



Douglas West Wind Farm

Revised Scheme

NON-TECHNICAL SUMMARY

October 2017



Non-Technical Summary

Contents

1. Background	1
2. Purpose of the Revised Development Environmental Statement (ES)	1
3. Availability of the Revised Development ES	1
4. Representations to the Application	2
5. Site Location and Description	2
6. Site Selection and Design	4
7. Description of the Revised Development	6
8. Programme	9
9. Consultation	10
10. Environmental Impact Assessment (EIA)	11
11. Benefits of the Revised Development	18
12. Conclusion	19

Figure 1.1 - Site Location Plan

Figure 3.5 – Site Layout Plan

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1. Background

- 1.1 This document is a Non-Technical Summary of the Environmental Statement which accompanies an application by Douglas West Wind Farm Ltd (the Applicant), for consent under Section 42 of the Town and Country Planning (Scotland) Act 1997 (as amended), for the construction and operation of a revised wind energy development at the Douglas West Wind Farm (the Revised Development), comprising 13 wind turbines of up to 149.9 m in height, 11 km south west of Lanark, in rural South Lanarkshire.
- 1.2 The Revised Development brings together a number of proposed revisions to the Consented Development (ref. CL/15/0273 - comprising of 15, 3 MW turbines) at Douglas West to maximise energy production from the site, within acceptable limits, to ensure that the project is viable subsidy-free.

2. Purpose of the Revised Development Environmental Statement (ES)

- 2.1 ITP Energised was appointed by the Applicant to undertake an Environmental Impact Assessment (EIA) of the Revised Development in accordance with Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011.
- 2.2 The EIA process is reported in the ES, which describes the methods used to assess the beneficial and adverse environmental impacts predicted to result from the construction and operation of the Revised Development. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and, if possible, offset significant adverse environmental impacts. An assessment of residual effects, those expected to remain following implementation of mitigation measures, is also presented.

3. Availability of the Revised Development ES

- 3.1 Copies of the Revised Development ES are available from:

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

Tel: (01555) 660244

Email: info@3renergy.co.uk

- 3.2 The Non-Technical Summary is available free of charge, a hard copy of the ES Volumes 1 and 3 (ES chapters and Technical Appendices) for £240.00, a hard copy of the ES Volumes 2 and 4 (Figures) for £480.00, and a hard copy of Volume 5 (Viewpoint Pack) for £30.00. In addition, all documents are available (as a PDF for screen viewing only) as a DVD for £15.00.
- 3.3 Copies of the Revised Development ES will also be available for viewing during opening hours at the following locations:



South Lanarkshire Council

Planning and Building Standards HQ
Montrose House
154 Montrose Crescent
Hamilton
ML3 6LB

Coalburn Miners Welfare

42 Coalburn Road
Coalburn
ML11 0LH

St.Brides Centre

Braehead
Douglas
ML11 OPT

4. Representations to the Application

- 4.1 Any representations to the planning application should be made directly to South Lanarkshire Council Planning Department at:

South Lanarkshire Council

Planning and Building Standards HQ
Montrose House
154 Montrose Crescent
Hamilton
ML3 6LB

Email: planning@southlanarkshire.gov.uk

5. Site Location and Description

- 5.1 The site is located approximately 11 km south west of Lanark, 1.6 km north of Douglas and 1.3 km south of Coalburn in rural South Lanarkshire. The site is part of a former opencast coal mine and is therefore by its nature well located, remote from surrounding villages and isolated dwellings and benefits from direct access from the M74 motorway via Junction 11 (Poniel). The elevation of the site ranges from 220 m to 310 m above ordnance datum. The site occupies an area of approximately 245 hectares (ha). The central grid reference for the site is NS 281791 632782. The site location and site boundary are shown on **Figure 1**. A full size copy of the location plan from the ES is included at the back of this document.

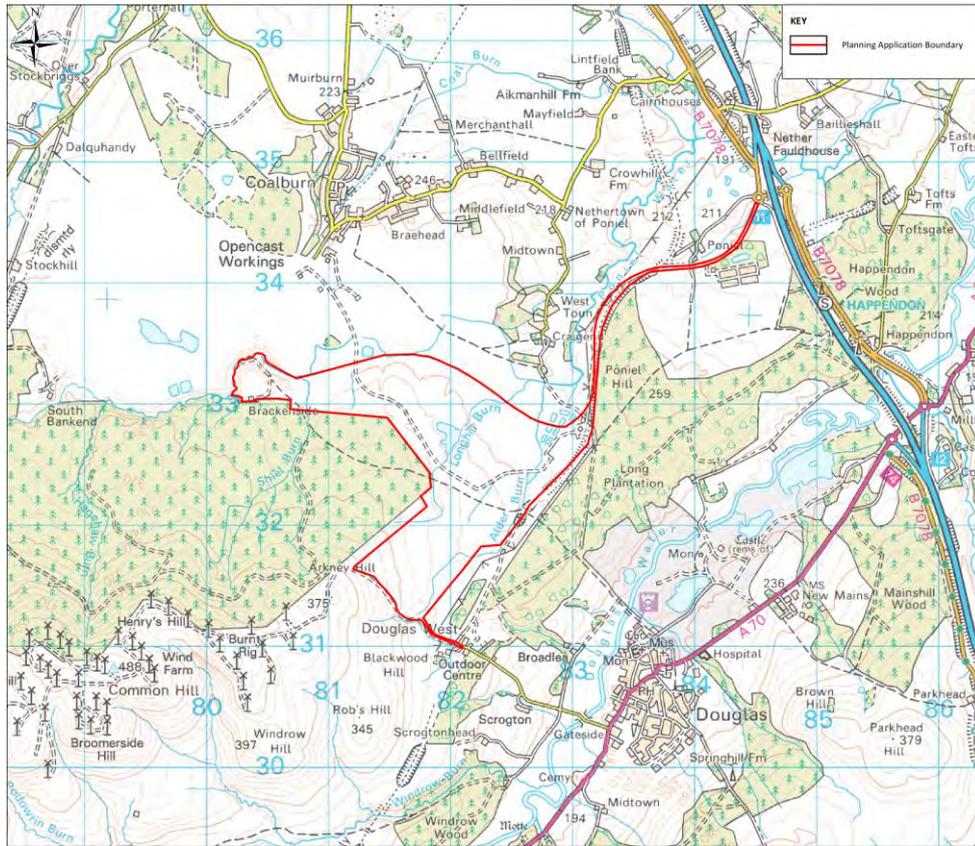


Figure 1 – Site Location Plan

- 5.2 The site lies within an area of low grade agricultural land, with approximately 50 % of the site having been disturbed by the previous opencast operations and restored to a varying degree (**Figure 2**). There is also a large area of hardstanding remaining in the east of the site where the former Dalquhandy Opencast Disposal Point (DP) was located (**Figure 3**).



Figure 2 - Aerial photograph of the northern extent of the site and DP area (1990)



Figure 3 – Aerial photograph of the DP area including CHP plant (2017)

6. Site Selection and Design

Site Selection

- 6.1 The initial site selection process was undertaken by previous developers, Community Windpower Ltd (CWP), as part of a UK wide search and assessment of potential wind farm sites to progress and develop into operational wind farms. The search process involved an initial desk-based assessment being undertaken to identify potential areas for wind farm development.
- 6.2 The Revised Development site was identified as one of the most appropriate and best locations for a wind energy development as it was positive and successful in relation to meeting the initial site selection criteria.
- 6.3 Subsequently, in 2013 the Landowner acquired 3R Energy and decided to develop the project at Douglas West independently and to work with the local communities in Douglas and Coalburn to deliver tangible benefits to the local area through the Revised Development.
- 6.4 A planning application was submitted in July 2015 for a renewable energy development (the Consented Development), comprising 15 wind turbines, up to 126.5 m blade tip height, and a Wood Fuel Drying Facility. Consent for the application was granted in February 2016 and two subsequent Non-Material Variation Submissions to increase the tip height to 131 m and rotor size to 113 m (CL/15/0273/1), and relocate the substation and construction compound (CL/15/0273/2) have also been consented.
- 6.5 Following the submission of the 2015 Application the UK Government announced it would end all financial support for onshore wind generation in the UK. As a result, projects which could not become commercially operational by 31 March 2017 would be reliant solely on electricity generated and sold to the wholesale power market. Consequently, the Applicant, Douglas West Wind Farm Ltd (a partnership between 3R Energy and Blue Energy) has sought to optimise the Consented Development to maximise energy production, within acceptable limits, to ensure that the Revised Development is viable subsidy-free.

