

SEI NON-TECHNICAL SUMMARY

Kirkton Energy Park
Prepared for: Kirkton Wind Farm Limited

SLR Ref: 428.V11143.00001
Version No: 1
October 2023



BASIS OF REPORT

This document has been prepared by SLR with reasonable skill, care and diligence, and taking account of the manpower, timescales and resources devoted to it by agreement with Kirkton Wind Farm Ltd (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

CONTENTS

1.0	INTRODUCTION.....	1
2.0	CONFIRMATION OF APPROACH.....	3
3.0	DESIGN AMENDMENTS TO PROPOSED DEVELOPMENT	4
4.0	LANDSCAPE AND VISUAL.....	6
5.0	ECOLOGY	7
6.0	ORNITHOLOGY (BIRDS)	8
7.0	HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND SOILS	9
8.0	CULTURAL HERITAGE.....	10
9.0	SITE ACCESS, TRAFFIC AND TRANSPORT	10
10.0	NOISE.....	11
11.0	SOCIO-ECONOMICS AND LAND USE.....	12
12.0	OTHER ISSUES	12
13.0	SUMMARY OF SIGNIFICANT EFFECTS.....	14
14.0	NEXT STEPS AND FURTHER INFORMATION.....	16

DOCUMENT REFERENCES

FIGURES

Figure 1: Site Location

Figure 2: Application Boundary

Figure 3: Site Layout

1.0 Introduction

In November 2022, Kirkton Wind Farm Limited (the applicant) submitted an application to the Scottish Government Energy Consents Unit (ECU) for Section 36 consent under the Electricity Act 1989, to install and operate an energy park (the proposed development) in The Highland Council administrative area. A request was also made by the applicant that planning permission be deemed to be granted under Section 57 (2) of the Town and Country Planning (Scotland) Act 1997, as amended.

The proposed development would be located in Sutherland, within The Highland Council (THC) administrative area, centred on National Grid Reference (NGR) NC 87999 59788. The application for consent (ECU Reference: ECU00003244) comprised 11 turbines up to 149.9m to blade tip height and associated infrastructure. The application was accompanied by an Environmental Impact Assessment (EIA) Report which was prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations).

The Supplementary Environmental Information (SEI) has been prepared to provide further information to the EIA Report, including amendments to the proposed development since the original application was submitted, and to address certain requests from consultees during the consultation period.

In summary, the SEI is intended to provide additional information relating to the EIA Report, explain the amendments to the proposed development (and where appropriate re-assess effects) and address the following key points that have been raised by consultees during the consultation process for the application:

- The Highland Council have requested an update to the cumulative assessments presented in the Landscape and Visual, Noise, Ornithology and Traffic and Transport chapters of the EIA Report, in order to take account of the following developments:
 - Melvich Wind Energy Hub;
 - Armadale Wind Farm (updated design);
 - Pentland Offshore Floating Wind Farm;
 - West of Orkney Offshore Wind Farm;
- Scottish Environment Protection Agency (SEPA) have requested that Turbine No.7 be microsited north in order to minimise direct impacts on M6 habitat;
- NatureScot have advised that they would like to see the proposed access track that crosses from the east to the west of the site, linking up to Turbines No.5 – No.11, to be amended so as to avoid sensitive habitats; and
- Royal Society for the Protection of Birds (RSPB) have objected, citing a lack of information and assessment of the effects of the proposal, specifically the Habitat Management Plan (HMP) measures, on the Caithness and Sutherland Peatlands Special Protection Area (SPA).

In each chapter of the SEI, details are provided where relevant, on the consultation responses received during the application consultation period and how these have been addressed, if necessary.

An Addendum Planning Statement is being submitted alongside this SEI.

Upon the request of THC, an Outstanding Universal Values (OUV) Assessment has been completed, which looks at the potential effects of the proposed development on the outstanding universal values of the candidate Flow Country World Heritage Site. The OUV Assessment forms part of the wider SEI being submitted, however is a stand-alone document (similar to the Addendum Planning Statement).

This SEI Non-Technical Summary (NTS) is additional to the original submitted NTS and both documents require to be read together to get the full up to date summary of the environmental impact assessment of the proposed development.

This SEI NTS summarises the findings and content of the SEI.

The SEI has been prepared by SLR and also the specialist subconsultants who prepared the EIA Report. All specialists are considered to be 'competent experts' in their field, a requirement of the EIA Regulations. Further details of staff experience and qualifications are set out in **Chapter 1: Introduction** of the SEI.

