



# **Carrick Windfarm**

# **Environmental Impact Assessment Report**

# **Addendum**

February 2023

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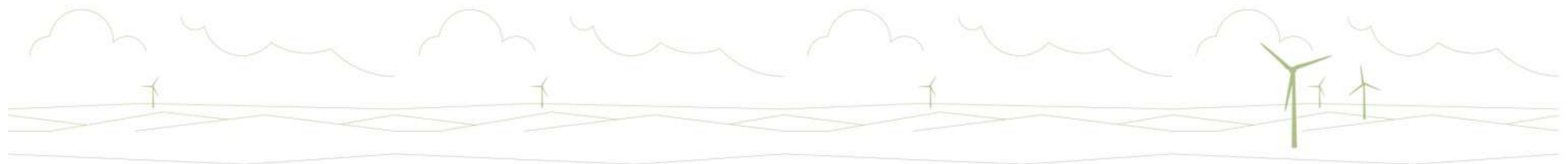
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# Abbreviations

Abbreviation	Meaning
DPEA	Planning and Environmental Appeals Division
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EIA Report	Carrick Windfarm Environmental Impact Assessment Report, December 2021
GVA	Gross Value Added
GW	Gigawatt
ha	Hectares
IoA	Institute of Acoustics
IOF	Important Ornithological Features
km	Kilometres
LCT	Landscape Character Type
LDP2	South Ayrshire Council Local Development Plan 2, August 2022
LLA	Local Landscape Area
LVIA	Landscape and Visual Impact Assessment
m	Metres
MW	Megawatts
NPF4	National Planning Framework 4
OWPS	Onshore Wind Policy Statement, December 2022
PLI	Public Local Inquiry
PSR	Primary Surveillance Radar
RLoS	Radar Line of Sight

Abbreviation	Meaning
RVAA	Residential Visual Amenity Assessment
S36	Application submitted under Section 36 of the Electricity Act 1989
SEPA	Scottish Environment Protection Agency
SAC	South Ayrshire Council
Site	Area enclosed by the Application Boundary
T3	Turbine 3
T7	Turbine 7
T10	Turbine 10
UK	United Kingdom
ZTV	Zone of Theoretical Visibility
2014 LDP	South Ayrshire Local Development Plan 2014

# 1 Introduction

## 1.1 Background

1. In December 2021, ScottishPower Renewables (UK) Limited, trading as ScottishPower Renewables (The Applicant) applied to the Scottish Government's Energy Consents Unit (ECU) under Section 36 (s36) of the Electricity Act 1989 (as amended) seeking consent and deemed planning permission to construct and operate Carrick Windfarm in South Ayrshire (the Proposed Development). In September 2022, the application was referred to the Scottish Government's Planning and Environmental Appeals Division (DPEA) following an objection from the Local Planning Authority, South Ayrshire Council (SAC) and a holding objection from the Scottish Environment Protection Agency (SEPA), causing a Public Local Inquiry (PLI) to be called by the Scottish Ministers. The Proposed Development as submitted in December 2021 comprised up to 13 wind turbines with a generating capacity of approximately 86 megawatts (MW).
2. The following documents were included in the December 2021 submission:
  - Copy of the public notice to be placed in newspapers;
  - Site boundary figure;
  - Environmental Impact Assessment Report (EIA Report), comprising:
    - Non-technical Summary;
    - Volume 1 – Main Report;
    - Volume 2 – Figures;
    - Volume 3 – Visualisations;
    - Volume 4 – Technical Appendices.
  - Pre-Application Consultation Report; and
  - Planning Statement.
3. Following submission of the application for consent, statutory consultation was undertaken by the ECU. As a result of the consultation, objections were submitted by SEPA and SAC in respect of impacts from the Proposed Development on deep peat at specific turbine locations and SAC in respect of landscape and visual impacts. Following a review and undertaking of further peat probing at specific locations, the decision has been made to remove Turbine 10 (T10) from the Proposed Development Site Layout.

## 1.2 Purpose of the Addendum

4. This Addendum has been produced, as Additional Information, to provide an update to the Carrick Windfarm EIA Report to address the concerns from SEPA and SAC, in respect of impacts on deep peat. It is not a stand-alone document and should be read in conjunction with the original EIA Report. The purpose of the Addendum is to:
  - describe the minor revisions to the Proposed Development;
  - summarise changes to planning policy and guidance and the environmental and cumulative baseline since submission of the EIA Report;
  - review and revise the EIA in light of the changes to the Proposed Development, baseline conditions and cumulative situation; and
  - recommend mitigation for additional adverse effects identified if applicable.

