

Hagshaw Hill III Energy Project

ENVIRONMENTAL IMPACT ASSESSMENT

NON-TECHNICAL SUMMARY

July 2026

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Background

1. This document is a Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) Report which accompanies an application made by Hagshaw Hill 3 Ltd ('the Applicant'), a 3R Energy Solutions Ltd (3R Energy) group company.

2. The Applicant is applying for a Section 36 (S.36) consent and deemed planning consent, under the terms of the Electricity Act 1989, to construct and operate the Hagshaw Hill III Energy Project (hereafter referred to as the 'Proposed Development'). The Proposed Development site adjoins an established cluster of wind farms around Hagshaw Hill (known as 'Hagshaw Energy Cluster'), as illustrated on **Figure 1**. The site is located approximately 1.8 km west of Douglas, approximately 3.1 km south of Coalburn, and approximately 1.2 km north of Glespin in rural South Lanarkshire and comprises a total area of approximately 336 hectares (ha).

3. The Proposed Development will comprise of approximately 138 megawatts (MW) of renewable energy generation and storage output capacity from the following:

   - Approximately 58 MW generated from wind turbines;
   - Approximately 30 MW generated from solar photovoltaic (PV) panels; and
   - Approximately 50 MW of long duration electricity storage (LDES).

4. Renewable energy is a key factor in helping Scotland reach its target of Net Zero by 2045. The Proposed Development would make a meaningful contribution to those national targets for the generation of renewable energy, the provision of new electricity storage, and reduction in greenhouse gas emissions while contributing towards sustainable economic growth both locally and across Scotland as a whole.

Purpose of the Proposed Development EIA Report

5. SLR Consulting Limited (SLR) was appointed by the Applicant to coordinate the assessment of the potential environmental impacts of the Proposed Development in accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

6. The EIA process is reported in an EIA Report, which describes the methods used to assess the beneficial and adverse environmental impacts predicted to result from the construction and operation of the Proposed Development. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and, if possible, offset any significant adverse environmental impacts. An assessment of residual effects, those expected to remain following implementation of mitigation measures, is also presented. This document is intended to present a summary of the findings of the EIA Report in non-technical language.

Availability of the Proposed Development EIA Report

7. Hard copies of the Proposed Development EIA Report are available from:



3R Energy
Lanark Auction Market
Hyndford Road
Lanark
ML11 9AX

Tel: (01555) 660244 **Email:** info@3renergy.co.uk

8. The Non-Technical Summary is available free of charge from the Applicant, a hard copy of the EIA Report Volumes 1 to 4 are available for £2,000. In addition, all documents are available (as a PDF for screen viewing only) on a USB for £20.00.

9. Copies of the Proposed Development EIA Report will also be available for viewing during opening hours at the following locations:

Coalburn Miner's Welfare and Social Club
42 Coalburn Road
Coalburn
South Lanarkshire
ML11 0LH

Opening Hours:
Mon-Fri 09:00 to 16:30

St. Brides Community Centre
Braehead
Douglas
South Lanarkshire
ML11 0PT

Opening Hours:
Mon-Thurs 09:00 to 21:30
Fri 09:00 to 15:30

10. The application documents including the EIA Report can be accessed at http://www.energyconsents.scot/ (reference number **ECU00006224**) or at https://3renergy.co.uk/projects/hagshaw-hill-iii/ as required by The Electricity Works (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 (Scottish Government, 2020).

Representations to the Application

11. Any representations to the application should be submitted via www.energyconsents.scot, using the project name, Hagshaw Hill III Energy Project, and/or the Energy Consent's Unit's (ECU) reference number, **ECU00006224**. Please note that you must be in possession of a working email address to submit a representation electronically.

12. If you prefer to submit your representation by post, please send to the Scottish Government Energy Consents Unit as follows:

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

13. Written representations should be dated, clearly stating the name (in block capitals) and full postal address of those making representations.

Site Description and Design

Site Description

14. The Proposed Development site is located wholly within the South Lanarkshire Council (SLC) area, with the nearest proposed turbines situated approximately 1.8 km west of Douglas, approximately 3.1 km south of Coalburn and approximately 1.2 km north of Glespin (see **Figure 1**).

15. The site sits within moorland and areas of agricultural grazing, broadly sloping up from south-east to north-west, peaking at the summits of Windrow Hill, Rob's Hill and Arkney Hill. The main watercourses within the site are the Windrow Burn, Robshill Burn and Broadlea Burn, all flowing south-east to the Douglas water.

16. The site is accessible from Junction 11 of the M74, which is located north-east of the site, approximately 4.9 km from the nearest proposed turbine. From here, there is direct access to the site via an existing private haul road.

17. Directly adjacent to the northern site boundary is the Cumberhead Forest complex which includes a number of operational and under construction wind farms. The operational Hazelside Farm wind turbine is located within the eastern extent of the site. This turbine is under the control of the Applicant (via a related group company) and details of how this has been appropriately considered in the Proposed Development design iteration can be found in **Chapter 2** of the EIA Report.

18. There are no residential properties within the site boundary. However, there are a small number of scattered residential properties within proximity to the site. The separation distance between the Proposed Development turbines and the nearest properties, at the top of Station Road, is the same as has already been established by the neighbouring and operational Douglas West Wind Farm turbines. The closest property is located approximately 0.75 km east of the nearest proposed turbine. The property called 'Low Broomerside' immediately south-west of the site boundary is owned by 3R Energy via a related group company. It is not in residential use, and will not be in residential use during the operation of the Proposed Development.

Site Selection

19. The Proposed Development site sits within a landscape of operational and consented wind farm developments and is part of the Hagshaw Energy Cluster (**Figure 1**) which benefits from a strong wind resource, direct access to the M74 motorway and proximity to the electricity network. It is therefore considered to be a suitable site for wind energy development, making use of some existing site infrastructure and recognising the accepted principle of wind energy generation within the local landscape.

