSS is consulted on these programmes.

Wording suggested by MSS in relation to water quality, fish populations and fisheries for incorporation into planning consents:

1. No development shall commence unless a Water Quality and Fish Monitoring Plan (WQFMP) has been submitted to and approved in writing by the Planning Authority in consultation with Marine Scotland Science and any such other advisors or organisations.
2. The WQFMP must take account of the Scottish Government's Marine Scotland Science's guidelines and standing advice and shall include:
 - a. water quality sampling should be carried out at least 12 months prior to construction commencing, during construction and for at least 12 months after construction is complete. The water quality monitoring plan should include key hydrochemical parameters, turbidity, and flow data, the identification of sampling locations (including control sites), frequency of sampling, sampling methodology, data analysis and reporting etc.;
 - b. the fish monitoring plan should include fully quantitative electrofishing surveys at sites potentially impacted and at control sites for at least 12 months before construction commences, during construction and for at least 12 months after construction is completed to detect any changes in fish populations; and
 - c. appropriate site specific mitigation measures detailed in the Environmental Impact Assessment and in agreement with the Planning Authority and Marine Scotland Science.
3. Thereafter, the WQFMP shall be implemented within the timescales set out to the satisfaction of the Planning Authority in consultation with Marine Scotland Science and the results of such monitoring shall be submitted to the Planning Authority on a 6 monthly basis or on request.

Reason: To ensure no deterioration of water quality and to protect fish populations within and downstream of the development area.

Sources of further information

NatureScot (previously “SNH”) guidance on wind farm developments -

<https://www.nature.scot/professional-advice/planning-and-development/advice-planners-and-developers/renewable-energy-development/onshore-wind-energy/advice-wind-farm>

Scottish Environment Protection Agency (SEPA) guidance on wind farm developments –

<https://www.sepa.org.uk/environment/energy/renewable/#wind>

A joint publication by Scottish Renewables, NatureScot, SEPA, Forestry Commission Scotland, Historic Environment Scotland, MSS and Association of Environmental and Ecological Clerks of Works (2019) Good Practice during Wind Farm Construction -

<https://www.nature.scot/guidance-good-practice-during-wind-farm-construction>.

Annex 1

Marine Scotland Science advice on freshwater and diadromous fish and fisheries in relation to onshore wind farm developments.

July 2020, updated April 2022

MSS – EIA Checklist

The generic scoping guidelines should ensure that all matters relevant to freshwater and diadromous fish and fisheries have been addressed and presented in the appropriate chapters of the EIA report. Use of the checklist below should ensure that the EIA report contains the following information; the absence of such information ***may necessitate requesting additional information*** which could delay the process:

MSS Standard EIA Report Requirements	Provided in application YES/NO	If YES – please signpost to relevant chapter of EIA Report	If not provided or provided different to MSS advice, please set out reasons.	ECU/MSS use - comments
<p>1. A map outlining the proposed development area and the proposed location of:</p> <ul style="list-style-type: none"> ○ the turbines, ○ associated crane hard standing areas, ○ borrow pits, ○ permanent meteorological masts, ○ access tracks including watercourse crossings, ○ all buildings including substation, battery storage; ○ permanent and temporary construction compounds; ○ all watercourses; and ○ contour lines; 				

2. A description and results of the site characterisation surveys for fish (including fully quantitative electrofishing surveys) and water quality including the location of the electrofishing and fish habitat survey sites and water quality sampling sites on the map outlining the proposed turbines and associated infrastructure;				
3. An outline of the potential impacts on fish populations and water quality within and downstream of the proposed development area;				
4. Any potential cumulative impacts on the water quality and fish populations associated with adjacent (operational and consented) developments including wind farms, hydro schemes, aquaculture and mining;				
5. Any proposed site specific mitigation measures as outlined in MSS generic scoping guidelines and the joint publication "Good Practice during Wind Farm Construction" (https://www.nature.scot/guidance-good-practice-during-wind-farm-construction);				

6. Full details of proposed monitoring programmes using guidelines issued by MSS and accompanied by a map outlining the proposed sampling and control sites in addition to the location of all turbines and associated infrastructure (see wording suggested by MSS for planning conditions).				
7. A decommissioning and restoration plan outlining proposed mitigation/monitoring for water quality and fish populations.				

Developers should specifically discuss and assess potential impacts and appropriate mitigation measures associated with the following:	Provided in application YES/NO	If YES – please signpost to relevant chapter of EIA Report	If not provided or provided different to MSS advice, please set out reasons.	ECU/MSS use - comments
8. Any designated area (i.e. SAC), for which fish is a qualifying feature, within and/or downstream of the proposed development area;				
9. The presence of a large density of watercourses;				
10. The presence of large areas of deep peat deposits;				
11. Known acidification problems and/or other existing pressures on fish populations in the area; and				
12. Proposed felling operations.				

