# Broken Cross

## Supplementary Environmental Information Report – Non-Technical Summary – Non-Technical Summary

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| Client: | Broken Cross Wind Farm Limited |
| Project/Proposal No: | 6110 |
| Date: | 2023-11-29 |

# Document Information

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| Document Title: | Supplementary Environmental Information Report – Non-Technical Summary |
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# Contents

# 1. Introduction

## 1.1 Background

Broken Cross Wind Farm Limited (hereafter referred to as "the Applicant") is submitting an application to South Lanarkshire Council (SLC) under Section 42 of the Town and Country Planning (Scotland) Act 1997 as amended, to develop the Broken Cross 2019 Energy Project (the "approved development") without compliance with conditions previously attached (referred to as a "Section 42 application").

The approved development is a 10-turbine wind energy project on a former opencast mining site approximately 6.3 km to the south-west of Lanark and immediately to the east of the M74 motorway (**Figure 1.1**).

An application for planning permission was submitted to SLC in October 2019 under the Town and Country Planning (Scotland) Act 1997 as amended, and was supported by an Environmental Impact Assessment Report (EIA Report) as required by the Environmental Impact Assessment (Scotland) Regulations 2017.

SLC granted planning permission for the development on 22nd April 2021 (ref. P/19/1636). The planning permission has 34 conditions attached to it. Some of the planning conditions required actions to be undertaken prior to commencement of construction. All such pre-commencement conditions have been completed and discharged by SLC, as the approved development has progressed through the pre-construction phase and is now in construction.

Pre-construction detailed ground investigation works have identified that the approved location of Turbine 8 (T8) is not feasible due to exceptionally difficult ground conditions. The Applicant is therefore proposing to re-site T8 to an alternative location, within the red line boundary of the approved development, where ground conditions are suitable for development. A small (approximately 3m by 3m) meter housing adjacent to T2 is also required, to allow T8 to be connected to the grid.

Additionally, in the time elapsed since planning permission was granted, progress in technology and operational methods for wind energy projects in Scotland are such that the typical operational lifespan of commercial-scale projects tends to be longer than the 25 years allowed by the Development's planning permission. To maximise the renewable energy generation capability and benefits to be achieved from the Development, the Applicant considers that an operational lifetime of 30 years is appropriate.

The proposed amended development, taking account of the above changes, will hereafter be referred to as the "Proposed Development".

If the Section 42 application is approved, then a new planning permission will be issued by SLC, with a new set of planning conditions attached. Appendix 1 to the Supplementary Environmental Information Report provides a schedule of proposed planning conditions, amended to reflect the above changes to the development, and to reflect the pre-commencement conditions that have already been discharged.

## 1.2 Purpose of the SEI Report

This Supplementary Environmental Information (SEI) Report provides information on the Proposed Development, including a description of the proposed changes to the approved development, and an assessment of environmental effects. The assessment is proportionate and targeted, focusing on environmental effects which have the potential to be materially altered by the proposed change to T8 location, as discussed and agreed with SLC, and by the proposed longer operational lifetime.

Although the SEI Report supersedes certain elements of the 2019 EIA Report[1], it should be read in conjunction with the 2019 EIA Report.

[1] Broken Cross 2019 Energy Project Environmental Impact Assessment Report (ITPEnergised, October 2019).

# 2. The Proposed Development

## 2.1 Site Description

The site covers an area of 276 ha and forms part of a former surface coal mine (Broken Cross). The site is located just north of Junction 11 of the M74, on the east side of the motorway (**Figure 1.1**). Since planning permission was granted, ground investigations, preparatory works, and construction works for the approved development have been undertaken on-site. All turbines apart from T8 are currently being constructed.

## 2.2 Proposed Development Description

**Figure 2.1** illustrates the Proposed Development. **Figure 2.2** shows the Proposed Development as well as showing the approved T8 location (which would not be constructed, but would be replaced by the proposed T8), for reference.

The Proposed Development consists of ten wind turbines with a maximum blade tip height of up to 149.9 m, nine turbines of which are currently being constructed.

The candidate turbine parameters are unchanged from the 2019 EIA Report and are as follows: overall height (to blade tip) maximum 149.9 m, rotor diameter up to 136 m, and hub height of approximately 82 m.