Design Process

- 6.6 As part of the EIA process design iterations were prepared and considered for the turbine locations and on-site infrastructure, including access tracks and the construction compound and substation locations. In order to arrive at a development layout which is considered to represent the most appropriate design; potential environmental impacts and their effects, physical constraints, and health and safety considerations were taken into account. Information was collated from desktop information, field surveys, scoping opinions, local planning policy, planning conditions attached to the Consented Development and recent case law.

Design Principles

- 6.7 The following principles were adopted during the design iterations made by the Applicant to ensure that the final design of the Revised Development was the most suitable for the site:
 - the Revised 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;
 - the careful positioning of turbines to ensure coherent connection with the consented Dalquhandy Wind Farm (and ensure that the turbines appear as a continuous array / 'one development');
 - the turbines remain set-back from the northernmost edge of the site, and do not come any closer to the settlement of Coalburn than the Consented Development turbines or the adjacent Dalquhandy Wind Farm;
 - the turbines remain set-back from the eastern edge of the site that borders the Douglas Water Valley;
 - retain spatial separation from the closest isolated residential dwellings in the surrounding area;

- the establishment of a formal footpath network linking Douglas and Coalburn through the site, maximising the benefit from the existing infrastructure on site; and
- other environmental constraints and associated buffers are to be respected.

- 6.8 Within the 2015 EIA process, there were seven main design iterations to the layout of the Consented Development that are described within the 2015 ES.
- 6.9 Changes made to the Consented Development layout were undertaken in the context of maintaining a financially viable development proposal when considered against the financial backdrop that existed for onshore wind developments in the UK at that time.
- 6.10 In the same way, and alongside considering all relevant environmental constraints, technical advice from wind analysts and turbine manufacturers have been a material consideration in arriving at the Revised Development layout, with regards to turbine spacing and placement, ensuring optimum wind energy production at the site and financial viability at today's wholesale price of electricity.
- 6.11 The principal changes to the Consented Development have been an increase in the proposed turbine dimensions, to achieve an increase in the power output of each turbine, and an increase in the amount of electricity generated by each turbine. This has as a result meant a decrease in the overall number of turbines from 15 to 13 and due to the increase in generating capacity of each machine, a new turbine layout has been designed to take account of the associated increase in turbine separation distances required.

Figure 4 illustrates the layout iteration process.

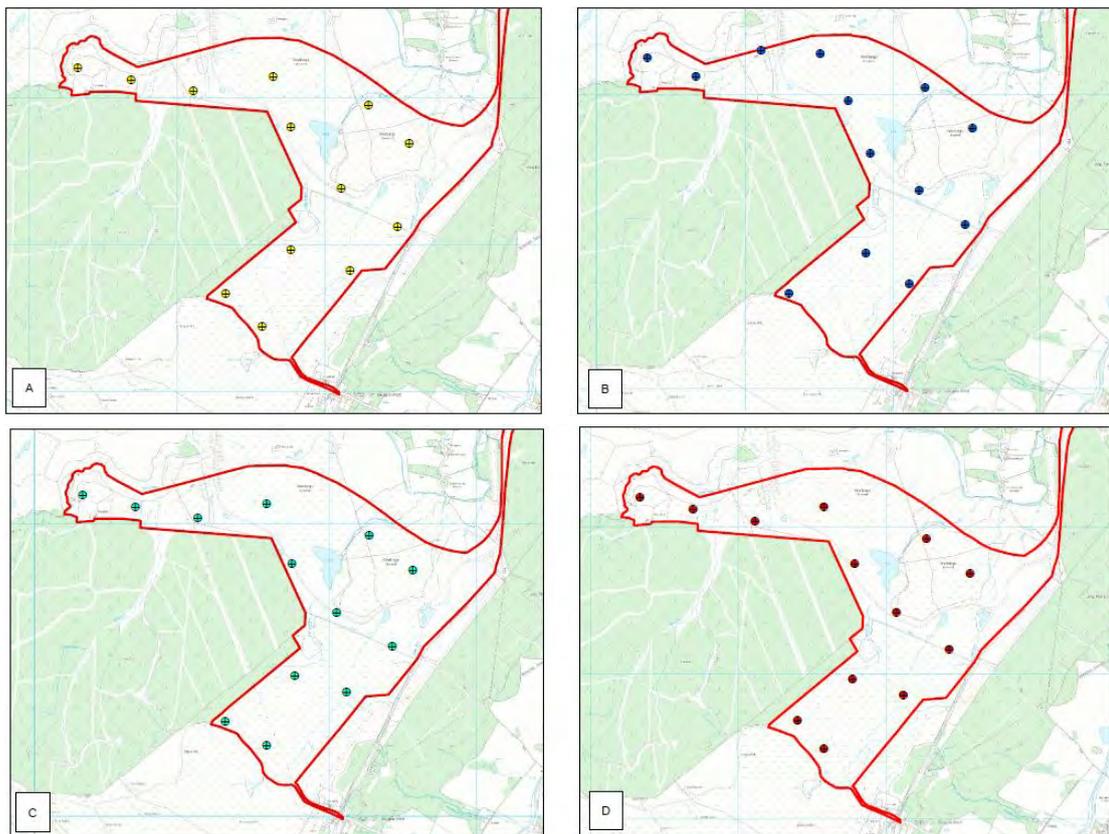


Figure 4 – Turbine Layout Iterations 2017

On-site Infrastructure Layout Iterations

- 6.12 Following the evolution of the turbine layout design, the design of the access tracks, construction compounds and substation was undertaken. The infrastructure required on the site was designed and arranged in such a way as to avoid the main on-site environmental constraints identified.
- 6.13 It was recognised that there was good highway access to the site which would negate the need for lengthy and visually intrusive new access tracks through the landscape. Additional stretches of access track to reach outlying turbines were designed to:
- minimise the number of water crossings;
 - avoid more sensitive habitats;
 - avoid cultural and archaeologically designated features; and
 - minimise the length of new access track by using existing on-site infrastructure.
- 6.14 The substation and construction compound / concrete batching and turbine laydown area locations have been designed to avoid watercourses and sensitive habitats. Both are positioned on land disturbed as part of previous opencast mining activities and located close to the consented Industrial Area within the eastern extent of the site and site entrance, so as to concentrate the more functional elements of the proposal in one location. The general location for the substation and construction compound have been previously agreed under Non-Material Variation approval reference CL/15/0273/2.
- 6.15 The substation is required to be located on the eastern side of the site to enable the Revised Development's connection to the wider grid network and the Industrial Area, as a potential end user of the electricity produced by the Revised Development.