5. Where information included within the EIA Report has been updated following consultation on the application, this information has been included within this Addendum and comprises:
  - a description of the design change and assessment of it in terms of effect significance;
  - further peat probing information; and
  - updated landscape and visual impact visualisations.

## 1.3 Availability of the Addendum

6. In accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 Regulation 18, copies of the Addendum will be available for inspection by the public. Notice of the Additional Information and copies being available for inspection has, in accordance with Regulation 20, been published in the Edinburgh Gazette, and in a relevant newspaper in the locality of the Proposed Development.
7. Electronic copies of the Addendum can be accessed at <https://www.dpea.scotland.gov.uk/>.
8. Copies of the Addendum may be obtained from the Applicant using the contact details below at a charge of £350 per hard copy and free on DVD/CD or USB memory stick. The price of a hard copy reflects the cost of producing all the Landscape and Visual photographs at the recommended size and specification.

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Website: [https://www.scottishpowerrenewables.com/pages/carrick\\_windfarm.aspx](https://www.scottishpowerrenewables.com/pages/carrick_windfarm.aspx)

## 1.4 Representations to the Application

9. Any representations to the application should be made directly to the DPEA. An explanation of how to take part in the process can be found at the DPEA website at <https://www.gov.scot/publications/planning-and-environmental-appeals-division-guidance-on-taking-part-in-planning-appeals-and-other-cases/pages/appeals/>.

10. Representations can be sent by email to [DPEA@gov.scot](mailto:DPEA@gov.scot).

11. Representations can also be sent by post to:

Planning and Environmental Appeals  
Hadrian House  
Callendar Business Park  
Falkirk  
FK1 1XR

## 2 Assessment Methodology, Consultation and Relevant Changes

### 2.1 Introduction

13. This section describes the relevant changes to planning policy and guidance, environmental baseline, and cumulative situation which have occurred since the application submission in December 2021. These relevant changes are considered throughout the Addendum. This section also describes the approach to the assessment of likely significant environmental effects resulting from the Proposed Development design change.
14. In terms of the cumulative situation, this is considered within Section 5; however, cumulative Landscape and Visual Assessment is not carried out within this EIA Addendum and instead will be assessed during the relevant PLI procedure.

### 2.2 Changes to Legislation, Planning Policy and Guidance

15. A desk-based review of current relevant legislation, planning policy and assessment guidance has been undertaken to identify any updates since the original submission. The following documents have been updated; however their updates do not require a change in assessment methodology or approach for this Addendum from that undertaken in the original EIAR.
16. The Revised Draft Fourth National Planning Framework (NPF4) was laid before Parliament on 10 November 2022 and approved on 11 January 2023. It is the intention of the Scottish Ministers to adopt and publish the NPF4 on 13 February 2023, at which point it will become a part of the statutory development plan. This change is scheduled to occur during the determination period of this application. In addition, Section 13 of the Planning (Scotland) Act 2019 (the 2019 Act) amends Section 24 of the Town and Country Planning (Scotland) Act (the 1997 Act) to provide that:
17. *“In the event of any incompatibility between a provision of the National Planning Framework and a provision of a local development plan, whichever of them is the later in date is to prevail.”*
18. As such, where the NPF4 and the Local Development Plan (LDP) differ, the latter of the two documents will have greater weight – i.e., NPF4 – will hold greater weight as this is a s36 application and, furthermore, it will also represent the latest policy position. At the time of writing, the Revised Draft NPF4 attracts significant weight as a relevant consideration when determining the s36 application.
19. The NPF4 details the Scottish Government’s long-term plan for Scotland up to 2045. The importance of recognising the global climate emergency is highlighted at the forefront of the National Spatial Strategy set out within NPF4. Focussing on the regional level, the South region is referred to as

*“ambitious for positive change”* in responding to the challenges of climate change and supporting nature restoration and recovery. Strategic Renewable Electricity Generation and Transmission Infrastructure is a national development which will support delivery of the spatial strategy for South Scotland. The Proposed Development is a national development and, as such, this status and the policies of NPF4 would be afforded significant weight in the determination process.