20. The site was selected and is considered an appropriate and viable location for a renewable energy project due to:

    - Being within an established wind farm landscape, where there is an opportunity to progress a coordinated layout, phasing, access, grid connection and landscape strategy throughout the Hagshaw Energy Cluster.
    - Good average wind speeds and generation capacity, evidenced by the surrounding operational sites.
    - Predominantly south-facing slopes suitable for solar PV development.
    - Easy accessibility with direct existing access from the M74 without the requirement to pass through any communities.
    - Presence of existing screening of the south-eastern areas of the site (proposed location of the substation and LDES compound and solar areas) provided by adjacent woodland located to the south-east of the site boundary.
    - Ability to re-use existing access tracks (both to and within the Proposed Development site) with minor upgrading.
    - In close proximity to a viable grid connection point.
    - Opportunity to provide significant social and economic investment to several communities within SLC.

Design Process

21. As part of the EIA process design iterations were prepared and considered for the turbine locations, solar panels, LDES and on-site infrastructure, including access tracks, construction compounds and substation locations. The following principles were adopted during the design iterations made by the

Applicant to ensure that the final design of the Proposed Development was the most suitable for the site:

- The Proposed Development should avoid inconsistent turbine spacing, such as relatively large gaps, outliers or excessive overlapping turbines to minimise visual confusion and ensure a balanced / compact array from key views.
- Create a layout that fits the existing pattern of development in the surrounding landscape context.
- Minimise impacts on cultural heritage features wherever possible;
- Observe a suitable distance between the Proposed Development and residential properties (i.e. no closer than has already been established by adjacent projects), and minimise impacts on residential amenity (visual, noise, shadow flicker, and glint and glare) wherever possible.
- Minimise impacts on existing Habitat Management areas located with the site that are associated with other operational wind farm developments within the Hagshaw Energy Cluster.
- Consider the varied elevation of the site to minimise the requirement for cut and fill.
- Utilise the existing access track directly from the M74 and the access track for the existing Hazelside Farm wind turbine located on the site.
- Position the solar array and LDES on lower-lying land to reduce visual impacts and to take advantage of existing screening provided by the adjacent woodland and topography.
- Take account of the positioning of existing and in planning wind energy developments in the local area from key views;
- Avoid areas of deep peat and bog habitat wherever possible; and
- Other environmental and infrastructure constraints and associated buffers respected.

Alternatives

22. The Applicant has considered a number of alternative layouts for the Proposed Development which are detailed in **Chapter 2** of the EIA Report.

23. The Proposed Development layouts have taken account of identified technical and environmental constraints based on desk-based study and walkover survey work, as well as preliminary wind yield analysis and the opinions of statutory and other interested stakeholders on the proposals being put forward through a formal Scoping process with Scottish Government as well as direct consultation.

24. The most notable layout change made throughout the EIA process was the decision to reduce the turbine heights of turbine 2 and turbine 4 from 200 m to 180 m (height from ground to tip of the blade) to improve views from Douglas, located east of the site.

The Proposed Development

25. As noted in Paragraph 3, the Proposed Development is planned to comprise approximately 138 MW of renewable energy generation and energy storage output capacity. The Proposed Development Layout is shown on **Figure 2**.

26. The main elements of infrastructure required for the Proposed Development will include:

- wind turbines;
- wind turbine foundations;
- crane hardstandings;

- photovoltaic (solar) panels and mounting frames;
- inverters and transformers;
- LDES units and associated infrastructure;
- substation and associated electrical equipment;
- on-site access tracks from the existing point of access to and between the wind turbines/ solar panels/ LDES/ substation;
- watercourse crossings;
- temporary construction compounds and laydown areas, with a concrete batching plant at one of the construction compounds;
- borrow pits for excavation of stone to use in the construction of the Proposed Development;
- underground cabling between the wind turbines/ solar panels/ LDES/ substations;
- perimeter fencing; and
- CCTV cameras.

27. Although the infrastructure layout and locations of the tracks, substation etc. have been determined through an iterative environmental-based design process (refer to **Paragraphs 21** to **24**), there is the potential for the precise locations to be altered through micro-siting prior to or during construction. A micro-siting allowance of up to 100 m in all directions is being sought in respect of all infrastructure, to suitably respond in the event that pre-construction surveys identify unsuitable ground conditions or environmental constraints that could be avoided by relocation. No micro-siting will be undertaken that results in a significant adverse environmental effect where there would otherwise not be one.

Wind

28. The Proposed Development comprises up to eight wind turbines as well as associated infrastructure, six turbines will to be up to 200 m maximum blade tip height and two turbines (turbine 2 and turbine 4) up to 180 m maximum blade tip height. Each turbine will have a generating capacity of up to approximately 7.2 MW and a rotor diameter up to 163 m for all wind turbines.

29. A number of ancillary development components are also proposed, including: three temporary construction compounds and turbine laydown area; hardstandings adjacent to the wind turbines for construction, maintenance and decommissioning cranes; access tracks; underground cables between turbines; maintenance building with welfare facility; and three borrow pit search areas.

30. As the turbine structures are over 150 m high, there is a statutory requirement to install visible aviation lighting on the turbines, as such it is proposed that three of the turbines (turbines 1, 6 and 8) will be installed with aviation lighting.

Solar

31. The proposed solar development is located on south facing slopes of the south side of the site. The solar photovoltaic modules will stand approximately 0.8 m Above Ground Level (AGL) at their minimum point and

Development Components:

- 8 wind turbines
- Solar photovoltaic panels
- Long duration electricity storage

Operational Lifespan:

- 40 years

Generation/Storage Capacity:

- Wind c.58 MW*
- Solar c.30 MW
- LDES c.50 MW

Or around 138 MW in total

Community Benefit:

- £293k per year or
- £11.72 million in total*

**based on 8 x 7.2MW of wind energy being installed*

Energy Generated:

Provide electricity to power over **72,339 households****

***based on 8 x 7.2 MW of wind energy and 30 MW of solar being installed*

Energy Storage:

Provide electricity storage to power over **139,665 households** for up to 12 hours***

****based on 50 MW of long duration electricity storage being installed*

will be angled and arranged in rows, the maximum height of the modules will be up to 3.5 m AGL.