7. Description of the Revised Development

- 7.1 The Revised Development (**Figure 5**)¹ comprises 13 wind turbines of up to a maximum blade tip height of 149.9 m when vertical, each being around 3.8 megawatt (MW) in power rating. A number of ancillary development components are also proposed, including a construction compound / concrete batching and turbine laydown area; hardstandings adjacent to the wind turbines for construction, maintenance and decommissioning cranes; access tracks; underground cables between turbines; an onsite substation and maintenance building with welfare facility; and a new permanent meteorological monitoring mast.
- 7.2 The total power output of the Revised Development would be around 49 MW. Based on a calculated site specific capacity factor, the annual indicative total power output for the site would be around 137 GW hours per annum, indicating the Revised Development would generate enough electricity to power over 34,300 average UK households (based on RenewableUK, 2016 UK average domestic household consumption is 3,994 kWh), and displace around 58,910 tonnes of carbon dioxide annually (1,472,750 tonnes over the proposed 25 year lifetime of the Revised Development). The Revised Development would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions (further information is provided on this matter in Chapter 3).
- 7.3 The electricity produced will be exported to the electricity network. The proposed point of connection to the network is via the 132 kV Coalburn substation to the north-east of the site. The grid connection is currently being progressed by the Applicant with both the local distribution and transmission licence holders. A proportion of the electricity produced at the site may also be used to provide power to new industry within the consented Industrial Area within the east of the site, on the DP hardstanding and surrounding areas.

¹ **Figure 5** references Figure 3.5 from the main ES, which is provided as a separate figure at the back of this document.

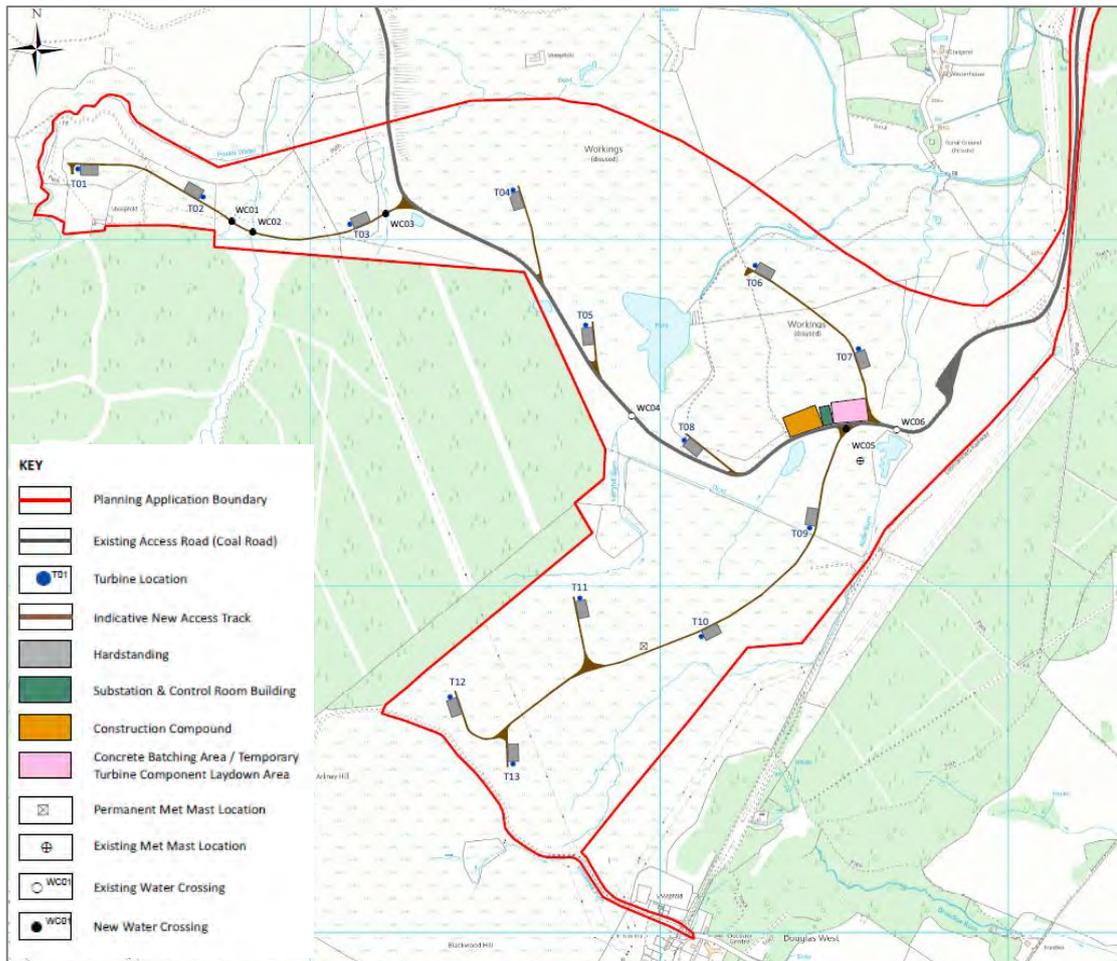


Figure 5 – Revised Development Layout

- 7.4 To enable the construction of the turbines, a crane hardstanding area and turning circle at each turbine location will be required to accommodate assembly cranes and construction vehicles. This will comprise a crushed stone hardstanding area measuring approximately 50 m long by 30 m wide and will remain in place during the lifetime of the Revised Development to facilitate maintenance works.
- 7.5 It is proposed that vehicular access to the site will be gained from the M74 leaving at junction 11 (Poniel). There is then a private road for access to the development site. A transport assessment (Chapter 12 of the ES) has been undertaken in support of the planning application for the Revised Development and this provides greater detail on access routes to the site for construction vehicles and provides an estimate of trip generation during construction. The transport assessment includes a review of the proposed route, and construction traffic impacts.
- 7.6 The new stretches of access track within the site boundary will be approximately 5 m wide, and will cross a number of watercourses, both natural and artificial, within the site.
- 7.7 A construction compound / concrete batching and turbine laydown area, will be required as a control centre for all site activities and to provide facilities for the day-to-day needs of the project and the workforce. It will comprise two areas of approximately 100 m long by 60 m wide.
- 7.8 The electrical power produced by the individual turbines will be fed to an on-site substation via underground cables. The typical dimensions of the substation and control room building will be approximately 30 m by 10 m with a height to ridge of around 5 m. The building will accommodate all the equipment necessary for automatic remote control and monitoring of the Revised Development, in addition to the electrical switchgear, fault protection and metering equipment required to connect the Revised Development to the electricity transmission network. The design of the substation building is relatively flexible and where appropriate may be clad in local materials to match in with the surroundings. The Revised Development will be connected to the Transmission or Distribution Network via the Coalburn

Substation to the north east of the site. Depending on the final nature of the grid connection, it may be necessary to lay electrical cables alongside the existing access road to the M74, and site additional outdoor electrical infrastructure on the retained construction compound within the Revised Development site.

- 7.9 A 50 m high anemometer mast is currently located on site at grid reference NS 82535 32365, at an altitude of 258 m AOD. It is proposed that this will be removed after a new on-site met mast is erected. A further on-site meteorological monitoring mast will be required to monitor wind speeds for the operational life of the Revised Development. It is proposed that this mast will be of a height no greater than 80 m and be located at grid reference NS 81954 31824 (indicative location).
- 7.10 On completion of construction works, it is proposed that all temporary structures be removed and the compound areas be retained for agricultural purposes or a potential future development platform, as was the case with the former DP hardstanding from the opencast coal site adjacent.

- 7.11 During the operational period of the Revised Development, the Applicant proposes to make community benefit contributions of £5,000 / MW of installed capacity, which means that the project would generate over £6.1 million Community Benefit Contribution (based on a total installed capacity of around 49 MW) to local communities over its lifetime. The aim of this funding will be to support the delivery of strategic projects in Douglas, Coalburn and the immediate surrounding area over the next 25 years, with the final distribution mechanism to be agreed with SLC and local communities.



- 7.12 The Revised Development represents a significant investment in the Douglas Valley and the Applicant has committed to taking a number of steps to ensure that benefits from the Revised Development are maximised locally. The Applicant is committed to a local supplier approach that will ensure that supplier contracts are sourced locally wherever possible, sustaining local businesses and providing employment opportunities for local people. Construction companies will also be encouraged to offer local apprenticeship and work experience places during the construction phase of the Revised Development as part of a Responsible Contracting Policy.

