



ESB Asset Development UK Ltd

Millmoor Rig Wind Farm

Further Environmental Information – Chapter 9 Conclusion

663320

AUGUST 2025



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9 CONCLUSION

Changes to Findings of EIA

- 9.1 The FEI Report has been developed to address a number of required actions set out in consultee comments. The report has further taken consideration of the revisions to the Proposed Development, namely re-alignment of the site access at Carter Burn and Black Burn, re-positioning of T9, T11 and T13, modifications to ancillary infrastructure, biodiversity enhancement through the provision of an updated Outline Habitat Management Plan (OHMP) and updated wind farm forestry plans.
- 9.2 The following sections summarise what the implications for all the environmental subjects covered in the EIA Report are in relation to the proposed (FEI Layout).

Cultural heritage and Archaeology

- 9.3 Historic Environment Scotland (HES) raised concerns of the potential for direct impacts on Scheduled Monuments along the site access and requested more detail on the proposed crossing of the Carter Burn. In particular, HES raised concern over potential direct impacts on SM6602 Martinlee Sike, farmstead, field system and assart bank, The Applicant undertook further surveys and redesigned the site access to bypass all the Scheduled Monuments along the site access route. This route was ground-truthed during a joint site visit with HES. With the newly re-aligned site access, the Applicant has demonstrated that direct impacts on all Scheduled Monuments adjacent to the site access would be avoided and that the proposed re-alignment of the site access was not incompatible with national policy. No construction phase or operational phase effects on any Scheduled Monument adjacent to the site access are predicted.
- 9.4 HES objected to the location of turbine T11 as it could have direct impacts on the Scheduled Monument section of the Wheel Causeway (SM3423) and requested that it was moved beyond topple distance. HES also raised concern regarding the impact of Turbine T11 on the setting of SM3423. Following field surveys and consideration of constraints and other comments from the Scottish Borders Council Landscape Officer T11, T9 and T5 were all moved.
- 9.5 SM3423 now lies outside the topple distance of Turbine T11 and no direct impact on the monument is predicted.
- 9.6  concluded that the re-location of turbine T11 has also appropriately addressed the concerns raised by HES and the SBC Archaeology Officer regarding the impact of the Proposed Development on the setting of SM3423. The conclusion of a **minor adverse** significance of effect on the cultural significance of this asset caused through change to its setting as stated in the EIA Report remains valid. This is **not significant** in EIA terms.
- 9.7 It is concluded that in the event of turbine T10 toppling, the Proposed Development could have a **negligible adverse** significance of effect on the nearest non-designated section of the Wheel Causeway (344244). This is **not significant** in EIA terms. Mitigation has been proposed in the event of this occurring and a **negligible adverse** residual effect is

predicted following the implementation of this mitigation in the event that turbine T10 topples.

- 9.8 A **negligible adverse** significance of effect is predicted on the cultural significance of non-designated sections of the Wheel Causeway (179517 / 344244) caused through change to their setting. This is **not significant** in EIA terms.
- 9.9 It is concluded that the **minor adverse** significance of effects predicted on Tamshiel Rig, fort, settlement and field system (SM10605), Rubers Law, fort & Roman signal station (SM2129), Bonchester Hill, earthworks (SM2172) and Southdean Law, fort & settlement (SM2211) as stated in the EIA Report remain valid. These are **not significant** in EIA Terms.

Landscape and visual amenity

- 9.10 The FEI Layout has responded to the consultee comments raised, turbine T9 has been relocated approximately 140m to the south, turbine T11 has been relocated approximately 175m to the east south east and turbine T13 has been relocated approximately 55m to the north. These changes have resulted in a more consistent spacing between turbines T9 to T12, which has reduced the appearance of outliers and the prominence of turbines on the skyline of some views.
- 9.11 The relocation of turbine T9 has reduced the total number of visible aviation warning lights from six to five and a revised reduced aviation warning lighting scheme has been agreed with the CAA.
- 9.12 In terms of changes to the effects on landscape character, it is concluded that now that Pines Burn Wind Farm is operational, the extent of significant landscape character effects during daylight hours to the west of the Proposed Development experienced by LCT 4 (iii) – Southern Uplands with Scattered Forest – Cauldcleuch Head Group - Scottish Borders has reduced from approximately 5 km to 3 km due to the greater influence of Pines Burn Wind Farm on this part of the LCT.
- 9.13 During the hour of darkness, the magnitude of change introduced by the aviation warning lights on LCT 5i(ii) Southern Uplands Forest Covered Wauchope/Newcastleton within approximately 5km to the west, south and east reduces to medium. However, effects would remain moderate and significant.
- 9.14 The effects during the hours on darkness on LCT 4 (iii) – Southern Uplands with Scattered Forest – Cauldcleuch Head Group within approximately 5 km to the west of the Proposed Development would remain moderate but would no longer be considered significant.
- 9.15 During the hours of darkness, the magnitude of change to LCT 7 – Cheviot Foothills – Falla Group within approximately 5 km to the north and east would reduce to low medium with effects reducing to moderate and would no longer be considered significant.
- 9.16 During the hours of darkness, the magnitude of change experienced by LCT 11(i) – Grassland with Hills – Bonchester/Dunion within approximately 5 km would reduce to low medium with effects reducing to moderate and would no longer be considered significant.
- 9.17 In relation to changes to the effects on visual receptors, it is considered that during daylight hours, the effects would remain as reported in **Table 6.9** of **Chapter 6** of the **EIA**