32. Inverter stations and field transformer units will be installed on site in order to convert the Direct Current (DC) produced by the solar modules, into an Alternating Current (AC) which is compatible with the electricity supply network.

33. Security fencing and CCTV units will be established around the edge of the solar array areas to prevent unauthorised access. The fencing will stand up to 2.4 m AGL and is proposed to comprise standard stockproof mesh interspersed with wooden fenceposts.

Long Duration Electricity Storage

34. The LDES (minimum of 8 hours discharge duration and up to approximately 12 hours discharge duration) has been designed to service the long duration electricity storage market and will have the capability to draw power from the Proposed Development or the National Grid to be stored for re-use when the National Grid requires it. It will be located in the south-east of the site.

35. It is currently proposed to use flow batteries as opposed to conventional lithium-ion technology. Unlike lithium-ion batteries, flow batteries use a water based, non-flammable electrolyte, significantly reducing fire risk and allowing safe deployment at greater densities. LDES technologies like these provide much greater capacity and longer discharge durations than traditional short duration (lithium-ion) battery storage schemes and, therefore, provide a different power balancing service to the National Grid.

36. For the purposes of the EIA, a maximum design envelope for both the density of LDES units in plan, and the height of LDES units in elevation, has been assumed. The Proposed Development layout assumes a maximum layout density of units at a maximum height of up to 6 m. The LDES compound shall be surrounded by a security fence up to 2.4 m in height.

Access to Site

37. Access to the Proposed Development site will be taken from Junction 11 of the M74 motorway, via an existing private haul road through the operational Douglas West Wind Farm, as shown on **Figure 3**. All abnormal loads (large turbine components) and heavy goods vehicles (HGV) construction traffic will utilise this access direct from Junction 11.

38. It is proposed that light vehicle access would also be possible from Station Road at the southern edge of Douglas, which forms an existing access to the operational Hagshaw Hill Wind Farm. Use of that access would be limited to cars, vans and Light Goods Vehicles only and no HGVs would use it. This will enable use of the local shops and cafes in Douglas at lunchtime by site staff.

39. Large turbine components would be manufactured off-site and transferred to the site for assembly from the proposed Port of Entry (PoE) at King George V (KGV) Docks in Glasgow. The route will use Kings Inch Drive, follow the M8 and then onto the M74, exiting at Junction 11 (Poniel) where there is direct access to the site via a private haul road.

40. A transport assessment (Volume 1, **Chapter 12** of the EIA Report) has been undertaken in support of the application for the Proposed Development, and this provides greater detail on access routes to the site and provides an estimate of vehicle trip generation during construction. The transport assessment includes a review of the proposed abnormal load routes, and construction traffic impacts.

Grid

41. The Transmission Network Operator (TNO) will be responsible for connecting the site to the wider electricity network. Under the current contracted position, the Proposed Development is proposed to be connected to the wider electricity network at the proposed Redshaw Transmission Substation on the B7078 to the south-east of the site between Douglas and Crawfordjohn.

42. Prior to the National Energy System Operator (NESO) UK 2025 Grid Connections Reform process, the grid connection proposed by the TNO for the Proposed Development was understood to be a wood

pole overhead line (with sections of underground cable) from the Proposed Development substation, with a route approximately 3 km northwards to meet with another proposed overhead line, before routing south towards the proposed Redshaw Transmission Substation. An assessment of the potential environmental effects of the proposed grid connection route has been undertaken and is provided within Volume 4, **Technical Appendix 3.1** of the EIA Report. No potential for significant environmental effects arising from the Proposed Development and its currently proposed grid connection route were identified. The final routing and design of the grid connection cable(s) between the on-site substation and Redshaw Transmission Substation will be the responsibility of the TNO and could alter as a result of the ongoing NESO Grid Connections Reform process.

43. The electrical power produced by the Proposed Development will be fed to an on-site substation and LDES compound via underground cables. The substation and control room buildings will accommodate all the equipment necessary for automatic remote control and monitoring of the Proposed Development, in addition to the electrical switchgear, fault protection and metering equipment required to connect the Proposed Development to the electricity network. The design of the substation buildings/compound and LDES on site is flexible and detailed design will be provided nearer to construction.

Habitat Management & Enhancement

44. A suite of biodiversity enhancements is proposed as set out in an Outline Biodiversity Enhancement and Management Plan (OBEMP), included as **Technical Appendix 7.5** within Volume 4 of the EIA Report, which proposes long term biodiversity enhancement measures across approximately 103 ha, focused on restoring and strengthening habitats of local and regional ecological importance. Key measures include upland moorland and peatland restoration through drain blocking, hydrological restoration, removal of self-seeded conifers and controlled grazing to improve wet heath and blanket bog condition, creation of up to 16.13 ha of low density native broadleaved and riparian woodland to enhance habitat connectivity and watercourse quality, and targeted grassland management to improve breeding and foraging habitat for waders. These measures will be supported by structured monitoring, adaptive management and periodic review through a Biodiversity Management Group to ensure meaningful biodiversity gains over the operational lifetime of the Proposed Development

Aviation

45. The potential for the Proposed Development to affect civil and military aviation operations has been subject to technical analyses informed by consultation with relevant stakeholders to ensure there are no unacceptable impacts. An Aviation and Radar assessment detailing this safeguarding exercise, including the consultation undertaken and the associated mitigation measures proposed is included in Volume 4 of the EIA Report as **Technical Appendix 3.4**. The assessment found that, after the implementation of appropriate mitigation, the Proposed Development turbines should have no effect on either civil or military airspace users. Consultation with stakeholders is continuing as to the specific requirements for mitigation.