The submission of the SEI will trigger another round of consultation in the planning process, which will provide consultees and the public with the opportunity to make representations on its content to the Energy Consents Unit. These comments, along with the information presented in the EIA Report and SEI, will be used to inform the decision on the application for consent.

2.0 Confirmation of Approach

In the SEI, each topic chapter seeks to:

- provide a revised assessment taking into account the amendments that have been made to the proposed development; and/or
- provide new or additional information to address application consultation responses, or to supplement the original assessment.

A summary of changes to the significance of effects, as presented in the EIA Report, is provided at the end of each chapter. For clarity, each assessment Chapter of the SEI also sets out clearly which EIA Report Technical Appendices and Figures have been superseded.

3.0 Design Amendments to Proposed Development

SEI Chapter 2: Site Description and Design Evolution and **SEI Chapter 3: Description of Development** provide detail on the design amendments that have been made to the proposed development since the 2022 EIA Report was submitted. The design amendments are as follows:

- relocating Turbine No.7 and its associated crane pad approximately 53m north, from 287881, 959083 to 287885, 959140; and
- amending the route of the track to Turbines No 5 – 11 (and amending the amount of track to be floated from 446.95m to 536.97m).

The amended turbine coordinates (and specifications) are provided in **Table 3-1**. Only the coordinates for Turbine No.7 have changed from what was presented in the EIA Report – these have been highlighted **green** in **Table 3-1** below.

Table 3-1: Turbine Coordinates and Specifications

Turbine No.	Easting	Northing	Hub Height	Tip height	Rotor Diameter
T1	288041	960971	83.4m	149.9m	133m
T2	287925	960642	83.4m	149.9m	133m
T3	287835	960291	83.4m	149.9m	133m
T4	287802	960002	83.4m	149.9m	133m
T5	287822	959704	83.4m	149.9m	133m
T6	287828	959426	83.4m	149.9m	133m
T7	287885	959140	83.4m	149.9m	133m
T8	287915	958740	83.4m	149.9m	133m
T9	287934	958463	83.4m	149.9m	133m
T10	287934	958170	83.4m	149.9m	133m
T11	287934	957909	83.4m	149.9m	133m

3.1 Reasons for Design Amendments

As detailed in **SEI Chapter 2: Site Description and Design Evolution**, the amendments to the proposed design are as a result of consultation feedback on the Kirkton Energy Park application, received from key consultees, Scottish Environment Protection Agency (SEPA), and NatureScot (formerly Scottish Natural Heritage).

In SEPA’s response to the Kirkton Energy Park application, dated 17 May 2023, they advised that Turbine No.7 should be microsituated in order to minimise direct impacts on M6 habitat. As a result, Turbine No.7 has now been moved approximately 53m north, away from M6 habitat.

In NatureScot’s response to the Kirkton Energy Park application, dated 31 July 2023, they advised that the area around the access track leading to Turbines No.5 – No.11 (where it crosses an area of deep peat) is likely to be sensitive to development and as such should be avoided (with the access track moved to the north or south of this area). As a result, the access track leading to Turbines No.5 – No.11 has been realigned further north (following discussions with NatureScot and SEPA). In addition to the relocation of this section of track, the

amount of track that is proposed to be floated has been increased in order to limit impacts on peat (this is as a result of deciding to float all track on peat over 1m in depth in this area).

4.0 Environmental Impact

4.1 Landscape and Visual

SEI Chapter 7: Landscape and Visual, has considered the landscape and visual effects that could arise from the relocation of one wind turbine (Turbine No.7), together with those as a result of the evolving status and design of wind farms in the cumulative study.

The principal aim of the SEI Chapter 7 is to consider the conclusions of **Chapter 7: Landscape and Visual** of the EIA Report and assess whether the design amendments to the proposed development, and the updated cumulative wind farm situation would result in changes to the predicted landscape and visual effects and their significance.

No changes are proposed to the hub heights or blade tip heights of the wind turbines, from what was presented in the EIA Report.

4.1.1 Conclusions of SEI Assessment

The amended location of Turbine No.7 has been reviewed in relation to potential landscape and visual effects. It is considered that there would be no material change to the judgements made in **Chapter 7: Landscape and Visual** of the EIA Report, as a result of the relocation of Turbine No.7. There are no noticeable changes to the pattern of visibility for the proposed development, and the overall appearance of the proposed development would be consistent with the site layout assessed in the EIA Report. There would be no changes to the potential landscape and visual effects of Kirkton Energy Park as a result of the relocation of Turbine No. 7.