Report for all representative viewpoints and visual receptor groups brought forward into detailed assessment.

- 9.18 During the hours of darkness, it is concluded that the magnitude of change experienced at viewpoints 1 and 4 reduces to medium, with effects judged to be moderate and not significant. The magnitude of change experienced at Viewpoint 5 reduces to low medium with effects remaining moderate but they would no longer be considered significant.
- 9.19 During the hours of darkness, from Viewpoint 6, the magnitude of change reduces to medium high with effects reducing to moderate major but would remain significant. From Viewpoint 8, effects would remain moderate but would no longer be considered significant.
- 9.20 During the hours of darkness, from Viewpoint 14, the magnitude of change would reduce to medium, with effects reducing to moderate but remaining significant.
- 9.21 From residential properties identified in the **EIA Report** as experience a significant visual effect during the hours of darkness, it is assessed that magnitude of change experienced at Property 7 – Dykeraw Farm Cottage and Property 9 – Dykeraw Farmhouse reduces to low and the level of effect reduces to moderate with effects no longer considered to be significant. From Property 10 – Southdean Lodge Bothy, Property 11 – Southdean Lodge and Property 12 – Charlie’s Hill, it is assessed that the magnitude of visual change reduces to medium, with effects reducing to moderate major. However, effects from Property 10, 11 and 12 would remain significant.
- 9.22 In terms of effects on settlements, it is considered that the magnitude of visual change experienced during the hours of darkness from Chesters reduces to medium and the level of effect reduces to moderate and would no longer be considered significant.
- 9.23 During the hours of darkness, from the routes and paths identified in the **EIA Report** as experiencing a significant visual effect, it is assessed that the magnitude of change experienced by receptors walking the Bonchester Bridge & Hill Promoted Path reduces to low medium, with effects remaining moderate but would no longer be considered significant.
- 9.24 Receptors travelling along the approximate 5.1 km section of the Borders Loop between Doorpool and Chesters during the hours of darkness reduces to medium, with effects reducing to moderate and not significant.
- 9.25 In relation to receptors travelling on the various roads identified in the **EIA Report** as experiencing a significant effect, during the hours of darkness the magnitude of change reduces to medium, with effects assessed as moderate and not significant.
- 9.26 Regarding cumulative effects, in the intervening period since the submission of the EIA Report in 2022, Pines Burn Wind Farm is now operational, and Faw Side was refused in 2023 following a PLI. In relation to cumulative effects on landscape character, it is assessed that there would be no change to the updated effects on landscape character identified in this FEI in either Cumulative Scenario 1 or Cumulative Scenario 2.
- 9.27 Cumulative effects on visual amenity and cumulative sequential effects would remain the same as those identified in **Chapter 6** of the **EIA Report**.