46. As noted in **Paragraph 30** of this NTS**,** given the height of the turbines, there is a statutory requirement to install visible aviation lighting on the turbines. A proposed reduced lighting scheme has been prepared and agreed with the Civil Aviation Authority (CAA) and Ministry of Defence (MoD).

Shadow Flicker

47. Once the Proposed Development is operational, there is potential for shadow flicker to occur in certain weather conditions which can create a flickering or strobe-like effect. The potential for such effects to arise from the Proposed Development has been subject to modelling and technical analysis and is reported on in Volume 4, **Technical Appendix 3.6** of the EIA Report. The Applicant will implement a shadow flicker protocol during operation to mitigate the potential for any significant shadow flicker impacts.

Construction Programme

48. Normal construction hours will be between 07:00 and 19:00 Monday to Friday and 07:00 to 13:00 on a Saturday, no construction will take place on a Sunday. These times have been chosen to minimise disturbance to local residents. It must, however, be noted that during the turbine erection phase, operations may proceed round the clock to ensure that lifting processes are completed safely. A fully detailed construction programme will be provided in a Construction Environmental Management Plan (CEMP) prior to the commencement of construction.

49. The on-site construction period for the Proposed Development is expected to be approximately 21 months as shown in **Table 1**.

50. The operational lifespan of the Proposed Development would be 40 years, after which it would be appropriately decommissioned. It is expected that decommissioning would take approximately twelve months. If, after the operational lifespan of the Proposed Development has expired there is potential for re-powering the development, this would be subject to a new and separate application.

Table 1 – Indicative Construction Programme

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Mobilisation												
On-site access tracks												
Temporary Construction Compounds												
LDES civils work and installation												
Substation civils works and installation												
Crane hardstandings												
Blade laydown												
Turbine foundations												
Constructing solar mounting frames												
On-site cabling												
Erecting solar modules & central inverters												
	13	14	15	16	17	18	19	20	21			
Substation and BESS civils works and installation												
Turbine foundations												
Erecting solar modules & central inverters												
Turbine delivery & erection												
Commissioning and Testing												
Site Reinstatement												

Community Benefit Contribution

51. During the operational period of the Proposed Development, the Applicant proposes to make annual community benefit contributions of £5,000 / MW of installed wind energy capacity, plus an additional £5,000 per year for the LDES. Based on the project capacity set out in the EIA Report, the Proposed Development would generate up to £293,000 in Community Benefit contributions to local communities annually, amounting to approximately £11.72 million over its lifetime.

52. The Proposed Development represents a significant investment in the region and the Applicant has committed to taking a number of steps to ensure that benefits from the Proposed Development are maximised locally. The Applicant is committed to a local supplier approach that will endeavour to source supplier contracts locally wherever possible, sustaining local businesses and providing employment opportunities for local people.

Consultation

Statutory Consultation

53. A formal EIA Scoping Opinion was requested from the Scottish Government ECU in July 2025 through the submission of an EIA Scoping Report. The EIA Scoping Report contained details of the site baseline, the Proposed Development, proposed environmental impacts to be assessed in the EIA, and the assessment methodologies that would be used. The ECU consulted with a variety of statutory and non-statutory consultees before providing an EIA Scoping Opinion in October 2025.

54. A summary of how the Scoping responses received would be addressed in this EIA Report was provided to the ECU within an EIA Gatecheck Report in December 2025.

55. Direct consultation has also been undertaken with specific statutory consultees, to confirm and agree the detailed approach to the technical surveys and assessments on a topic by topic basis.

56. Further information on the consultation process is given in Volume 1, **Chapter 4** of the Proposed Development EIA Report.

Public Consultation

57. A programme of pre-application community engagement for the Proposed Development has been undertaken by the Applicant which has included meetings, correspondence, and telephone discussions with local community groups, neighbours and elected representatives, alongside leaflet drops to local properties and two in-person public consultation events in Douglas and Coalburn which were advertised in the local papers, on posters and on the Proposed Development's website.



58. The **Pre-Application Consultation Report** which accompanies the application details the findings of that work and illustrates the ways in which community engagement has helped identify potential issues arising from the emerging development proposal and, where appropriate, shape the final proposal which is now the subject of this application.

59. The pre-application consultation has helped identify the issues that are important to the local community and, where appropriate, shape the final proposal which is now the subject of this application. The Applicant confirms that the company will continue to liaise with the local community during the S.36 application process and during the construction, operational and decommissioning phases of the Proposed Development.

Environmental Impact Assessment (EIA)

60. Volume 1, **Chapter 4** of the EIA Report describes the EIA process in more detail.

61. Seven different environmental assessments were undertaken as part of the EIA based on the description of the Proposed Development, as detailed above and in Volume 1, **Chapter 3** of the EIA Report. Each technical assessment was undertaken by a competent expert with relevant specialist skills, to evaluate the potential of likely significant effects resulting from the Proposed Development. The assessments draw upon specific site surveys, desk-based research, best practice, professional experience depending on the topic area to understand the baseline environmental conditions at the site and the magnitude of any potential impacts.

62. The following sections detail the various technical assessments contained within the EIA Report and summarises the potential effects of the Proposed Development during construction, operation and decommissioning.

63. The potential effects on the local and national economy, local tourism businesses, and recreational facilities is provided within a sperate stand-alone report that accompanies the application, please refer to the **Economic and Community Impact Report**.

Landscape And Visual

64. The full assessment of the effects on landscape and visuals receptors is provided in Volume 1, **Chapter 6** of the Proposed Development EIA Report with visualisations presented in Volume 3.

65. The landscape and visual assessment considers the likely effects that would occur during construction, the operational lifetime of the project (40 years) and the decommissioning phase. It also considers the residual effects and the cumulative effects that would occur when other consented and 'in-planning' wind farms are considered to form part of the baseline landscape.