The potential cumulative effects of Kirkton Energy Park in the context of the additional proposed wind farms (i.e. wind farm applications that have been submitted since the November 2022 Kirkton Energy Park application). This includes the changes to the proposed Armadale Wind Farm. In addition, in response to a specific request from THC, West of Orkney Offshore Wind Farm (at EIA Scoping stage¹) has been included in the additional cumulative assessment.

Assessment of this revised potential cumulative context results in limited adjustments to the judgements presented in **Chapter 7: Landscape and Visual** of the EIA Report. The only changes in the level of effect identified as a result of assessing the additional potential future cumulative context, are slight reductions to the magnitude of change and related effects, as identified in respect of LCT141 High Cliffs and Sheltered Bays and Viewpoints 9, 14 and 15. This is due to a combination of the relatively limited extent of Kirkton Energy Park that would be seen from certain locations, together with the relative prominence of the other proposed wind farms, which would be positioned in the intervening landscape.

A key consideration however, is the design rationale for Kirkton Energy Park and how this would relate to the nearby proposed Melvich Wind Energy Hub. The difference in the appearance of these proposed developments would be clearly apparent and the design intent for Kirkton Energy Park would be compromised to some degree by the relationship with Melvich Wind Energy Hub, from certain locations - particularly within and immediately around Strath Halladale.

Overall, with regards to the key potential cumulative landscape and visual effects of the proposed development, particularly in relation to the significant effects that were identified, these would remain as assessed and presented in **Chapter 7: Landscape and Visual** of the EIA Report.

¹ this project has now seen a full application submitted, however as what has been assessed in the SEI is similar in terms of turbine numbers, turbine envelope area, and turbine scale, it is not considered that assessing the full application would change the conclusions of the assessment on cumulative effects presented in this SEI. This approach has been accepted by The Highland Council.

4.2 Ecology

SEI Chapter 8: Ecology, has considered the ecological implications that could arise from the design amendments to the proposed development, and also considered post submission comments from consultees.

4.2.1 Habitats

Effects during the construction phase on the onsite habitats (primarily M6, M15 and M17) will not change as a result of the amendments to the design. Both direct and indirect impacts on these species are considered to be non-significant.

Effects during the operational phase on the onsite habitats (primarily M6, M15 and M17) will not change as a result of the amendments to the design. No significant effects are predicted.

4.2.2 Fauna

Effects during the construction phase on protected fauna (considered to be otter *Lutra lutra* and common pipistrelle *Pipistrellus pipistrellus*) will not change as a result of the amendments to the design. Both direct and indirect impacts on these species are considered to be non-significant.

Effects during the operational phase on protected fauna (considered to be otter and common pipistrelle) will not change as a result of the amendments to the design. No significant effects are predicted.

4.2.3 Designated Sites

Effects during the construction phase on designated sites (considered to be Caithness and Sutherland Peatlands Special Area of Conservation (SAC) / Ramsar, West Halladale Site of Special Scientific Interest (SSSI), East Halladale SSSI, Strathy Coast SSSI and Red Point Coast SSSI) will not change as a result of the amendments to the design. Both direct and indirect impacts on these sites are considered to be non-significant.

Effects during the operational phase on qualifying features of the designated sites will not change as a result of the amendments to the design. No significant effects are predicted.

4.2.4 Outline Habitat Management Plan (HMP)

In their consultee response to the Kirkton Energy Park 2022 application, RSPB noted the omission of detail with regards predator control in the HMP area (as presented in **Technical Appendix 8.5: Outline Habitat Management Plan** of the EIA Report). Predator control will be considered with the requirement determined by the results of post-felling, post construction surveys.

In their consultee response to the Kirkton Energy Park 2022 application, NatureScot state the importance of undertaking pre-felling surveys and to undertake felling operations at the correct time of year to ensure protected species likely to use this area are safeguarded throughout the proposed works. This is noted and accepted.

4.2.5 Conclusions of SEI Assessment

As a result of the changes to the proposed development there would be no changes to the effects as assessed and presented in **Chapter 8: Ecology** of the EIA Report.