Geology, hydrogeology, hydrology and peat

- 9.28 Additional peat depth data have been collected to inform this FEI Report, leading to updates to the Technical Appendix 10.1 Peat Management Plan. The FEI Layout has led to a 23.2% increase in peat required to be excavated for construction of the Proposed Development. However, since the majority of the site is not underlain by peat, excavations volumes are still relatively modest, and overall impacts to peat are not considered to be significant. Furthermore, there is ample opportunity to reuse excavated peat on site for dressing off the edges of tracks and infrastructure.
- 9.29 Concerns raised by Ironside Farrar regarding peat slide risk at the site have been addressed in this report with photographs and figures to provide additional detail and clarity. In summary, pockets of peat throughout the site are sporadic and are generally not associated with infrastructure. Ground across the site has been significantly disturbed due to felling and planting activity but, despite this, no signs of instability were observed within the site during site surveys. Peat slide risk at the site is considered to be negligible and a full peat slide risk assessment is not considered necessary for the Proposed Development.
- 9.30 The FEI Layout has increased impacts to potential GWDTE in some areas (site access and T11) and decreased them in others (T5 and T13). Overall, the impacts to potential GWDTE are not considered to be greater than those associated with the EIA Layout.
- 9.31 Due to realignment of the site access track, watercourse crossing WC01 has been moved westwards (downstream) and would involve construction of a new bridge or large bottomless culvert, rather than upgrading an existing bridge as was proposed for the EIA Layout. WC02 has also been moved, by approximately 30 m upstream, due to track realignment, although otherwise this crossing would remain the same as for the EIA Layout.
- 9.32 The FEI Layout has not caused any changes to the assessment of effects detailed in Chapter 10 of the EIA Report. Therefore, this FEI finds that there would be no significant effects relating to geology, hydrogeology, hydrology and peat as a result of the changes to the Proposed Development design.

Ornithology

- 9.33 There is no change in the predicted effects of the Proposed Development set out in the EIA Report as a result of the Revised Layout.

Ecology

- 9.34 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Aviation and radar

- 9.35 The Applicant has addressed the objections raised by NATS and the MOD in their consultation response and it is considered that mitigation will be agreed in the course of ongoing correspondence such that objections will be removed.

Forestry

- 9.36 Commercial is not considered an EIA factor. Revised wind farm forestry plans have been prepared and updated baseline conditions and timber volume calculations provided.

Other considerations

Noise and vibration

- 9.37 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Traffic and transportation

- 9.38 The potential for cumulative impacts between Pine Burns Wind Farm and the Proposed Development would be significantly reduced as Pine Burns Wind Farm is now operational and therefore the construction phases of the two developments will not overlap. It is possible that the construction phase of Liddesdale Wind Farm may overlap with that of the Proposed Development, however, with appropriate mitigation in place and adherence to best practice construction methods the cumulative impacts have been assessed as negligible.
- 9.39 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Socio-economic, land use and recreation

- 9.40 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Telecommunications and electromagnetic interference

- 9.41 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Shadow Flicker

- 9.42 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Climate change

- 9.43 Changes to the Proposed Development would not result in material changes to the findings of the EIA Report.

Population and human health

- 9.44 There are no changes to findings of the EIA Report as a result of the amendments to the Proposed Development.

Changes to Schedule of Environmental Commitments

- 9.45 The environmental mitigation included in the EIA Report would continue to be committed to by the Applicant. Based on the additional information presented in this FEI Report, Table 9-1 summaries the additional mitigation committed to.

Table 9-1 Summary of additional Environmental Commitments identified in the FEI

Ref	Effect	Description of mitigation measure	Development Phase	Responsible Party	Document Source
Cultural Heritage and Archaeology					
2.1	Potential impact on SM6600, SM6601, SM6599 and SM6602	The revised access area route has been designed to avoid SM6600, SM6601. SM699 and SM6602	Pre-construction	Applicant	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.2	Potential impact on SM6600, SM6601, SM6599 and SM6602	Micrositing or ancillary works associated with the construction of the revised access area route will be carried out to avoid encroaching within the boundaries of assets.	Construction	Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.3	Potential impact on SM6600, SM6601, SM6599 and SM6602	To avoid impacts arising from micrositing, schedule areas and any upstanding non-designated assets associated with the outlined monuments will be clearly demarcated on construction phase plans.	Construction	Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.4	Potential impact on SM6600, SM6601, SM6599 and SM6602	Toolbox talks and inductions addressing the legal status of Scheduled Monuments will be provided to all staff involved in the construction phase works.	Construction	Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.5	Potential impact on SM6601, SM6599 and SM6602	Outlined scheduled monuments and any upstanding non-designated remains associated with these assets will be physically demarcated using a method which avoids direct impacts to the monument. Methodology for demarcation works will be agreed in advance with HES and the SBC Archaeology Officer.	Construction	Applicant/Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report