### 2.2.1 Revised T8 Location

The proposed final locations of the turbines are unchanged from the approved development, with the exception of T8. It is proposed to amend the location of T8 to a position approximately 1 km south-west of the approved location, as per **Table 2.1** below and **Figure 2.1**.

*Table 2.1 – Approved and Proposed Amended T8 Coordinates (British National Grid)*

| Approved T8 Location | | Proposed Revised T8 Location | |
|---|---|---|---|
| Easting | Northing | Easting | Northing |
| 285094 | 637877 | 284614 | 636927 |

### 2.2.2 Additional Meter Adjacent to T2

Due to the proposed relocation of T8, an additional small meter housing is required adjacent to T2, to allow T8 to be connected into the grid. This housing will be up to 3m by 3m in plan, as shown on **Figure 2.1**.

### 2.2.3 Revised Operational Lifetime

It is proposed that the operational lifetime of the Development will be 30 years instead of the 25 years currently allowed in accordance with Planning Condition 3 to the extant planning permission (refer to the proposed amended planning condition in **Appendix 1**). As noted in Section 1.1 above, this proposed change reflects progress in technology and operational methods for wind energy projects in Scotland, and seeks to maximise the renewable energy generation capability and benefits to be achieved from the Development.

### 2.2.4 Design Iteration and Consideration of Alternatives

Chapter 2 of the 2019 EIA Report provides full details of the design evolution for the approved development.

Following detailed intrusive ground investigation works which were undertaken after planning permission was granted for the approved development, it was identified that the ground conditions at the approved T8 location were unsuitable, and alternative locations with more favourable ground conditions were sought.

Taking account of suitable inter-turbine spacing, topography, ground conditions, and operational efficiency, the Applicant identified four prospective T8 locations for further consideration. A review of potential

environmental, landscape and visual constraints and impacts was undertaken for each location. This involved review of existing data from previous surveys and studies undertaken at the site, as well as consideration of design principles and potential effects on key viewpoints.

The proposed T8 location noted above in Table 2.1 was selected as being most suitable. This location is within the red line boundary of the approved development, and it is on natural ground (i.e. outside the backfilled mining void). The location is on relatively flat topography, and is at the edge of a woodland area which has already been felled as per the approved development description. No significant constraints were identified in respect of ecology, hydrology, peat, cultural heritage, noise or shadow flicker.

## 2.3 Carbon Considerations

The annual indicative total power output of the development is anticipated to be around 119.9 gigawatt hours (GWh). For the 25-year lifespan of the approved development, this equates to approximately 2,999 GWh of renewable electricity generation. The Proposed Development operational lifespan is 30 years, therefore the total estimated renewable electricity generation for this longer lifespan is 3,598 GWh (600 GWh more than the approved development, due to the longer lifespan).

The total carbon saved over the 25-year operational lifespan of the approved development, taking account of estimated life-cycle carbon losses, is estimated to be 1.25 million tonnes. For the increased operational lifespan of 30 years, the total carbon estimated to be saved, again taking account of estimated life-cycle carbon losses, is 1.5 million tonnes. The Proposed Development would therefore result in an additional 0.25 million tonnes of carbon saved through displacement of fossil fuel power generation.

# 3. Approach to SEI

## 3.1 Overview

The SEI Report provides information on the Proposed Development, including a description of the proposed changes to the approved development, and an assessment of environmental effects arising from those changes. The assessment has been carried out in consultation with SLC, and follows the requirements of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) and relevant good practice guidance.

The assessment is proportionate and targeted, focusing on environmental effects which have the potential to be materially altered by the proposed changes to the approved development.

The potential for the significance of cumulative effects to change, due to the proposed changes to the approved development, has been considered. However, this assessment has been based on the cumulative baseline at the time of the 2019 EIA, only considering the potential for the proposed changes to the development to result in a change to the assessed cumulative effects. An updated review of the cumulative baseline (i.e. updated identification of other operational, approved and proposed wind energy developments in the vicinity) has not been undertaken, because any such developments which were proposed, approved or constructed after planning permission for the Broken Cross Wind Energy project was granted will have needed to consider the approved development as part of the cumulative assessments undertaken to inform their respective applications. Re-visiting those assessments as part of a new cumulative impact assessment for the Proposed Development would therefore be unwarranted.