Access Strategy

- 7.13 To maximise the benefit to the local area an Access Strategy has been developed for the Revised Development site, and is presented within Appendix 3.1 of the ES. The formalisation of a network of paths across the site as part of the Revised Development will build on and enhance the existing path network in the local area which is already well used.
- 7.14 There is much history in and around the Revised Development site and it is proposed to develop a Heritage Trail to mark points of interest on the site and adjoining land (subject to the agreement of adjoining landowners where necessary). The development of this path network will create more opportunities to attract those from further afield to use the path networks around Douglas and Coalburn through the creation of further linked walkways and the development of features of interest in the local area, see **Figure 6** below.
- 7.15 As the area is already well used, it is important that public access is maintained during the construction phase. A co-ordinated approach between the Applicant, local communities and adjoining landowners will be taken to agree the exact final route of the Heritage Trail once the physical path improvements (within the Applicant's control) are agreed and an interpretive strategy prepared as part of the Detailed Access Strategy to be submitted to, and approved by, SLC prior to commencement. Further details on the Outline Access Strategy are included within Appendix 3.1 of the ES.

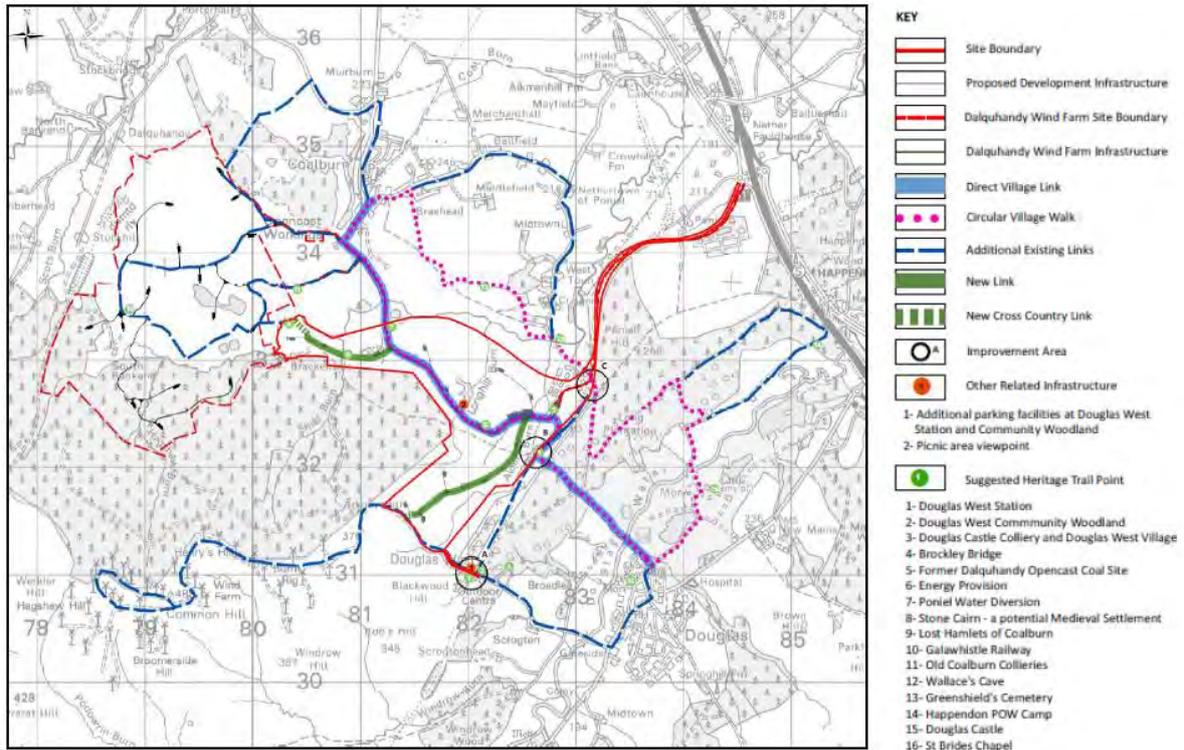


Figure 6 – Outline Access Strategy

8. Programme

- 8.1 The on-site construction period for the Revised Development is expected to be approximately 12 months and includes a programme to reinstate all temporary working areas, as shown in **Table 1**.
- 8.2 Normal construction hours will be between 07:00 and 19:00 Monday to Friday and 07:00 to 13:00 on a Saturday. These times have been chosen to minimise disturbance to local residents. A fully detailed construction programme will be provided in a Construction Environmental Management Plan (CEMP) prior to the commencement of construction.
- 8.3 The Revised Development will be phased so that certain activities will take place concurrently.
- 8.4 The operational lifespan of the Revised Development would be 25 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 Revised Development has expired there is potential for re-powering the development, for example by installing new nacelles, blades or other components, this would be subject to a new and separate application.



Table 1 – Indicative Construction Programme

Task	Month Number											
	1	2	3	4	5	6	7	8	9	10	11	12
Mobilisation												
Access & Site Tracks												
Foundations												
On-site Cabling												
Crane Hardstanding												
Substation												
Off-site Cabling												
Turbine Delivery												
Turbine Erection												
Commissioning & Testing												
Site Reinstatement												

9. Consultation

Statutory Consultation

- 9.1 Consultation with key consultees and stakeholders was a central component in finalising the Revised Development layout.
- 9.2 An EIA Scoping Opinion was sought from the South Lanarkshire Council in 2012, permission for the Consented Development was granted in 2016 and further consultation was carried out more recently by the Applicant since taking on the project. Further information on the scoping and consultation process is given in Chapter 4 of the Revised Development ES.

Public Consultation

- 9.3 A programme of pre-application community engagement has been undertaken by the Applicant and has included various meetings, correspondence, public exhibitions and other discussions with the communities closest to the Revised Development site.
- 9.4 The Pre-Application Consultation Report which accompanies the planning submission 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 planning application.
- 9.5 Two Public Exhibitions were held by the Applicant on 26 June 2017 St. Bride’s Centre, Douglas, and on 27 June 2017 in the Coalburn Miners Welfare. Visitors to the public events, aside from asking a member of the project staff a question directly, were also able to fill in a comments sheet on the day of the event or take it away and forward it to the Applicant at a later date
- 9.6 In summary, feedback from the two closest communities (Douglas and Coalburn) to the Revised Development has been broadly neutral, with both communities recognising the change in financial circumstances for onshore wind projects in the UK since the application for the Consented Development was made. The Applicant considers that the Revised Development strikes an appropriate balance between increasing generation from the site to ensure economic viability, whilst ensuring environmental impacts remain within acceptable levels and Community Benefit contributions of £5,000/MW are protected. The pre-application consultation exhibitions have 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 planning application.

- 9.7 The Applicant confirms that the company will continue to liaise with the local community during the planning application process and during the construction, operational and decommissioning phases of the Revised Development.

10. Environmental Impact Assessment (EIA)

- 10.1 The EIA considers the effects of the Revised Development during construction, operation and decommissioning on the following topics:

- landscape and visual (effects on the character of the landscape and views from agreed locations);
- ecology (the effects on protected habitats, flora and fauna, excluding birds);
- ornithology (the effects on birds and protected bird habitats);
- noise and vibration (effects on local properties from noise and vibration caused by the Revised Development);
- historic environment (effects on the integrity and setting of historic sites);
- hydrology, hydrogeology and geology (the effects on surface water, groundwater, rocks and soils);
- traffic and transport (effects from traffic travelling to, and from, the Revised Development);
- socio-economics, tourism, and recreation (effects on the local and national economy, local tourism businesses, and recreation facilities);
- aviation, radar and telecommunications (effects on civil and military aviation facilities and air space and telecommunications facilities); and
- shadow flicker (effects caused by the passing of the turbine blades in front of the sun).

- 10.2 Chapter 4 of the ES describes the EIA process in more detail.