4.3 Ornithology (Birds)

SEI Chapter 9: Ornithology, has considered the ornithological implications that could arise from the amendments to the proposed development, together with those as a result of the evolving status and design of wind farms in the cumulative study. Post submission comments from consultees have also been considered.

4.3.1 Design Amendments

The proposed relocation of Turbine No.7 would not alter the assessment of impacts as presented in **Chapter 9: Ornithology** of the EIA Report. The change is relatively minor from an ornithological perspective, moving the location within the existing line of turbines and therefore not changing the situation with respect to locations from potentially sensitive territories.

Similarly the proposed realignment of the access track would not alter the assessment of effects as presented in **Chapter 9: Ornithology** of the EIA Report. While it might change the impacts on individual territories, the overall effect of habitat loss to tracks and infrastructure is limited across the proposed development and the realignment track would not affect this.

4.3.2 Cumulative Effects

Since the 2022 Kirkton Energy Park application the cumulative wind farm situation in the study area has changed. The relevant changes to the cumulative context, with regards ornithology, since the 2022 Kirkton Energy Park application are as follows:

- Melvich Wind Energy Hub (application): Located on the northern boundary of the proposed development. Twelve wind turbines at 149.9m to tip height; and.
- Armadale Wind Farm - amended application which saw the number of turbines reduced and hence a reduction in assessed collision risk.

For most species the revised cumulative effects (revised from the EIA Report to include Melvich Wind Energy Hub and take account of the Armadale Wind Farm amended design) would still not be considered significant, even although most of them have increased. However, for four species, the revised estimates show a substantial increase over that presented in **Chapter 9: Ornithology** of the EIA Report. The four species are Golden eagle, Whooper swan, Golden plover and Hen harrier. Despite the revision to the estimated mortality associated with collision risk, there would be no change to the significance of effects as assessed and presented in **Chapter 9: Ornithology** of the EIA Report.

Aside from cumulative collision risk effects, there are also potential disturbance/displacement effects to be considered, particularly with the proximity of Melvich Wind Energy Hub, the boundary of which lies adjacent to the boundary of the proposed development. There is however spacing between the infrastructure of Melvich and the proposed development, with the closest turbines being approximately 1.4 km apart. Cumulative displacement and disturbance effects could occur in the short term if construction occurs on both sites simultaneously.

4.3.3 Outline HMP

RSPB in their consultee response to the Kirkton Energy Park application, highlighted that there had been no assessment of the positive effects of the HMP on the SPA populations of birds and objected on this basis.

The HMP is to some extent an iterative process, with an outline HMP having been presented at this stage. A more detailed HMP would be produced post consent, which would require approval from consultees including THC and NatureScot. During and after construction the effects of the management would be monitored and should

adverse unintended effects be identified, then the management would be adjusted, after seeking agreement with consultees to reduce the impact of those effects.

4.3.4 Conclusions of SEI Assessment

As a result of the changes to the proposed development there would be no changes to the assessed effects as presented in **Chapter 9: Ornithology** of the EIA Report.

SEI Chapter 9: Ornithology, has updated the cumulative assessment, particularly with respect to cumulative collision risk, but has also undertaken an assessment of the cumulative effects of the Melvich Wind Energy Hub, given the close proximity of that development. These showed that there would be no significant adverse effect as a result of the revised cumulative collision risk estimates, but that the in-combination effect could have a negative effect on the proposed HMP area, resulting in it being less effective in acting as an enhanced area for some breeding wader species.

4.4 Hydrology, Hydrogeology, Geology and Soils

SEI Chapter 10: Hydrology, Hydrogeology, Geology and Soils, has considered the implications that could arise from the amendments to the proposed development.

4.4.1 Design Amendments

The revised location of Turbine No.7 would not result in any material change to the submitted EIA Report assessment. The turbine is not located within 50m of a watercourse. The controls and management measures specified in the EIA Report remain wholly applicable and can be used to mitigate potential adverse effects on erosion and sedimentation, pollution, flood risk and drainage, and dewatering of soils and peat.

The average peat depth at the new Turbine No.7 location is 0.8m and 0.99m for the hardstanding compared with 0.7m for the previous Turbine No.7 and 0.95m for the previous hardstanding location presented in the EIA Report.