## 3.2 Availability of the SEI

The SEI Report will be available to purchase for a cost of £215 for hard copies, or £15 for a DVD/USB, from Broken-Cross@baywa-re.co.uk. The SEI Report can also be accessed on the Applicant's website at https://www.baywa-re.co.uk/en/wind/broken-cross-wind-farm.

Copies of the Non-Technical Summary are available free of charge from Broken-Cross@baywa-re.co.uk.

Copies of this SEI Report will be available for viewing during opening hours at the following locations:

South Lanarkshire Council Planning and Building Standards HQ Office – Hamilton
Floor 6, Council Offices, Almada Street
Hamilton
South Lanarkshire
ML3 0AA

Coalburn Miners' Welfare One Stop Shop
42 Coalburn Road
Coalburn
ML11 0LH

## 3.3 Representations to the SEI

Any representations to the application should be made directly to the SLC Planning Department at:

Planning and Building Standards
Floor 6, Council Offices, Almada Street
Hamilton
South Lanarkshire
ML3 0AA

Email: planning@southlanarkshire.gov.uk

Website at which the planning application can be viewed and commented on:

https://www.southlanarkshire.gov.uk/info/200218/planning_for_householders/1633/view_planning_applications

# 4. Policy Review

Section 4 of the SEI Report provides a high-level review of relevant planning policy applicable to the Proposed Development. A brief summary is provided below.

National Planning Framework 4 (NPF4) received final approval from the Scottish Parliament on the 11th of January 2023 and was adopted by the Scottish Ministers on the 13th of February 2023. Therefore, the statutory Development Plan covering the Proposed Development site now consists of NPF4 and the South Lanarkshire Council Local Development Plan (LDP), which was adopted in April 2021.

NPF4 seeks to enable more renewable energy generation in Scotland, outside National Parks and National Scenic Areas, to support the transition away from reliance on fossil fuels.

The Proposed Development aligns with relevant NPF4 and LDP policies, namely:

- NPF4 Policy 1 – Tackling the Climate and Nature Crisis;
- NPF4 Policy 3 – Biodiversity;
- NPF4 Policy 5 – Soils;
- NPF4 Policy 11 – Energy;
- LDP Policy 14 – Natural and Historic Environment;
- LDP Policy 15 – Travel and Transport;
- LDP Policy 16 – Water Environment and Flooding; and
- LDP Policy 18 – Renewable Energy.

# 5. Ecology and Biodiversity

As reported in the 2019 EIA Report, no sites designated for nature conservation were identified as being at risk from the development, and this is not altered by the proposed change to T8 location and extension of operational lifetime.

Taking account of standard mitigation measures as set out in Section 5.8 of the 2019 EIA Report, predicted effects were considered to be barely perceptible and therefore not significant.

A review of the proposed T8 location identifies that it is within a thin strip of wet modified bog habitat. The hardstanding and short section of access track to reach the proposed T8 location would extend across an area of dry dwarf shrub heath. The small meter housing adjacent to T2 is within coniferous woodland plantation habitat (the woodland having already been felled for construction of the approved development).

The bog habitat and coniferous woodland habitat at the site were ascribed a value of less than local, as reported in the 2019 EIA Report. The dry dwarf shrub heath habitat was assessed as being of local value. Given the very small area of this habitat that would be lost due to construction of the T8 hardstanding and track (0.24 ha including permanent loss and temporary loss during construction, which is 3% of the dry dwarf shrub heath recorded at the site), the magnitude of impact on this habitat is low, and the significance of effect is assessed as minor and not significant.

Protected species surveys identified no sensitivities associated with the proposed T8 location, and no changes to the assessed effects as reported in the 2019 EIA Report are predicted.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted, which remains consistent with the 2019 EIA Report for the approved development.

No change to the cumulative risk assessment results from the proposed changes to the development.

The previously approved Habitat Management Plan will be reviewed to identify potential amendments or additional measures to deliver biodiversity enhancement, beyond protection of ecological receptors.