- 10.3 For each topic the existing conditions (the baseline) was identified and the effects of the Revised Development on these conditions assessed (the potential effects). Potential effects are assessed on a scale of negligible, minor, moderate and major, with effects of moderate or major deemed to be significant. Mitigation measures have then been proposed to minimise adverse effects where required. Following this, an assessment was undertaken of the effects of the Revised Development on the existing conditions taking into consideration the proposed mitigation (the residual effects).

- 10.4 In addition to the above, the cumulative effects of the Revised Development in conjunction with other developments in the local area, primarily other wind farms, was assessed.

- 10.5 A summary of the baseline conditions, the proposed mitigation, the resulting residual effects and the cumulative effects for each topic is provided below. Full details of the EIA for each of the topics are provided in Chapters 6 to 15 of the ES.

Landscape and Visual

- 10.6 The full assessment of the effects on landscape and visual receptors is provided in Chapter 6 of the Revised Development ES.

- 10.7 The site does not fall within a National Scenic Area, National Park or Regional Scenic Area. The four southernmost turbines fall within the locally designated Douglas Valley Special Landscape Area which extends southwards from the site across the valley associated with the Douglas Water.

- 10.8 The Revised Development straddles two Landscape Character Types, namely: Plateau Farmland Opencast Mining and Rolling Moorland. The 4 most northerly turbines lie within Plateau Farmland Opencast Mining; the remaining 9 turbines and the other main ancillary features of the development lie within Rolling Moorland.

- 10.9 The host landscape has seen considerable change in the past 30 years and continues to evolve dramatically and rapidly as a result of further opencast mining, forestry activities, wind farm development, industrial development and changes in agricultural practices.
- 10.10 The structures of the Revised Development have been designed to avoid any existing notable landscape features and as such there would be no effect on any existing elements of the landscape which positively contribute to the landscape character of the area. The design of the Revised Development is the result of a considered iterative process which has sought to minimise landscape and visual effects whilst achieving the technical and commercial requirements of an integrated renewable energy development.
- 10.11 As with almost any onshore wind farm development it is recognised that the Revised Development would give rise to some localised significant effects on landscape character and visual amenity. These effects would arise primarily as a result of the introduction of the wind turbines into the landscape. The substation/control building are located in a relatively discrete position near to the existing CHP facility and against a mature plantation which would screen or backcloth these structures depending on the direction of view. It is not considered that these features would give rise to any significant effects during the construction and decommissioning phases of the Revised Development.
- 10.12 Significant effects during operation were identified on 5 of the 7 landscape character types assessed, with all 5 landscapes character types being within 5 km of the site.
- 10.13 Of the 20 representative viewpoints considered it has been assessed that there would be a significant visual effect at 6 of the locations, notably those closest to the Revised Development site.
- 10.14 There are 8 properties within 1.2 km of the proposed turbines, 7 of which are considered within the Residential Visual Amenity Study (presented within Appendix 6.4 of the ES). The Residential Visual Amenity Study concludes that of the 7 closest residential properties to the site just two properties have been assessed to experience likely significant effects, namely Blackwood Cottage, which is under the control of the Applicant, and Station House, which is a financially involved property. Such views at Station House would be experienced during winter months only. It is concluded that the properties assessed would continue to have other views available that are not affected by the Revised Development, and when each property is considered individually in the round, it is not considered that the residents of any occupied property would experience such an overbearing or overwhelming effect on their visual amenity that their properties would become unattractive places in which to live.
- 10.15 When considering the Core Paths, Aspirational Core Paths and Wider Network paths within 2km of the site, some of these routes will experience significant effects where views of the proposed turbines are available. Notably, however, there would be no view from several of the Core Paths south of the site in the Douglas Valley. It is further noted that the mitigation measures for public access (set out in Appendix 3.1) will provide significant recreational enhancement to the local area through the Revised Development.
- 10.16 The only sections of road within the study area that would experience a significant level of effect is the section of the B7078 between the southern edge of Lesmahagow and Junction 11 of the M74 motorway and the section of the NCN74 between the southern edge of Lesmahagow and Junction 11 of the M74.
- 10.17 Some significant effects have been identified from a parts of the local recreational area around Douglas Castle, within the Douglas Valley, due to the ability to view parts of the proposed turbines above the coniferous plantation to the west. It is however concluded that the introduction of the proposed turbines would not prevent an enjoyment of the recreational activities experienced in this location or an understanding of the underlying landscape which forms the setting for these activities. It is also noted that there will be areas within the Douglas Castle policy grounds where the proposed turbines will not be visible and there will be no effect on views.
- 10.18 For the cumulative landscape and visual assessment, wind energy developments that are at scoping or at the pre-planning stage have not been considered due to the uncertainty that these schemes will come forward as a full application and the lack of adequate information about project details.
- 10.19 The purpose of the cumulative impact assessment has been to consider the additional effects that might arise as a result of the Revised Development if other consented and in planning (awaiting determination) schemes were also operational. Two scenarios have been considered which reflect the different degrees of certainty that these schemes will be constructed:

- Scenario 1 - assumes that other consented (but as yet unbuilt) wind farms are operational; and
- Scenario 2 - extends this further to assume that all schemes in planning are also operational.

10.20 Schemes that are already operational were considered in the baseline scenario.

10.21 The assessment concludes no additional significant cumulative effects during construction and decommissioning on landscape character or visual amenity for either scenario. During operation, the assessment concludes that there are no additional significant cumulative effects on receptors with the exception of parts of the Douglas Castle Grounds recreational area (scenario 1 and 2) and Landscape Character Type – Upland River Valley (scenario 1 and 2) where a moderate level of significance is identified and deemed significant under the terms of the EIA Regulations.

10.22 It is noted that 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 assessment identified some significant landscape and visual effects it is considered that the landscape has the capacity to accommodate the effects identified, particularly when the consented but as yet unbuilt wind farms are taken into account in the baseline.

10.23 The recent consents for other commercial scale wind farms at Dalquhandy and Poniel are particularly relevant as once built they will introduce turbines onto the farmland at the foot of the rolling moorlands. In the context of these consented turbines (and assuming that they are built) the Revised Development will sit within an area already surrounded by large scale wind turbines and in this regard would constitute an obvious extension to the pattern and distribution of existing wind turbines. Overall, it is generally concluded that the introduction of the proposed turbines would reinforce the presence of turbines in views rather than introduce turbines into any views which are currently unaffected by existing or consented turbines.

Ecology and Nature Conservation

10.24 The full assessment of the effects on flora and fauna at the site is provided in Chapter 7 of the Revised Development ES.

10.25 A desk based study and a series of field surveys were undertaken to establish the baseline conditions of the site.

10.26 There are no ecological designations within the site. The main habitats within the site include wet heath and marshy grassland. Potential Ground Water Dependent Terrestrial Ecosystems (GWDTEs) were also identified within the site; however, following assessment it was considered that they had low or no groundwater dependency. Bat activity on site is considered to be low. Otter and badger were recorded within the study area. Trout species recorded in 2012 showed low numbers in Shiel Burn and Poniel Water only and this status is not expected to have changed significantly in the intervening period. No other protected species were recorded within the study area.

10.27 The ecological receptors present were considered during the design of the Revised Development. Design mitigation measures included maintenance of a stand-off distance between woodland edges and turbine centres of 94 m to reduce the potential for bats colliding with turbines. Otter and badger features within the site have been avoided. The number of watercourse crossings has been reduced where possible to minimise the potential of pollution entering the watercourses. Watercourse crossings have been designed to allow the passage of mammals (such as otter) and fish up- and down-stream. Existing hardstanding areas and tracks are utilised to reduce ground disturbance.

10.28 Pollution prevention measures and a Species Protection Plan will be in place throughout the lifetime of the Revised Development, and will be detailed in the Construction Environmental Management Plan (CEMP). An Ecological Clerk of Works will be present during the construction phase to monitor construction works to ensure the requirements of the CEMP are met.