The amended access track to Turbine No.5 – 11, passes adjacent to a man-made drain, which it is assumed was established to locally drain soils and improve grazing. It is evident that the drain does not convey a significant quantity of water and is not part of the natural drainage network. It is proposed therefore, as part of the track construction works to restore the drain. The restoration works would be supervised by the proposed site Environmental Clerk of Works (ECOW) using site won soils. Removing the drain would locally improve habitat and allow its rewetting and establish a buffer from the track to water features.

The new overall track length is 7.5km of which 2.03km would be upgraded track and 536.97m would be floated. This compares to 7.51km, as presented in the EIA Report, of which 2.03km was upgraded track and 446.95m was to be floated.

4.4.2 Peat Landslide Hazard Risk Assessment

Review of the new location of Turbine No.7 and re-aligned track indicates that there has been no change to the level of Peat Stability Risk or the conclusions and recommendations within Technical Appendix 10.1: Peat Landslide Hazard Risk Assessment (PLHRA) of the EIA Report.

4.4.3 Peat Management Plan

The amended location of Turbine No.7 and the re-aligned track are located in areas of similar peat depth as previously assessed in Technical Appendix 10.2: Peat Management Plan (PMP) of the EIA Report. The previous recommendations on excavation and re-use of soils and peat detailed within the existing Stage 1 PMP remain valid.

4.4.4 Conclusions of SEI Assessment

The design amendments will not result in any change to the significance of effects as presented in Chapter 10 of the EIA Report. No significant effects would result as a result of the proposed revision to the assessed development.

4.5 Cultural Heritage

SEI Chapter 11: Cultural Heritage and Archaeology, has considered the implications that could arise from the amendments to the proposed development, together with those as a result of the evolving status and design of wind farms in the cumulative study.

4.5.1 Design Amendments

Due to the small distance of the relocation of Turbine No.7, and the retention of the linear site layout, there are no Cultural Heritage or Archaeology effects presented in Chapter 11 of the EIA Report, that are considered to be altered by the design amendments to the proposed development.

4.5.2 Cumulative Effects

Due to the concerns of Historic Environment Scotland (HES) outlined in their application response (26 January 2023) on the potential impact of Halladale Bridge Hut Circles (SM3304), a cumulative assessment in line with this has been carried out.

The addition of Melvich Wind Energy Hub (approximately 2.8km to the east of the asset) and the West of Orkney Offshore Wind Farm (6km to the north of the asset) would add further renewable energy infrastructure to the area surrounding SM3304.

Whilst the impacts from the introduction of Melvich Wind Energy Hub and West of Orkney Offshore Wind Farm are dealt with within their respective applications, the impact of the addition of the proposed development would remain Minor. As is outlined in the EIA Report (2022), the proposed development would be peripheral in views of the aspects of the asset's setting which contribute to its significance and as such no cumulative impact is predicted.

4.5.3 Conclusions of SEI Assessment

The proposed design amendments will not result in any change to the significance of effects as presented in **Chapter 11: Cultural Heritage and Archaeology** of the EIA Report. The impact on the scheduled monument Halladale Bridge Hut Circles (SM3304) would remain as was assessed in the EIA report and there is no predicted cumulative impact.

4.6 Site Access, Traffic and Transport

SEI Chapter 12: Site Access, Traffic and Transport, has considered the implications that could arise from the amendments to the proposed development, together with those as a result of the evolving status and design of wind farms in the cumulative study.

4.6.1 Design Amendments

The amendments to the design will not result in any change to the traffic generation as set out in **Chapter 12: Site Access, Traffic and Transport** of the EIA Report.

4.6.2 Cumulative Effects

The cumulative assessment in **Chapter 12: Site Access, Traffic and Transport** of the EIA Report identified that a maximum of 492 daily two-way vehicle movements would be added to the A836 should all of the identified projects be constructed at the same time. The updated review as part of the SEI has identified that this figure would increase to 843 daily two-way vehicle movements with the addition of the other projects and the assumption that all would be constructed at the same time.

The A836 currently operates with a theoretical spare capacity of 93%, which equates to 16,970 vehicles. This means that the A836 can accommodate a significant increase in vehicles before the road would become congested.

In the event that construction of the proposed development and any of the identified cumulative wind farm schemes occur concurrently, this would not lead to any additional environmental effect in transportation terms, beyond that already assessed, provided that:

- abnormal load movements are programmed in conjunction with Police Scotland and the Roads Authorities (THC and Transport Scotland) so as not to occur on the same day; and
- days of specific high density traffic movement (e.g. concrete pour days) are programmed so as not to occur on the same day (to be enforced through inclusion as a factor within the Construction Traffic Management Plan, to be agreed with THC, along with Police Scotland and the Roads Authority accordingly).