# 6. Ornithology

As reported in the 2019 EIA Report, no sites designated for ornithological interests were identified as being at risk from the development, and this is not altered by the proposed change to T8 location and extension of operational lifetime.

Levels of bird flight activity at the site were low, during surveys which informed the 2019 EIA Report. However, for the purposes of completeness, collision risk modelling was undertaken for peregrine, golden plover and curlew. Taking account of standard mitigation measures as set out in Section 6.7 of the 2019 EIA Report, predicted effects were considered to be low to barely perceptible and therefore not significant.

No changes to the calculation of estimated annual collision risk would result from the proposed T8 relocation. The proposed extended operational lifetime, from 25 to 30 years, would result in potential for a slight increase in the estimated total collision risk over the operational life of the Proposed Development. However, the level of effect from predicted collisions over the project lifetime would remain barely perceptible for all species for which collision risk modelling was undertaken.

The potential disturbance and displacement effects associated with the Proposed Development would be unchanged from the barely perceptible to low significance as reported in the 2019 EIA Report.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted, which remains consistent with the 2019 EIA Report for the approved development.

No change to the cumulative risk assessment results from the proposed changes to the development.

The previously approved Habitat Management Plan will be reviewed to identify potential amendments or additional measures to deliver biodiversity enhancement, beyond protection of ornithological receptors.

# 7. Landscape and Visual Impacts

In terms of landscape effects, the proposed turbine relocation would occur within the Plateau Moorlands Opencast Mining (6D) Landscape Character Type (LCT), where T8 would move from its northern edge to a position in the west of the LCT sub-unit. Accordingly, the overall extent of development within the LCT would remain consistent with the approved development. In addition, as the proposed relocation would occur within LCT 6D, no direct effects are anticipated on the adjacent Plateau Farmlands (5) LCT, and indirect effects on LCT 5 were found to be negligible.

In terms of visual effects, analysis of comparative Zone of Theoretical Visibility (ZTV) mapping shows that there would be a decrease in overall visibility resulting from the relocation of T8, resulting in a slight beneficial visual effect compared to the approved development. Regarding the comparative assessment of five key viewpoints located within 5km of the site, whilst there would be a limited change in view as a result of the proposals, there would be no change to the magnitude of change; nature and degree of effect; and the overall significance of any of the effects anticipated.

In summary, the assessment finds that the proposed relocation of T8 would not lead to any notable change in anticipated landscape and visual effects, nor any change to the degree and significance attributed to them.

The proposed change in operational lifespan of the Proposed Development from 25 years to 30 years has no effect on the assessment of landscape and visual impacts.

# 8. Historic Environment

As reported in the 2019 EIA Report, the approved development was anticipated to have a direct impact on a small proportion of an undesignated on-site archaeological asset (a post-medieval field system related to a nearby enclosure), resulting in a marginal impact magnitude, the level of effect from which would be negligible and not significant. The proposed relocation of T8 and inclusion of a small meter housing adjacent to T2 does not change this assessment. No direct impacts on any other known features within the site were predicted, and this also does not change due to the proposed design amendments.

The proposed relocation of T8 is not considered to result in any change to the effects on the settings of heritage assets in the surrounding area, as reported in the 2019 EIA Report.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted for the Proposed Development, which remains consistent with the 2019 EIA Report for the approved development.

No change to the cumulative risk assessment results from the proposed changes to the development.

# 9. Noise and Vibration

Noise modelling has been undertaken to consider the ability of the Proposed Development to meet appropriate noise limits at the closest noise sensitive receptors (NSRs). An assessment of cumulative noise effects from the Proposed Development together with other relevant wind turbines in the vicinity (those which were either operational, approved, or at a more advanced stage of the planning process than the Broken Cross development at the time of the 2019 EIA Report) has also been undertaken.

The assessment has considered appropriate noise limits as proposed in the 2019 EIA Report. The proposed noise limits apply cumulatively, and meet the requirements of the approved noise limits provided in Condition 06 of the planning permission that was granted for the approved development.

The assessment of the updated layout (i.e. the Proposed Development) comprised:

- Movement of T8 to the new location within the noise model;
- Prediction of operational noise levels from the Proposed Development across the range of operational wind speeds; and
- Evaluation of the updated predicted noise levels against the approved noise limits, for operation both in isolation and cumulatively with other turbines (operational/approved at the time of the 2019 EIA Report).