66. Embedded mitigation has been built into the design of the layout of the development, scale of the proposed turbines and the proposed visible aviation lighting scheme. In addition, the solar arrays and the LDES have been located on lower laying southern portion of the site, utilising existing screening from the adjacent woodland.

67. The Proposed Development is not located in or near to an international or national landscape designation. The Proposed Development is located within the western part of the Douglas Valley Special Landscape Area (SLA), adjacent to the existing Hagshaw Hill Extension, Hagshaw Hill Repowering and Douglas West wind farms that are also partly located within it. During operation, the Proposed Development will give rise to some localised significant effects. However, the assessment concludes that the key characteristics and overall integrity of this SLA would not be compromised.

68. In terms of effects on landscape character, during the construction and decommissioning phases, significant effects on landscape character are predicted on two landscape character types (LCTS). These effects are temporary and localised, affecting the host rolling moorland and rolling moorland with windfarms landscape character types, which cover the northern and central, and south-western parts of the site.

69. During operation, significant effects are limited to the host landscape character types and a small part of the Upland River Valley – Douglas Water landscape character type within approximately 5 km of the site. Beyond this area, effects reduce rapidly with distance and are moderated by the presence of

existing wind farms. No significant operational effects are identified on more distant landscape character types.

70. In terms of effects on visual amenity, during construction and decommissioning, these are limited to receptors close to the site, particularly users of nearby core paths situated at the north-eastern corner of the site. During operation, significant visual effects are predicted at a limited number of representative viewpoints, including locations within Douglas and Glespin and along certain core paths and local routes. Significant effects are also identified for some residential properties within close proximity to the site; however, none are considered to be overbearing or overwhelming. For road users, a significant visual effect is identified along a section of the A70 between Glespin and Douglas within the Douglas Valley SLA. No receptors would experience significant effects during the hours of darkness.

71. In terms of effects from residential properties within 2 km of the proposed turbines, residents would not experience such an overbearing or overwhelming effect on their visual amenity such that their property would become an unattractive place to live.

72. In relation to cumulative effects, the Proposed Development would be experienced within a landscape that is partly characterised by existing wind energy development. While cumulative effects increase in some locations when all consented and in planning developments are considered, the Proposed Development does not introduce new significant cumulative effects where none already exist, nor does it fundamentally alter the established pattern of development.

73. Localised significant effects on landscape character and visual amenity are inevitable as a result of commercial wind energy development anywhere in the UK. Whilst the LVIA identified some localised significant effects on landscape character and visual amenity, particularly within the immediate vicinity of the site and along certain routes. These effects occur within a landscape that is already partly characterised by existing wind energy development. The Proposed Development would be located adjacent to and would integrate with the existing Hagshaw Energy Cluster.

Ecology

74. The full assessment of the effects on flora and fauna at the site is provided in Volume 1, **Chapter 7** of the Proposed Development EIA Report.



75. The assessment was based on best practice guidance, and its scope determined through a combination of desk study, field surveys (from 2022 through to 2025), and consultation with relevant organisations. Potential impacts of the Proposed Development are largely related to the construction and decommissioning phases, with a small number of potential impacts expected during operation.

76. The site does not have connectivity with any Local Nature Conservation Sites (LNCS) or national or international statutory designated site for nature conservation with ecological qualifying interests, for example Sites of Special Scientific Interest (SSSI) and Special Area of Conservations (SAC). The site slightly overlaps with an area of ancient woodland in the south-east; however, no construction is proposed over this area.

77. Baseline field surveys have established that the site and/or the immediate surrounding area is used by a number of protected species including badger, bats, otter and reptiles. With the exception of high collision risk bat species, the risk to protected species is considered to be low based on the levels and distribution of activity recorded. Four high collision risk bat species were recorded within the sites. These species were taken for forward for further detailed assessment, and no significant effects are predicted.

78. Habitats within the site are varied, with the most extensive habitat types being marshy grassland, unimproved acid grassland and wet heath. The small areas of blanket bog within the site are degraded and of a modified condition due to a history of intensive grazing. These are not considered to be of national interest. There are a few areas of woodland within the site which are small in extent.

79. The Proposed Development has been designed to minimise impacts on ecological receptors including priority and sensitive habitats, peatland and protected species in so far as practicable. Embedded mitigation, good practice measures, and pre-construction checks, as directed by a suitably qualified Ecological Clerk of Works, will ensure the protection of protected species and oversee construction works to minimise any potential effects on nature conservation interests. A site-specific Construction Environmental Management Plan (CEMP) will also be developed and implemented ahead of any construction works commencing.

80. Assessment of potential effects and their significance were determined through consideration of the sensitivity of the Important Ecological Features (IEFs) and the magnitude of change. The most tangible effect during the construction phase of the Proposed Development would be direct habitat loss due to the construction of new infrastructure. Potential effects upon wet modified bog were taken forward for assessment; no significant effects are predicted.

81. Over and above the habitat restoration following the completion of construction activities on-site, the Proposed Development provides an opportunity to deliver long term beneficial habitat enhancement measures for habitats and species. **Paragraph 44** of this NTS provides a summary of these proposed enhancement measures. A Biodiversity Enhancement Management Plan (BEMP) for the Proposed Development would be developed to compensate for the habitat loss within the site boundary, and further enhance habitats, thus delivering biodiversity enhancement.

Ornithology

82. The full assessment of the effects on birds is provided in Volume 1, **Chapter 8** of the Proposed Development EIA Report.


Source: BTO

83. A combination of one breeding season of surveys from March to August 2022 and over twenty years of extensive data (2003 – 2025) from nearby wind farm projects within the Hagshaw Energy Cluster is sufficient to allow a robust characterisation of the baseline ornithological assemblage and usage of the site and surrounding area.

84. Four species were taken forward for assessment: black grouse, goshawk, curlew and golden plover. Although black grouse and goshawk were not recorded during 2022 surveys, they have historical or strategic importance locally and were therefore included. Golden plover was included due to potential connectivity with the nearby Muirkirk and North Lowther Uplands Special Protection Area (SPA), although no significant effects on the SPA are predicted.