10.29 A Habitat Management Plan will be implemented post-construction to restore and enhance habitats left by the opencast operations on site. This would also benefit bird species, such as black grouse and waders.

10.30 With the implementation of the mitigation and enhancement measures as described, it is considered that there are no significant effects on the ecological resources at the Revised Development site.

Ornithology

- 10.31 The full assessment of the effects on birds is provided in Chapter 8 of the Revised Development ES.
- 10.32 Various data have been used to ascertain the baseline ornithological interests within the Revised Development site and surrounding area. This includes surveys carried out in 2014 to 2015 and 2009 to 2010 at this site, as well as results of studies on behalf of other local wind farm developments in recent years. All surveys show that there has been a relatively similar bird assemblage present over time in the local area.
- 10.33 It was agreed with SNH that there is no connectivity between the Revised Development and any nationally designated site. The valued bird species identified from baseline surveys were pink-footed goose, greylag goose, black grouse, hen harrier and the breeding wader assemblage. The site and surroundings is of relatively low sensitivity, with no records of target raptor species breeding within 2 km, and black grouse lekking activity confined to areas outside of the Revised Development site.
- 10.34 The potential impacts on the valued bird species identified and assessed were construction disturbance, habitat loss, operational disturbance and displacement and collision risk. No significant effects were predicted as a result of the construction and operation of the Revised Development, either alone or cumulatively with other projects, particularly when mitigation measures are implemented.

Noise and Vibration

- 10.35 The full assessment of the potential noise and vibration effects from the Revised Development on local receptors is provided in Chapter 9 of the Revised Development ES.
- 10.36 Baseline noise surveys were undertaken in order to establish the pre-existing sound levels at selected local dwellings. These were used together with concurrent wind speed measurements on the site of the Revised Development to establish noise limits for the wind turbines in accordance with best practice guidance. This assessment has concluded that the limits previously included in the planning conditions for the Consented Development (CL/15/0273) will be equally appropriate for, and can be complied with by, the Revised Development consisting of 13 wind turbines. It should, however be noted that the property at Station House is financially involved in the Revised Development and the applicable noise limits should therefore reflect this, as set out in Table 9.4 of Chapter 9. The noise immission levels at local noise-sensitive locations were calculated using internationally recognised prediction methods and the robust results were then compared with the proposed noise limits. The design of the wind farm was found to be capable of meeting these limits. Its effect on the noise environment experienced by local resident is therefore not significant.
- 10.37 The cumulative effects of the Revised Development and all relevant operational and consented wind turbines within 5 km of the proposed turbines were calculated in the same way. The methodology was expected to over-predict the cumulative noise immission levels and the excesses (if any) over the proposed noise limits were slight. The increase in noise from the Revised Development turbines over that already occurring or likely to occur from operational and consented wind farms will be subjectively unnoticeable at most locations, and within acceptable limits. The effect is therefore not significant.

Historic Environment

- 10.38 The full assessment of the effects on the historic environment is provided in Chapter 10 of the Revised Development ES.
- 10.39 In order to inform the Revised Development, a baseline study was undertaken using all readily available information sources within the set parameters of Inner (the site), Middle (up to 5 km from site), and Outer Study areas (up to 20 km from the site). The desk based assessment was supplemented by a comprehensive walkover survey of the Inner Study Area in order to identify any previously unknown historic environment assets.
- 10.40 The baseline study identified 22 sites within the Inner Study Area, and a further 16 sites within the Middle Study Area which had the potential to be affected by the Revised Development. No sites in the Outer Study Area were likely to be affected by the Revised Development.
- 10.41 A correlation of the information retrieved in the baseline study with the layout of the Revised Development identified a number of possible impacts. Early engagement with consultees, the completion

of the Historic Environment assessment for the Consented Development and consideration of potential effects allowed site infrastructure to be carefully plotted in order to reduce these impacts.

- 10.42 It is anticipated that four sites will be directly impacted by development to some degree. To mitigate against this, an archaeological watching brief will be maintained during all ground breaking works affecting those areas, predominantly south and west of the existing access track. Those sites which have been identified near proposed site infrastructure will be clearly delineated by an archaeological professional prior to site works commencing. This will ensure their protection from disturbance during the construction phase.
- 10.43 In conjunction with similar operational, consented and proposed developments in the local area, there will be no significant cumulative impact caused by the Revised Development. Overall, the study has shown the effect upon the identified sites of historical interest, both on the Revised Development site and in the surrounding area, will not be significant.

Hydrology, Hydrogeology and Geology

- 10.44 The full assessment of the effects on hydrology, hydrogeology and geology is provided in Chapter 11 of the Revised Development ES.
- 10.45 The Poniel Water, which is a tributary of the Douglas Water, flows from west to east along the north western boundary of the site in a partially diverted channel. It forms part of the overall catchment of the River Clyde. The Shiel Burn, Longhill Burn and Alder Burn are tributaries of the Poniel Water. These flow from south to north through the western, central and eastern parts of the site respectively. The burns which are present are considered within the assessment to have good water quality.
- 10.46 The rock beneath the site is typically carboniferous in nature, which is covered by stiff clay and topsoils and subsoils. The central and northern site areas have historically been subject to significant disturbance as a result of opencast coal mining operations.
- 10.47 Potential construction and operational effects include the risk of pollution of watercourses resulting in adverse effects on water quality and loss of soil integrity resulting in changes to drainage patterns and effects on the integrity of watercourse banks.
- 10.48 The mitigation measures committed to by the Applicant will be drawn together into a Construction Environmental Management Plan prior to the commencement of construction activities. These mitigation measures are considered to be robust and implementable and will reduce the magnitude of potential impacts on the water environment to minor. Therefore, there will be no significant residual effects on geology, surface water and groundwater, following the implementation of these mitigation measures.

Traffic and Transport

- 10.49 The full assessment of the effects on traffic and transport is provided in Chapter 12 of the Revised Development ES.
- 10.50 Access to the site is to be taken from the existing private road serving the former opencast coal mining site, connecting to the public road network at the western dumbbell roundabout of Junction 11 of the M74.
- 10.51 A review of abnormal load routing for the transport of wind turbine components has been undertaken from the intended Port of Entry at King George V Dock, Glasgow to the site. The route comprises the designated route to exit the Dock to reach the Motorway network within Glasgow (M8) before travelling east to the M74 and south to Junction 11 at Poniel, where the loads would pass underneath the M74. The loads would then take the 2nd exit at the M74 J11 western dumbbell roundabout and continue on the existing private road to the site.
- 10.52 The route has been successfully tested previously for other development proposals, but the north (Dock to Motorway) and south (Junction 11) sections have again been confirmed as suitable for the maximum component sizes envisaged at the Revised Development.

10.53 In relation to delivery of the wind turbine components it should be noted that in the case of extendable abnormal load trailers, these can be shortened prior to their return trip.

10.54 As part of the Revised Development, the principal contractor will prepare a Construction Traffic Management Plan (CTMP), detailing the management processes and proposed measures during the construction phase. It has been demonstrated that the impact of construction traffic on background traffic levels is negligible.

10.55 During the operational phase, traffic levels are projected to be negligible and able to be accommodated on the surrounding network.



Socio-Economics, Tourism and Recreation

10.56 The full assessment of the effects on socio-economics, tourism and recreation is provided in Chapter 13 of the Revised Development ES.

10.57 The socio-economic baseline for this chapter indicates that the proportion of working age people living in the Local Area is significantly older than either South Lanarkshire or Scotland as a whole. It also suggests that employment opportunities in the Local Area are primarily concentrated in the public sector. The creation of new job opportunities is therefore be an important priority for the area in order to attract and retain working age residents.