4.6.3 Conclusions of SEI Assessment

The design amendments will not result in any change to the traffic generation and so will not result in any change to the significance of effects as presented in **Chapter 12: Site Access, Traffic and Transport** of the EIA Report.

With regards to updated cumulative impacts, the extra vehicles associated with the additional cumulative wind farm projects assessed, will not have any significant impacts on the A836, as it has been confirmed that ample spare capacity will be retained.

4.7 Noise

SEI Chapter 13: Noise, has considered the implications that could arise from the amendments to the proposed development, together with those as a result of the evolving status and design of wind farms in the cumulative study.

4.7.1 Design Amendments

The amendments to the design will not result in any material change with regards to noise levels experienced at nearby noise sensitive receptors, from what was set out in **Chapter 13: Noise** of the EIA Report. The relocation of Turbine No.7 has resulted in a maximum increase in wind turbine noise immission level of 0.2dB at any receptor, when compared to the values presented in **Chapter 13: Noise** of the EIA Report.

4.7.2 Cumulative Effects

The Noise SEI Chapter considers the predicted operational cumulative noise immission levels for nearby receptors, taking account of Kirkton Energy Park and Melvich Wind Energy Hub.

The cumulative wind turbine noise immission level from the proposed development and Melvich Wind Energy Hub does not exceed the ETSU-R-97 noise limit at any receptor for any given wind speed and would therefore be not significant.

4.7.3 Conclusions of SEI Assessment

The relocation of Turbine No.7, together with the changing status of wind farms in the cumulative study, would result in no change to the significance of effects assessed in **Chapter 13: Noise** of the EIA Report.

4.8 Socio-Economics and Land Use

SEI Chapter 14: Socio Economics and Land Use, has considered the implications that could arise from the amendments to the proposed development.

4.8.1 Conclusions of SEI Assessment

There are no changes to the significance of effects presented in **Chapter 14: Socio Economics and Land Use** of the EIA Report as a result of the amendments that have been made to the proposed development, meaning that the assessment of effects on direct and indirect employment and economics benefits, remains valid.

4.9 Other Issues

SEI Chapter 15: Other Issues, has considered the implications that could arise from the amendments to the proposed development with regards the following topics:

- shadow flicker;
- climate and carbon balance;
- risk of accidents and other disasters;
- population and human health;
- air quality;
- aviation;
- telecommunications and other infrastructure;
- television reception; and
- waste and environmental management.

Following consideration of the above topics it is considered that there would be no material change to the findings presented in **Chapter 15: Other Issues** of the EIA Report. 'Shadow flicker' and 'climate and carbon balance' are considered in more detail below.

4.9.1 Shadow Flicker

The amended Turbine No.7 location has been assessed in the shadow flicker model. There is no change in the hours of shadow flicker as assessed and presented in the 2022 EIA Report, which occur as a result of the amended Turbine No.7 location. Turbine No.7 was not identified as a cause of potential shadow flicker to nearby residential receptors in its original location, and this continues to be the case for its amended location.

4.9.2 Climate and Carbon Balance

The overall anticipated carbon payback time for the amended proposed development (compared to a fossil fuel mix of electricity generation) is 1.6 years. This remains very similar to the 1.5 year anticipated carbon payback time as assessed and presented in the EIA Report. The potential CO₂ emissions savings are also similar for the amended proposed development, compared to what was presented in the EIA Report.

The slightly higher carbon payback period of 1.6 years compared to 1.5 years does not materially alter the proposed development's expected carbon saving potential. It is also important to consider that the Scottish Government Windfarm Carbon Assessment Tool is continually being updated and the assessment presented in this SEI was carried out on version 1.7.0, compared to the assessment presented in the EIA Report which was carried out on version 1.6.1.

4.9.3 Conclusion of SEI Assessment

There is no material change, as a result of the design amendments to the proposed development, to the findings presented in **Chapter 15: Other Issues** of the EIA Report.