Based on the modelling undertaken, the predicted operational noise levels for the Proposed Development operating in isolation and operating cumulatively with other wind turbines (as per the cumulative situation at the time of the 2019 EIA Report) meet the noise limits derived and reported in the 2019 EIA Report. Those derived limits were reflected in the planning conditions attached to the planning permission for the approved development. This assessment confirms that no changes to the noise-related planning conditions are required (as reflected in the schedule of proposed planning conditions in Appendix 1 to the SEI Report).

Noise effects associated with the Proposed Development therefore remain not significant, and no mitigation is proposed.

# 10. Shadow Flicker

As reported in the 2019 EIA Report, calculations showed that the occurrence of shadow flicker at all relevant receptors was anticipated to be well within the accepted limits for shadow flicker, of either 30 minutes per day or less than 30 hours per year.

Given that the proposed relocated site of T8 is within the area of the approved turbine array, there is no change to the study area, and no change to the anticipated extent or severity of shadow flicker at any relevant receptors.

Taking account of the committed mitigation, no significant adverse residual effects are predicted, and no significant cumulative effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

# 11. Socio-economics, Recreation and Tourism

As reported in the 2019 EIA Report, the assessment concluded that the Proposed Development would result in no significant residual effects and no significant cumulative effects on socio-economic, tourism and recreational receptors.

The proposed relocation of T8 and the proposed extension of the operational lifespan from 25 to 30 years do not materially affect the assessment of socio-economic, tourism and recreational receptors. The beneficial socio-economic effects from generation of employment, indirect salary spend by project workers in the local area, and community benefit payments, are anticipated to increase slightly due to the longer operational lifespan, but the significance of effect (minor beneficial) is unchanged.

Taking account of the committed mitigation, predicted residual effects range from minor adverse to minor beneficial (not significant) and are unchanged from the 2019 EIA. No significant cumulative effects are predicted.

# 12. Aviation and Telecoms

As reported in the 2019 EIA Report, the turbines are visible to Lowther Hill and Cumbernauld radars, and there is therefore a requirement to mitigate the impacts of the development. A radar mitigation scheme has been agreed, and formal mitigation contracts were agreed in April 2016. The mitigation solution for the Proposed Development will be implemented to the satisfaction of aviation stakeholders. Taking account of the committed mitigation, no significant adverse residual aviation effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

The proposed relocation of T8 does not change the assessment of effects on telecommunications links, which concluded (as reported in the 2019 EIA Report) no significant adverse effects.

No significant cumulative effects are predicted.

# 13. Transport and Access

The proposed relocation of T8 within the turbine array results in no change to the assessment of transport and access effects. The abnormal load delivery route will be as previously proposed, and the anticipated construction traffic volumes and duration of works will be unchanged.

Taking account of the committed mitigation, no significant adverse residual effects are predicted, and no significant cumulative effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

# 14. Geology, Hydrology and Hydrogeology

As reported in the 2019 EIA Report, no significant residual effects were predicted, resulting from the construction, operation or decommissioning of the approved development.

The proposed relocation of T8 and inclusion of a small meter housing adjacent to T2 do not change the previous assessment. No geological features of note are present at the proposed T8 location or the proposed meter housing location. There are no surface watercourses in the vicinity of the proposed T8 location or the proposed meter housing location, and no watercourses need to be crossed by the proposed short stretch of access track required to reach T8. The recorded peat depths from probes at and around the proposed T8 location and the proposed meter housing location are either nil or less than 10 cm. Peat slide risk at these locations is assessed as negligible.

Taking account of the committed mitigation measures, no significant adverse residual effects are predicted. This remains consistent with the 2019 EIA Report for the approved development.

No significant cumulative effects are predicted.

# 15. Conclusion

The proposed relocation of T8 within the approved turbine array area, the addition of a small meter housing adjacent to T2, and the proposed extension of the operational lifespan of the development from 25 to 30 years, have been assessed as resulting in no change to the significance of environmental effects as reported in the 2019 EIA Report.

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