10.58 The significant beneficial socio-economic effects identified in this assessment included:

- a temporary, moderate beneficial effect on local tourism businesses arising from the expenditure of workers involved in the construction of the Revised Development;
- a temporary, moderate beneficial effect on the regional economy generated by construction related expenditure;
- a permanent, moderate beneficial effect on the local economy as a result of the ongoing operation of the Revised Development (this would include the permanent employment created to maintain the Revised Development);
- a permanent, moderate beneficial effect on the local tourism sector generated by the expenditure of additional tourists who might be attracted to the area by the development of a new Heritage Trail; and
- a permanent, moderate beneficial effect on local communities arising from the community benefit funding associated with the Revised Development.

10.59 The main driver of tourism activity in the local area is the New Lanark World Heritage Site and Visitor Centre. The tourism interest of this site is primarily linked to its historical importance and as such it is expected that visitors to the site would be relatively insensitive to changes in the wider landscape, beyond the immediate setting of New Lanark. In any case, the location of New Lanark, enclosed within the Clyde Valley means that the only views available from the village are of the river and immediate valley. The LVIA (Chapter 6) confirms that there will be no views of the Revised Development available from the New Lanark World Heritage Site.

10.60 This chapter also assessed potential effects on other tourism assets in the area (including Craignethan Castle, the Falls of Clyde Wildlife Reserve) as well as tourism routes and accommodation but did not find any evidence to suggest that the Revised Development would generate any significant adverse effect on any of these assets or on the tourism sector as a whole.

10.61 As this assessment did not identify any potentially significant adverse effects it was not necessary to consider mitigation but it was necessary to consider how the beneficial effects of the Revised Development could be maximised.

- 10.62 The Applicant has committed to taking a number of steps to ensure that benefits are maximised locally. The Applicant has previously demonstrated commitment to using local suppliers, and is supportive of initiatives to maximise local opportunities. This would ensure that supplier contracts are sourced locally wherever possible, sustaining local businesses and providing employment opportunities for local people. The Applicant is also proposing the delivery of an Access Strategy, including a Heritage Trail, with interpretation areas informed by community consultation.
- 10.63 The Revised Development represents a major investment in the South Lanarkshire and Scottish economies and would therefore deliver a range of positive economic impacts.
- During the development and construction phase the Revised Development would generate:
 - £ 12.4 million GVA and support 100 job years in South Lanarkshire; and
 - £ 37.0 million GVA and 330 job years in Scotland.
 - During each year of the operational phase the Revised Development would generate:
 - £ 1.1 million GVA and support 8 jobs in South Lanarkshire; and
 - £ 2.9 million GVA and 25 jobs in Scotland.
- 10.64 The total construction and operational cost of the Revised Development over its 25 year lifetime is estimated to be £ 220.4 million. Of this, more than half (69 %) is expected to be retained within Scotland.
- 10.65 Over the 25 year lifetime of the Revised Development, non-domestic rates estimated at almost £ 14.1 million and community benefit equating to a combined total of £ 6.1 million would be generated over the 25 year operational period of the Revised Development.

Aviation, Radar and Telecommunications

- 10.66 The full assessment of the effects on aviation, radar and telecommunication infrastructure is provided in Chapter 14 of the Revised Development ES.
- 10.67 Consultations have been conducted with Ofcom, the licensee of the mobile phone and emergency services networks, the utilities who operate wireless data networks at microwave and UHF frequencies, Arqiva who operate microwave fixed links and off-air rebroadcast links and National Air Traffic Service (NATS). Initial screening determined that no aerodrome operators would be affected.
- 10.68 Ofcom identified no links in the area. In addition, no objection responses were received from JRC and Atkins, representing the utilities and from the operators of the television broadcast infrastructure Arqiva. There is a very low risk of any interference from the Revised Development on domestic television reception.
- 10.69 The only impact identified was to NATS En-route radar at Lowther Hill and Cumbernauld. Dialogue with NATS in relation to the Consented Development at the site resulted in a contracted mitigation scheme. The contract will be amended to reflect the change to the Revised Development from the Consented Development such that NATS can again provide their approval, conditional upon the implementation of the mitigation scheme prior to turbine erection. The Revised Development will then generate no residual impacts.

Shadow Flicker

- 10.70 The full assessment on the effects of shadow flicker is provided in Chapter 15 of the Revised Development ES.
- 10.71 This assessment considers whether the effect known as ‘shadow flicker’ is likely to be caused by the Revised Development and assesses the potential for impact on sensitive receptors. Shadow flicker is the effect of the sun passing behind the moving rotors of the turbines, casting a flickering shadow through the windows and doors of neighbouring properties. This occurs in certain combinations of geographical position, time of day, time of year and specific weather conditions.
- 10.72 Turbine components will be covered in industry standard non-reflective paint to reduce the occurrence of glinting. No shadow flicker impact can occur during the construction or the decommissioning of the turbines.

- 10.73 The study area within which properties could potentially be affected by shadow flicker covers a distance of 10 rotor diameters from each turbine and lies 130 degrees either side of north (relative to each turbine). In the case of the Revised Development, this area extends to 1,320 m from each turbine.
- 10.74 A shadow flicker assessment was undertaken at the six identified receptors within the study area with potential to experience flicker effects. This assessment concluded that there would be no significant shadow flicker effects created by the Revised Development, either in isolation or in combination with other consented wind farm developments.
- 10.75 Notwithstanding this conclusion, industry standard mitigation measures are proposed which relate to the imposition of a Shadow Flicker Protocol to be agreed with SLC which could include a programme of selective automatic shutdown of certain turbine(s) under certain conditions, if required.
- 10.76 The residual effect of shadow flicker is, therefore, expected to be of no significance for all receptors during the operational phase of the Revised Development.

11. Benefits of the Revised Development

11.1 The assessment of the Revised Development has identified the following key benefits which would be delivered by the project.

- The principle of a large wind farm on this site has already been established by the Consented Development (ref. CL/15/0273).
- With two fewer turbines (13% decrease) than the Consented Development, and a modest 18.9m increase (14%) in tip height (and no increase in hub height), the Revised Development can achieve a 25% increase in energy production through the use of new modern and efficient turbines.
- The need for renewable energy development and the transition to a low carbon economy supplied by indigenous sources is strongly supported by national legislation, energy and planning policy. The Revised Development would make a marked and positive contribution to the Scottish Government's target of meeting an equivalent of 100 % demand for electricity from renewable sources by 2020.
- The Revised Development would have a total capacity of 49MW, generated by thirteen ~3.8MW turbines which together would produce around 137 GWh/year of clean power which would generate enough electricity to supply over 34,300 average UK households.
- The Revised Development would have a positive impact on the reduction of greenhouse gas emissions, resulting in a saving of approximately 58,910 tCO₂ per year through the displacement of carbon-emitting generation.
- Energy generated from renewable sources makes a significant contribution to Scotland and the UK's energy security. The Revised Development will increase indigenous production of renewable energy in Scotland, reducing the country's reliance on foreign fossil fuels, generating wealth from our own natural resources, and improving the country's energy security.
- The Revised Development represents a significant investment in the local area, injecting money into the local economy and creating both temporary construction jobs and longer-term operational contracting and employment opportunities. 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 Revised Development creates an opportunity to improve public access through the site and reinstate a formal footpath link between Douglas and Coalburn, a key issue identified during the pre-application consultation exercise with the local community.
- The proposed Heritage Trail represents an opportunity to improve access to, and understanding of, interesting local heritage sites which are important parts of the area's history. The Heritage Trail also has the potential to provide an interesting part of the missing link between two of Scotland's key long distance walking routes: the Clyde Walkway and the River Ayr Way, which

would enhance the existing tourism and recreation offering in the local area, bringing more passing trade and visitors to Douglas and Coalburn.