5.0 Summary of Significant Effects

Table 5-1: Summary of Significant Effects

Topic	Mitigation	Residual Significant Effects
Landscape and Visual	Design	<p>Significant Landscape Effects at:</p> <ul style="list-style-type: none"> • Sweeping Moorland and Flows landscape character type; • Strath – Caithness and Sutherland landscape character type; <p>and</p> <ul style="list-style-type: none"> • Coastal Crofts and Small Farms landscape character type. <p>Overall, identified significant landscape effects are contained within an approximate 10km radius.</p> <p>Significant Visual Effects at:</p> <ul style="list-style-type: none"> • Viewpoint 1 (A897- Strath Halladale, Achiemore); • Viewpoint 2 (A837-Goval, Strath Halladale); • Viewpoint 4 (A836 - junction to Bighouse); • Viewpoint 5 (Bighouse); • Viewpoint 8 (Beinn Ratha); and • Viewpoint 9 (Totegan, near Strathy Point). <p>Significant effects have generally been identified within the northern part of Strath Halladale.</p>
Ecology	Design, Pre-Construction Surveys, Construction Environmental Management Plan, Habitat Management Plan	None
Ornithology	Design, Pre-Construction Surveys, Construction Environmental Management Plan, Habitat Management Plan	None
Hydrology, Hydrogeology, Geology and Soils	Other than the good practice measures that the developer would implement as standard, no specific mitigation is required	None
Cultural Heritage and Archaeology	Design and preservation of the assets within the digital record through a pre-commencement condition and/or a watching brief according to the requirements of HCHET	None

<p>Site Access, Traffic and Transport</p>	<p>Traffic Management Plan for the movement of abnormal loads.</p> <p>Framework Construction Traffic Management Plan (CTMP) provided.</p> <p>Trial Run for abnormal loads prior to commencement of construction.</p> <p>Provision of information to local residents and users of amenities, to involve the community in the safe operation of the Traffic Management Plan and to alleviate stress and anxiety.</p> <p>Good construction practices including wheel wash and careful loading.</p>	<p>None</p>
<p>Noise</p>	<p>Design, Construction Environmental Management Plan</p>	<p>None</p>
<p>Socio-Economics and Land Use</p>	<p>Design</p>	<p>None</p>
<p>Other Issues</p>	<p>Design</p>	<p>None</p>

6.0 Next Steps and Further Information

The Energy Consents unit (ECU) will consider the SEI, alongside the findings of the EIA, as part of the Section 36 application. The ECU will consult a number of consultees including THC, NatureScot and SEPA, and will consider all representations received from other parties including members of the public.

A copy of the SEI NTS will be made available for download from the applicant website at:

www.kirktonwindfarm.co.uk.

Hard copies of this SEI NTS are available free of charge from:

SLR Consulting Limited
Office 4.04,
Clockwise Offices,
Savoy Tower,
77 Renfrew St,
Glasgow,
G2 3BZ

Tel: 07718 482283

Hard copies of this SEI may be purchased by arrangement from the above address for £500 per copy including visualisations, or £15 per CD rom/USB stick (which will include the original EIA Report). The price of the hard copy reflects the cost of producing all of the Landscape and Visual photographs at the recommended size. As such, a CD/USB version is recommended.

Hard copies of the SEI and EIA Report can be viewed at the following locations during their opening hours:

- The Highland Council Wick Office, Caithness House, Market Square, Wick, KW1 4AB;
- Thurso Library, Davidson's Lane, Thurso, KW14 7AF; and
- The Halladale Inn, Melvich, KW14 7YJ.

FIGURES

EUROPEAN OFFICES

AYLESBURY

T: +44 (0)1844 337380

BELFAST

belfast@slrconsulting.com

BIRMINGHAM

T: +44 (0)121 2895610

BONN

T: +49 (0)176 60374618

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 9064280

CARDIFF

T: +44 (0)2920 491010

CHELMSFORD

T: +44 (0)1245 392170

CORK

T: ++353 (0) 21 240 9000

DUBLIN

T: +353 (0)1 296 4667

EDINBURGH

T: +44 (0)131 335 6830

EXETER

T: +44 (0)1392 490152

FRANKFURT

frankfurt@slrconsulting.com

GRENOBLE

T: +33 (0)6 23 37 14 14

LEEDS

T: +44 (0)113 5120293

LONDON

T: +44 (0)203 8056418

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER

T: +44 (0)161 8727564

NEWCASTLE UPON TYNE

T: +44 (0)1844 337380

NOTTINGHAM

T: +44 (0)115 9647280

SHEFFIELD

T: +44 (0)114 2455153

SHREWSBURY

T: +44 (0)1743 239250

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310