20. The following policies are applicable to the Proposed Development:

- Policy 1: Tackling the climate and nature crises, requires that significant weight should be given to the global climate and nature crises when considering all development proposals.
- Policy 3: Biodiversity, requires development proposals to contribute to the enhancement of biodiversity
- Policy 4: Natural places, provides a framework for developments within landscape designations and provides that effects of renewable energy development outwith wild land areas will not be a significant consideration.
- Policy 5: Soils, renewable energy generation is one of the categories of development for which NPF4 supports on peatland, carbon-rich soils and priority peatland habitat. A detailed site-specific assessment will be required to identify the baseline and condition, the likely effects of the development, and the likely net effect on climate emissions and loss of carbon.
- Policy 6: Forestry, woodland and trees, seeks to protect and expand forests, woodland and trees. Where woodland is removed, compensatory planting will most likely be expected to be delivered.
- Policy 7: Historic assets and places, development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place.
- Policy 11: Energy, sets out support for development proposals for all forms of renewable, low-carbon and zero emission technology, including *“wind farms including repowering, expanding and extending the life of existing wind farms.”* This policy also highlights how development proposals should maximise net economic impacts, which include local and community socio-economic benefits such as employment, associated business and supply chain opportunities.
- Policy 14: Design, quality and place, seeking to encourage and improve the quality of an area, highlighting the six qualities of successful places; healthy, pleasant, connected, distinctive, sustainable and adaptable.
- Policy 23: Health and safety. As well as promoting development which improves health and wellbeing, this policy seeks to mitigate any risks which may arise from safety hazards. For example, of relevance to this proposal, is ensuring that development proposals do not raise unacceptable noise issues or create significant adverse effects on air quality. These topics have been considered as part of the original EIAR and within this EIA Addendum.
- Policy 30: Tourism, seeks to encourage, promote and facilitate sustainable tourism development which *“benefits local people, is consistent with our net zero and nature commitments, and inspires people to visit Scotland”*.

Policy 33: Minerals, seeks to strengthen the approach for renewable, low-carbon energy through stating that development proposals seeking to explore, develop and produce fossil fuels will not be supported.

21. SAC formally adopted Local Development Plan 2 (LDP2) in August 2022. LDP2 replaces the previous LDP (2014 LDP). The Adopted LDP2 sets out the development strategy, key policies and proposals that provide the land use planning framework to guide development in South Ayrshire up to 2032.
22. As referred to in the Planning Statement submitted with the s36 application, reference was made to the previously draft policies of LDP2. It is worth noting that the applicable policies within LDP2 are not materially different to those of the previous 2014 LDP. Indeed, with the exception of the Dark Skies Park policy (which retains the same aims) each of the policies that are considered most relevant to the Proposed Development have been carried over almost exactly into the adopted LDP2.
23. The Onshore Wind Policy Statement (OWPS) was published in December 2022, following consultation with key stakeholders and interested parties between October 2021 and January 2022. The key goal which has been set by the Scottish Government within the OWPS is to increase the installed wind capacity to 20GW by 2030. Achieving this goal would mean more than doubling Scotland's deployed onshore wind capacity which stands at 8.7GW out of a UK total of 14.6GW.
24. No changes to other guidance relevant to the assessment within this Addendum have been identified.

## 2.3 Changes to Baseline

25. A desk-based review of baseline conditions has been undertaken. At the point of writing, no changes have been identified to the environmental baseline that would be relevant to this Addendum, apart from minor changes to forestry cover as a result of felling in the Site and in the vicinity of it.

## 2.4 Consultation

26. Consultation on the s36 application for consent was largely concluded once the application was passed to the DPEA. However, as highlighted above, public consultation is also being undertaken specifically for this EIA Addendum.
27. Engagement directly between the Applicant and SEPA has been ongoing since SEPA's holding objection was received in April 2022 (when the application was with the ECU) until the submission of this EIA Addendum.
28. **Table 2.1** summarises the consultee responses from the s36 application which have been addressed within this Addendum.