- The Revised Development represents a positive re-use of part of a former opencast coal site and provides an opportunity to implement a Habitat Management Plan to improve the habitats and nature conservation interests of the former opencast mine.
- Co-location of the Revised Development with the M74 Heat & Power Park presents a significant opportunity for the local area to encourage industrial/logistics businesses to locate here through the excellent motorway access and provision of clean, low-cost electricity from the Revised Development (in addition to the on-site CHP Plant). This accords with local aspirations set out in the Coalburn, Douglas and Glespin Community Action Plan (August 2016) which seeks to “maximise opportunities to attract new industry through the area’s direct access to/from the M74 motorway (Junctions 11 & 12) - one of the area’s key assets in attracting inward investment”.
- The Applicant will make a Community Benefit Contribution of £5,000 / MW of installed capacity from the Revised Development which means that the project would generate a £6.1 million Community Benefit Contribution (based on a total installed capacity of 49 MW) to Douglas Valley communities over its lifetime. The aim of this funding will be to support the delivery of strategic projects in Douglas, Coalburn and the immediate surrounding area over the next 25 years, with the final distribution mechanism to be agreed with SLC and local communities
- Pre-application consultation has been undertaken with the local community in the form of two public events held in Douglas and Coalburn. Feedback from the two closest communities to the Revised Development has been broadly neutral, with both communities recognising the change in financial circumstances for onshore wind projects in the UK since the application for the Consented Development was made.
- If approved, the Revised Development will be capable of rising to the challenge set by the Scottish Government for the onshore wind industry in Scotland to start building wind farms subsidy-free.
- Section 25 of the Town and Country Planning (Scotland) Act 1997 requires decisions on planning applications to be made in accordance with the provisions of the Development Plan, unless material considerations indicate otherwise. The Revised Development has been assessed against relevant policies contained within the Development Plan and has been found to comply with the terms of these policies. No material considerations have been identified which indicate that the development should not proceed.

12. Conclusion

- 12.1 This Non-Technical Summary of the ES provides an overview of the EIA undertaken for the Revised Development. Within Chapter 17 of the ES a schedule of commitments can be found which details the environmental mitigation measures, summarised above, which the Applicant has committed to implement.
- 12.2 Chapters 16 to 18 of the ES summarise the potential effects, the mitigation to be implemented and the resulting residual effects. It also provides a summary of the cumulative effects of the Revised Development in combination with other proposed, consented and operational developments.
- 12.3 The final layout has been informed by a robust EIA and lengthy design iteration process, taking into account 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 assessment undertaken.
- 12.4 Consideration has been given to a range of design issues such as relevant planning policy, turbine models, turbine locations as well as various environmental, ecological and technical requirements. Predicted environmental effects arising from the Revised Development have been mitigated as far as possible, if not eliminated during the iterative design process.

12.5 Overall the Revised Development is an appropriately designed, sensibly located, and completely sustainable development which is in line with policies in the local and strategic development plans and conforms to national policy. The revisions to the Consented Development have been designed to maximise energy production, within acceptable limits, to ensure that the project is viable in a subsidy free market. The Revised Development will provide a valuable contribution towards the ambitious national targets for electricity generation from renewable sources, and contribute towards sustainable economic growth in South Lanarkshire and Scotland as a whole.



KEY
 Planning Application Boundary



0 0.5 1 2 Km
 Scale 1:50,000 @ A3

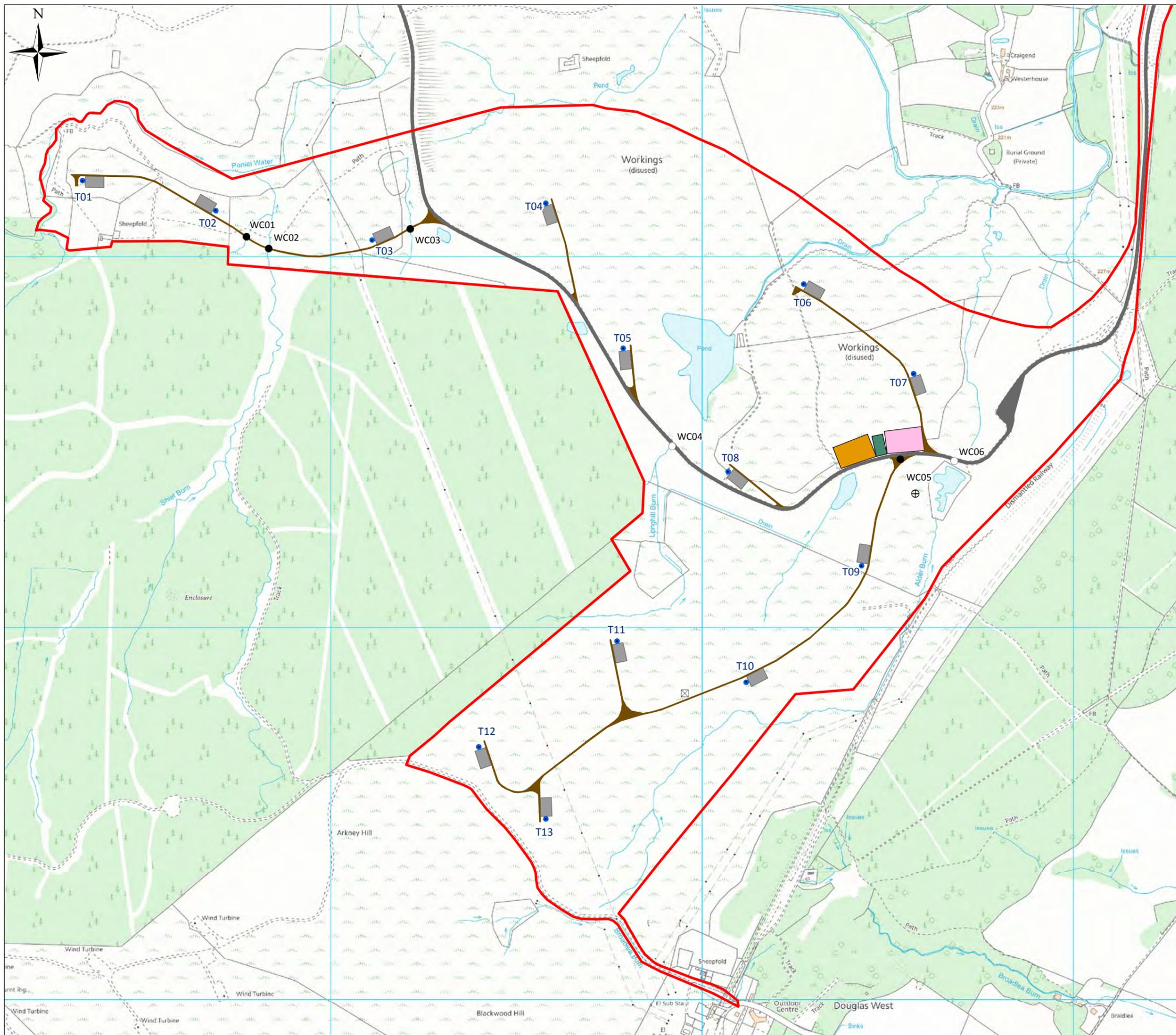


Douglas West Wind Farm
 Amendments to Consented Development
Environmental Statement

Figure 1.1

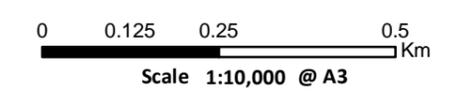
Site Location Plan

10728-001 - AH/JH - 18/08/17



KEY

	Planning Application Boundary
	Existing Access Road (Coal Road)
	Turbine Location
	Indicative New Access Track
	Hardstanding
	Substation & Control Room Building
	Construction Compound
	Concrete Batching Area / Temporary Turbine Component Laydown Area
	Permanent Met Mast Location
	Existing Met Mast Location
	Existing Water Crossing
	New Water Crossing



Douglas West Wind Farm
Amendments to Consented Development
Environmental Statement

Figure 3.5

Site Layout Plan

10728-001 - AH/OM - 11/10/17