85. Curlew was the only species taken forward for assessment that was recorded on the site during surveys. Collision risk modelling predicted a very low collision rate for curlew (0.047 birds per year), with negligible or no risk identified for the other species due to an absence of flight activity.

86. With standard and embedded mitigation measures in place, all predicted effects are considered to be minor adverse or negligible and therefore not significant.

87. The Applicant has committed to additional mitigation and enhancement measures to further reduce adverse effects and introduce improvements. Measures include the implementation of an extensive BEMP which will improve current and create new foraging and breeding habitats for ornithological features on the site, in particular aimed at black grouse and curlew.

88. Residual effects, which take account of additional mitigation and enhancement measures, are predicted to remain the same as predicted effects, except for operational displacement effects on black grouse and curlew, which is expected to become minor beneficial following habitat enhancement measures implemented as part of the BEMP.

Geology, Peat, Hydrology and Hydrogeology

89. The full assessment of the effects on the local ground and water environment is provided in Volume 1, **Chapter 9** of the Proposed Development EIA Report. A combination of desk study and field survey work was undertaken to identify and characterise the geological, hydrological and hydrogeological receptors which could be subject to impacts from construction, operation and decommissioning of the Proposed Development.

90. The site is located within the surface water catchment of the Douglas Water which is part of the larger River Clyde catchment. The majority of the site drains directly to the Douglas Water, except for the northern extent of the site, which is located within the Poniel Water sub catchment, a tributary of the Douglas Water.

91. In terms of mining, the Mining Remediation Authority online map indicates that only the existing access track is located within the Development High Risk Area. No works to this existing access track are required to facilitate the Proposed Development.

92. The design of the Proposed Development has been informed by detailed programme of peat depth probing as required by National Planning Framework 4 (NPF4). The assessment of carbon rich soils and peat has considered all the proposed infrastructure, including new and existing access tracks scheduled to be upgraded as part of the Proposed Development. It has been shown that areas of deep peat (areas >1 m deep) have been largely avoided by the Proposed Development and that the majority of the Proposed Development is on peaty or mineral soils (peat depths <0.5 m deep).



93. Potential construction and operational effects include changes to surface water quality and flow, designated sites and Private Water Supplies (PWS). A PWS risk assessment was undertaken of local private supplies which found the to be no significant effects at all properties assessed.

94. Proposed mitigation measures to avoid or reduce potential impacts, include developing and implementing a CEMP and a programme of water quality monitoring prior to the commencement of construction activities, as well as a Biodiversity Enhancement and Management Plan to restore peatland habitat. These mitigation measures are considered to be robust and implementable and will reduce the potential impacts on peat, watercourses and groundwater.

95. Following implementation of committed mitigation measures, the significance of residual effects on geology, surface water and groundwater is considered to be negligible beneficial. No cumulative effects are predicted.

Cultural Heritage

96. The full assessment of the effects on cultural heritage is provided in Volume 1, **Chapter 10** of the Proposed Development EIA Report.

97. While there are no designated heritage assets recorded within the Proposed Development site, the assessment has identified 33 non-designated heritage assets (assets that are not given legal protection). In the absence of mitigation, there is potential for construction works to result in direct impacts upon 12 of these non-designated heritage assets. More generally, there is assessed to be a moderate

potential for hitherto unrecorded, buried archaeological remains to be encountered within the site. With mitigation these are reduced to negligible to minor effects.

98. Six Scheduled Monuments and two Category A Listed Buildings have been assessed for operational impacts resulting from the Proposed Development. These assets were determined based on an asset's proximity to the Proposed Development, appraisal of the blade-tip Zone of Theoretical Visibility, and the scoping response provided by Historic Environment Scotland.

99. An assessment of the impact of the Proposed Development on the settings of these assets has resulted in the identification of only negligible and minor significance effects (not significant in EIA terms). Where visible, the Proposed Development would appear alongside and as a continuation of the existing turbines of one or more operational and under construction wind farms, with the combined effect being that of a single development already present at the location.

100. Assessment of cumulative impacts resulting from the Proposed Development in combination with other renewable infrastructure projects has resulted in the identification of only minor significance effects (not significant in EIA terms), with the Proposed Development contributing the lesser part of each cumulative impact due to distance, topography, and location.

101. The layout of the Proposed Development, including the positioning, size, and number of turbines, and the siting of the solar array and other associated infrastructure, has been designed to avoid or minimise both construction and operational effects on heritage assets and their settings wherever possible. Construction works would proceed in accordance with a CEMP, and existing cultural heritage remains would be fenced off where necessary.

102. Additional mitigation comprising the fencing off and avoidance of heritage assets (where possible), recording of upstanding remains where avoidance is not possible, and undertaking of archaeological monitoring (watching brief) in archaeologically sensitive areas, has been recommended to further offset and/or reduce any possible effects on cultural heritage as a result of the Proposed Development.

Noise

103. The full assessment of the potential noise effects from the Proposed Development on local receptors is provided in Volume 1, **Chapter 11** of the Proposed Development EIA Report.

104. The levels of noise and vibration likely to occur at local residential properties as a result of the operation of the Proposed Development have been assessed in respect of the Proposed Development in isolation, and cumulatively with other local wind farm developments. Noise effects associated with construction and decommissioning were not assessed on the basis that they are unlikely to be significant and will be controlled by implementation of Best Practicable Means and planning conditions. A CEMP will also be produced detailing methods by which construction noise will be controlled.

105. The operational assessment has been undertaken in accordance with appropriate guidance and following the current best practice methods. The noise assessment for the wind component of the Proposed Development was conducted on the basis that the noise limits in the planning conditions for neighbouring and recently consented wind farm sites will be appropriate to the Proposed Development, as agreed with South Lanarkshire's Environmental Health Department. For other non-turbine fixed plant, such as batteries, inverters and transformers, noise was modelled using noise prediction software.