Consultee	Response / Subject	Action
SEPA	The SEPA holding objection raised concerns about the impact of the Proposed Development on deep peat at the proposed substation location and Turbines 1, 2, 3, 7, 10 and 13.	<p>The Site Layout has been revised to remove T10 (<b>Section 3</b>). This removal addresses the concern in respect of impacts on deep peat in that location. Further Peat Probing Information for the turbine locations of most concern (Turbines 3, 7 and 10), as well as an assessment of this data, is provided in <b>Section 4</b> of this Addendum.</p> <p>Additional peat probing at T1, T2 and T13, to that probed and agreed with SEPA in 2020, was considered to have been previously demonstrated as not proportionate to the risk identified.</p> <p>SEPA (September 2022) confirmed they accepted the technical justification for the proposed location of the substation – no further action was required.</p> <p>A comparative assessment of the design change to remove T10 is provided in Table 5.1 of <b>Section 5</b> of this Addendum.</p>
South Ayrshire Council (SAC)	<p>The Proposed Development is considered to be unacceptable on several grounds. The points of objection considered relevant to this Addendum are:</p> <ul style="list-style-type: none"> <li>• Impact on peat resources;</li> <li>• Siting and design of the windfarm and its consequential Landscape and Visual effects;</li> <li>• Landscape and Visual effects on specified tourism and recreation facilities; and</li> <li>• Objection to cumulative effects on residential amenity at Glenalla and Tairlaw Toll Cottage.</li> </ul>	<p>The Site Layout has been revised to remove T10 (<b>Section 3</b>). This removal addresses the concern in respect of impacts on deep peat in that location. Further Peat Probing Information for the turbine locations of most concern (Turbines 3, 7 and 10), as well as an assessment of this data, is provided in <b>Section 4</b> of this Addendum.</p> <p>The removal of T10 also reduces the landscape and visual effects, as well reducing the effects experienced by receptors including the effects on residential amenity at Tairlaw Toll Cottage, Tairlaw Toll House and Tallaminnoch.</p> <p>A comparative assessment of the design change to remove T10 is provided in Table 5.1 of <b>Section 5</b> of this Addendum.</p>

Table 2.1: Consultee Responses Considered within the Addendum

## 2.5 Assessment Methodology

29. A comparative assessment approach has been taken within this addendum, which is considered to be proportionate to the scale of the design change. For each assessment chapter within the EIA Report, a comparative assessment has been undertaken comparing the findings of the EIA Report assessment with the removal of T10 and assessing whether there is any material change to the potential for likely significant effects.
30. The assessment methodology remains unchanged to that set out in the EIA Report Chapter 2: EIA Process and Methodology and the subsequent assessment chapters; however, it does take into consideration any identified change to the baseline condition, cumulative situation, assessment guidance and planning policy which has occurred in the interim.
31. As stated in the EIA Report, the area encompassed by the Application Boundary is referred to as 'the Site'.

### 3 Changes to the Proposed Development

32. The original description of the Proposed Development is detailed in Chapter 4: Development Description of the EIA Report. The Description of Development is amended by way of removal of T10 insofar as the Proposed Development will now comprise up to 12 wind turbines and the generation capacity reduces from around 86MW to around 79MW. All other aspects of the description remain unaltered.
33. The change to the Proposed Development comprises the removal of T10, and its associated infrastructure including access track, hardstandings and crane pads, with this change detailed in the amended **Figure 4.1(AI): Site Layout**.
34. The Site would now have the potential to generate around 235.8 GWh annually (depending on the wind turbine model selected). Based on the average electricity consumption per household of 3,578kWh, the Proposed Development would generate enough power to supply over 65,903 average UK households.