Ref	Effect	Description of mitigation measure	Development Phase	Responsible Party	Document Source
2.6	Potential impact on SM6601, SM6599 and SM6602	Demarcation works will be carried out by a suitably qualified archaeologist prior to the construction phase commencing.	Pre-construction	Applicant/Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.7	Potential impact on SM6601, SM6599 and SM6602	The construction phase works will be subject to checks by a suitably qualified archaeologist to ensure no works take place within the scheduled areas of SM6601, SM6599 and SM6602.	Construction	Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.8	Potential impact on below ground remains	Ground breaking works within areas of the revised access area route considered to be of low archaeological potential will be subject to archaeological monitoring during the construction phase.	Construction	Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
2.9	Potential impact on below ground remains	Should any below ground remains be uncovered during the monitoring works, these will be subject to archaeological excavation and recording.	Construction	Contractor	Chapter 2 Cultural Heritage and Archaeology in Volume 1 of the FEI Report
Ecology					
6.1	Protected Species – Amphibians	It is recommended that a Species Protect Plan for reptiles is implemented.	Pre-construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey
6.2	Protected Species – Reptiles	A species Protection Plan for common lizard will be required.	Pre-construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey

Ref	Effect	Description of mitigation measure	Development Phase	Responsible Party	Document Source
6.3	Protected Species – Reptiles	If work is required near a hibernaculum, it should be scheduled outside the hibernation period (October to March).	Pre-construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey
6.4	Protected Species – Reptiles	If a hibernaculum must be removed, this must be carried outside the hibernation period and under the supervision of an ecologist, with an artificial hibernaculum created as compensation.	Construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey
6.5	Protected Species - Bats	Should the singular dead tree be affected by the works, or if the works occur within 15 m of the tree, further assessment of the feature will be required.	Construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey
6.6	Protected Species - Bats	Should any broadleaved trees require felling to facilitate the access track works, a pre-construction check should be carried out.	Pre-construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey
6.7	Protected Species – Red Squirrel	Further pre-construction surveys should be undertaken prior to works being carried out.	Pre-construction	Applicant / Contractor	Annex to Technical Appendix 8.2: Protected Species Survey
6.8	Fish	Any new road culverts are properly designed to allow the free passage of fish	Construction	Applicant / Contractor	Chapter 6 Ecology in Volume 1 of the FEI Report
6.9	Fish	River crossings and Migratory Fish: Design Guidance (2012) must be adhered to. During construction phase, it must be ensured that no hanging culverts are installed and	Construction	Applicant / Contractor	Chapter 6 Ecology in Volume 1 of the FEI Report

Ref	Effect	Description of mitigation measure	Development Phase	Responsible Party	Document Source
		that fish passes which are passable to parr, are installed where necessary. The Salmon (Fish Passes and Screens) (Scotland) Regulations 1994 must be adhered to.			
6.10	Fish	Heavy machinery should not, if at all possible, enter or damage instream habitats.	Construction	Applicant / Contractor	Chapter 6 Ecology in Volume 1 of the FEI Report
6.11	Fish	Crossing points once constructed are monitored and remedial works undertaken if necessary.	Construction	Applicant / Contractor	Chapter 6 Ecology in Volume 1 of the FEI Report

Publication

- 9.46 The publication of this FEI Report will be advertised in accordance with Regulation 20 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. A copy of the FEI Report will also be sent to key consultative bodies in receipt of a copy of the original EIA Report.
- 9.47 A copy of the FEI Report, has been deposited at each of the locations indicated below and will be available for inspection during normal opening hours.
- Scottish Borders Council, Council Headquarters, Newton, St Boswells, Melrose, TD6 0SA (Monday to Thursday 8.00 am to 5.00 pm, Friday 8.00am to 4.00 pm)
- 9.48 Printed copies of the application have also been provided to Southdean and Hobkirk Community Councils.
- 9.49 An electronic copy of the FEI Report is available for public inspection, free of charge on the application webpage: <https://www.esbenergy.co.uk/millmoor-rig-wind-farm> or the Scottish Government Energy Consents website at: www.energyconsents.scot, under application reference ECU00003426.
- 9.50 Hard copies of the FEI Report are available subject to a charge of £100 (including P&P). Hard copies of the non-technical summary are available free of charge. A digital version of the FEI Report on a USB Drive can be obtained for a fee of £10 (including P&P). Copies available from ESB Asset Development UK Limited (email: 'millmoorrig@esb.ie').
- 9.51 Any representations to the application may be submitted via:
- the Energy Consents Unit website at: www.energyconsents.scot/Register.aspx;
 - by email to the Scottish Government Energy Consents Unit mailbox at 'representations@gov.scot'; or
 - by post to: Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation. Please note that there may be a delay in the Energy Consents Unit receiving representations by post.
- 9.52 Written or emailed representations should be dated, clearly stating the name (in block capitals), full return email and postal address of those making representations. Only representations sent by email to 'representations@gov.scot' will receive acknowledgement.