106. The assessment has shown that the Proposed Development will meet all the conditions regarding noise contained within the recent consents for wind energy development on adjacent sites, and it is concluded that there will be no significant effects on nearby residential properties in terms of noise immission from either the wind component or non-turbine fixed plant subject to site specific mitigation being put in place during operation.

Traffic And Transport

107. The full assessment of the effects on traffic and transport is provided in Volume 1, **Chapter 12** of the Proposed Development EIA Report. The proposed access routes are summarised in **paragraphs 37 - 40** of this NTS and on **Figure 3**.



108. The Proposed Development has the potential to affect the surrounding local road network during its construction and operation from traffic travelling to and from the site delivering materials and plant. Due to the nature of the operation of the Proposed Development, the majority of vehicular activity is during the construction phase with minimal traffic during the operational phase.

109. The transport assessment found that the traffic generated during the construction phase of the Proposed Development will have negligible impacts on the wider road network and therefore doesn't require any specific mitigation. However, it would be standard practice to prepare a Construction Traffic Management Plan (CTMP) which would describe measures to manage traffic to and from the Proposed Development. It is important to note that the assessment has been based on the robust assumption that 50% of stone requirements will be imported to the site, with the remainder imported from local quarries. In reality, it is likely that considerably more than 50% of stone requirements would be sourced from the on site borrow pits, meaning that there would be fewer aggregate related HGV movements on the local road network than considered in the assessment.

110. The CTMP will set out proposed details for staff travel, heavy goods vehicle routing and guidelines for deliveries to further reduce potential effects on the surrounding network during the construction period.

111. The assessment has also considered the potential for cumulative effects to arise from vehicle movements associated with the Proposed Development in combination with other developments that are in the planning process. No significant residual effects from construction traffic are predicted to arise either as a result of the Proposed Development in isolation or cumulatively with other developments.

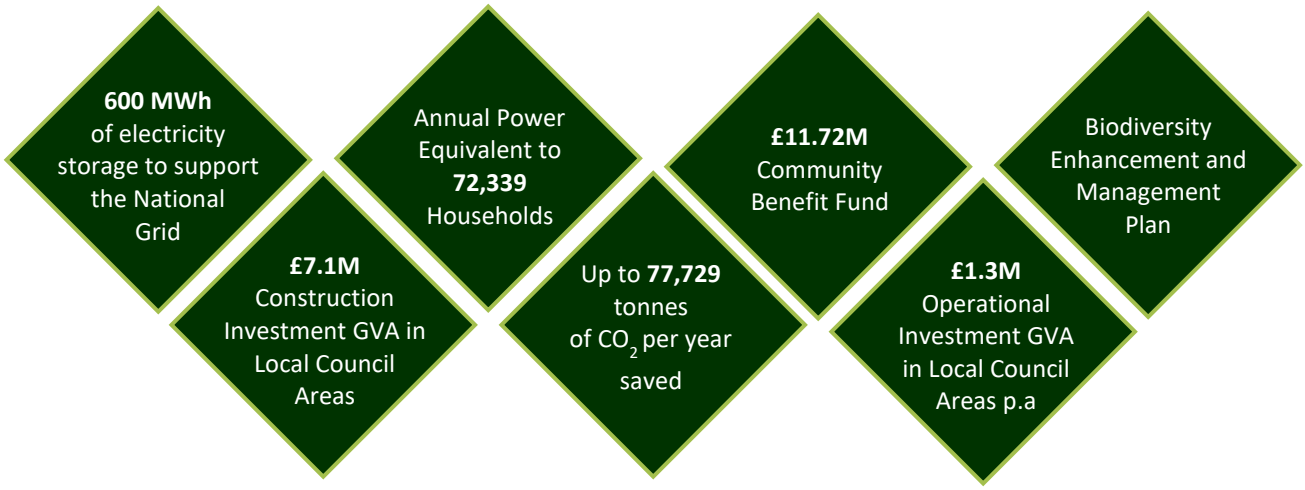
Benefits of the Proposed Development

112. The principle of renewable energy development in this general location has already been established by the existing and consented wind developments immediately surrounding the site. The addition of the Proposed Development will deliver the following key benefits:

- The Proposed Development would contribute to the attainment of the UK and Scottish Government policies of encouraging renewable energy developments; and in turn contribute to the achievement of UK and Scottish Government targets for both renewable electricity generation and electricity storage. The Proposed Development, with an overall capacity of approximately 138 MW, would make a valuable contribution to meeting such targets.
- The Proposed Development would have a total capacity of approximately 138 MW, generated by eight c.7.2 MW turbines (58 MW), solar panels (30 MW) and energy storage facilities (50 MW). The wind and solar elements together would produce around 174,320 megawatt hours (MWh)/year of clean power which would generate enough electricity to supply approximately 72,339 average Scottish households.
- Furthermore, the LDES would in addition provide up to 600 MW hours of electricity storage to support the National Grid. That is enough electricity to power 139,665 homes for up to 12 hours,

further contributing to national targets in terms of energy storage requirements to support the country's transition to a home-grown clean power grid.

- The Proposed Development is expected to save up to 77,729 tonnes of carbon dioxide per year, resulting in a total saving of over 1.6 million tonnes over its operational lifetime through displacing carbon-emitting generation.
- Based on an installed capacity of 57.6 MW of wind and 50 MW of LDES, the Proposed Development will deliver up to £293,000 per annum in Community Benefit Funding or up to £11.72 million in total over its 40 year operational life.
- Total construction spend on the Proposed Development is estimated to generate £96.3 million Gross Value Added (GVA) in Scotland. In addition, the operational spend is estimated to generate a further £4.4 million GVA in Scotland every year over its 40-year lifetime. The Applicant is committed to a local supplier approach which aims to deliver a significant proportion of construction and operational contracts to local companies.
- The Proposed Development is part of an existing wind farm landscape, which means that the significant effects would be limited due to the existing characterising effects. The Proposed Development fits with the existing pattern of development. The scale of the landscape in this part of South Lanarkshire has the capacity to accommodate the modern turbine technology – which can successfully co-exist with the underlying agricultural and forestry uses.
- A comprehensive suite of biodiversity enhancement and management proposals are being put forward within the BEMP to not only mitigate adverse effects as a result of the Proposed Development but will in addition provide biodiversity enhancement to local receptors through a substantial long-term commitment to funding habitat management and biodiversity enhancement in the landscape that surrounds the Proposed Development.



Conclusion

113. This Non-Technical Summary of the EIA Report provides an overview of the EIA undertaken for the Proposed Development. Within Volume 1, **Chapter 13** of the EIA Report a schedule of commitments can be found which details the environmental mitigation measures, summarised above, which the Applicant has committed to implement.

114. Volume 1, **Chapter 14** of the EIA Report summarises the potential effects, the mitigation to be implemented and the resulting residual effects. It also provides a summary of the cumulative effects of the Proposed Development in combination with other proposed, consented and operational developments in the local area.

115. The final layout has been informed by a robust EIA and comprehensive design iteration process, considering potential environmental impacts and their effects, physical constraints, and health and safety considerations. The information used to inform the design iteration process included consultation responses received, baseline data and the impact assessments undertaken.

116. Consideration has been given to a range of design issues as well as various environmental, ecological and technical requirements. Predicted environmental effects arising from the Proposed Development have been mitigated as far as possible, if not eliminated during the iterative design process.

117. The Proposed Development site is considered an appropriate and viable location for a hybrid renewable energy project due to:

- Being within an established wind farm landscape and pattern of development;
- Close proximity to a viable grid connection point;
- Predominately south facing slopes suitable for solar PV, with existing screening of the south-eastern portion of the site;
- Good average wind speeds and generation capacity, evidenced by the surrounding operational sites;
- Positive contribution to regional and national renewable energy and carbon reduction targets; and
- Provision of social and economic benefits to the local area.

118. Overall, the Proposed Development is an appropriately designed and sensibly located renewable energy and storage development which is in line with policies in the local and strategic development plans and conforms to national policy. The Proposed Development has been designed to maximise energy production from an existing wind farm landscape, within acceptable environmental limits. The Proposed Development will provide a valuable contribution towards the ambitious national targets for renewable energy generation and storage, provides substantial biodiversity enhancements and contributes towards sustainable economic growth locally and throughout Scotland as a whole.

Figures

Figure 1 Site Location and Cumulative Context

Figure 2 Proposed Development Layout

Figure 3 Site Access

275000 280000 285000

635000

630000

Cumberhead West
Nutberry
Dalquhandy
Douglas West
HAGSHAW ENERGY CLUSTER
Douglas West Extension
Cumberhead
Hagshaw Hill Extension
Hagshaw Hill Repowering
Hare Craig
Galawhistle
T1
T2
T3
T4
T5
T6
T7
T8
Hazelside Farm
Broken Cross
Bodinglee
Glentaggart
Andershaw
West Andershaw
Middle Muir
M74 West Renewable Energy Park
Kennoxhead Phase 1
Kennoxhead Phase 2

0 1 2 Kilometres

N

LEGEND

- Site Boundary
- Proposed Turbine Location

Cumulative Wind Farm Turbine Location (Status)

- Operational; Under construction
- Consented
- Application
- Scoping

Cumulative Wind Farm Boundary (Status)

- Operational; Under Construction
- Consented
- Application
- Scoping

Note: The OS mapping does not reflect all of the current cumulative turbine positions on the ground. Small scale developments have not been labelled.

3R Energy

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EIA REPORT NON-TECHNICAL SUMMARY

SITE LOCATION AND CUMULATIVE CONTEXT

FIGURE 1

Scale 1:50,000 @ A3

Date JUNE 2026

425.066596.00001.0049.0 Site Location Cumulative Context

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279000 280000 281000 282000 283000

632000 631000 630000

425.066596.00001.0050.0 Proposed Development Layout

N

LEGEND

- Site Boundary
- Additional Land under Control of the Applicant for Habitat Management
- Turbine Location (180 m Tip Height)
- Turbine Location (200 m Tip Height)
- Permanent Crane Hardstanding
- Temporary Crane Hardstanding
- Long Duration Electricity Storage (LDES)
- Development Substation
- Borrow Pit (BP) Search Area
- Temporary Construction Compound

Solar

- Photovoltaic (PV) Module
- Inverter
- Perimeter Fence

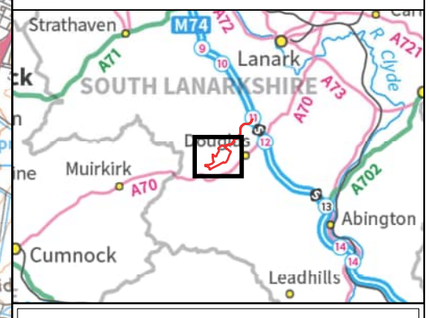
Watercourse Crossings

- Existing to be Upgraded
- New

Access Tracks

- Existing
- Existing to be Upgraded
- New

Note: The OS mapping does not reflect the current cumulative turbine positions on the ground. All point features are not drawn to scale in the map



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EIA REPORT NON-TECHNICAL SUMMARY

PROPOSED DEVELOPMENT LAYOUT

FIGURE 2

Scale 1:16,000 @ A3

Date JUNE 2026

0 0.5 1 Kilometres

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278000 280000 282000 284000 286000

634000 632000 630000 425.066596.00001.0089.0 Site Access

LEGEND

Site Boundary

Existing Site Access via Junction 11 of the M74

Existing Access Track

N

0 1 2

Kilometres

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EIA REPORT NON-TECHNICAL SUMMARY

SITE ACCESS

FIGURE 3

Scale 1:25,000 @ A3

Date MARCH 2026

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