## 4 Further Peat Probing Information

35. In response to SEPA requesting further peat depth data (SEPA email correspondence received 13 September 2022), additional peat surveys were undertaken in December 2022, collecting supplementary data within a potential micro-siting allowance of 50m around T3, T7 and T10 (and associated proposed infrastructure). Three other locations noted by SEPA were considered of lower priority (by both SEPA and WSP), as betterment had already been demonstrated and acknowledged, based on EIAR peat data. A risk-based approach was developed to provide a proportionate level of additional information to inform the decision making and PLI process by targeting the collection of information at locations identified as of greatest concern to SEPA.
36. The original and supplementary data combined to provide coverage at approximately 25m intervals in the micro-siting zones for each of these turbines. **Figures A1 and A2**, illustrate the combined peat depth datasets for T3 and T7, respectively, and also illustrate the potential in each case to reduce disturbance of deeper peat, by micro-siting T3 and its associated hardstanding area approximately 45m south-west, and micro-siting T7 and its associated hardstanding area 30m north. Therefore, the combined peat dataset collected for T3 and T7 demonstrates that reductions in peat depth (and associated excavation volumes) are feasible within a 50m micro-siting allowance of the turbine and associated asset locations. Furthermore, SPR will seek opportunities to optimise the final turbine positions (and ancillary assets) through detailed design and further Ground Investigation information that will become available (subject to consent) as part of the iterative design process. This process will apply to all turbines, not limited to T3 and T7.
37. **Figure A3** displays the combined peat dataset for T10. Following site survey, the limited opportunity for improving the peat depth and associated excavation values in the micro-siting area was highlighted to the Applicant, taking account of requirement for associated placement of adjacent crane hardstandings and other infrastructure. It was determined that T10 will be removed from the Proposed Development.

### 4.1 Peat Excavation and Reuse Estimation Updates

38. **Table 4.1** provides an update of the estimated soil and peat excavation and reuse volumes, comparing the original EIA Report values and the Revised 2023 Design. The peat excavation for the revised design (removal of T10 and associated infrastructure) reduces excavation requirements by 18,000m<sup>3</sup>, taking into account the associated adjustment of average peat depth for excavated tracks across the revised design. The reduction in excavated peat material also reduces the material requiring reuse by the same value. Following review and taking account of SEPA correspondence, with less peat requiring reuse, a width reduction of all track banking from 3.50m to 1.75m is now feasible and this has been included within the Revised 2023 Design balance **Table 4.2**.

Infrastructure Description	Revised Estimate (m <sup>3</sup> ) – EIA Report			Revised Estimate (m <sup>3</sup> ) – 2023 Addendum		
	Excavation	Re-use	Balance	Excavation	Re-use	Balance
Access Tracks	54,100	20,700	33,400	50,600	10,100	40,500
Turning Heads	4,400	0	4,400	2,800	0	2,800
Passing Places	8,300	0	8,300	8,300	0	8,300
Crane Hardstandings, including wind turbines	52,400	9,300	43,100	47,400	8,400	39,000
Crane Boom Assembly	5,600	400	5,200	4,900	400	4,500
Blade Laydown	30,400	30,400	0	23,200	23,200	0
Substation Compound	18,300	1,200	17,100	18,300	1,200	17,100
Car Park	600	200	400	600	200	400
Construction Compound	10,600	1,000	9,600	10,600	1,000	9,600
Borrow Pits, including existing sites	30,200	153,800	-123,600	30,200	153,800	-123,600
<b>Total</b>	<b>214,900</b>	<b>217,000</b>	<b>-2,100</b>	<b>196,900</b>	<b>198,300</b>	<b>-1,400</b>

Table 4.1: Volume Estimates for Excavation and Re-use of All Material (Soil and Peat). All volumes are quoted to nearest 100m<sup>3</sup>

39. In relation to specific peat excavation (excluding soil), **Table 4.2** indicates the removal of T10 would reduce the arisings of the most sensitive amorphous catotelmic peat material by approximately 4,200m<sup>3</sup>. Note that borrow pit excavation volumes are assumed to comprise soil only and therefore the associated 30,200m<sup>3</sup>, is excluded from the total peat excavation volume in **Table 4.2**.

Infrastructure Description	Total Peat Excavation (m <sup>3</sup> )  Based on Table 4.1: Revised Estimate, Excavation	Peat Sub-Categories, Based on Site-Specific Threshold Depths (m <sup>3</sup> )		
		Acrotelmic Peat  (<0.30m)	Fibrous Catotelmic Peat  (0.30m to <1.30m)	Amorphous Catotelmic Peat  (1.30m+)
<b>Total - EIA Report</b>	184,700	60,900	107,900	15,900
<b>Total - 2023 Addendum (Differential since EIA)</b>	166,700 (-10.8%)	60,800 (-0.2%)	94,200 (-14.5%)	11,700 (-35.9%)

Table 4.2: Volume Estimates for Excavation of Peat. All volumes are quoted to nearest 100m<sup>3</sup> (excluding soil volumes within borrow pits)

### 4.2 Carbon Balance Assessment Updates

40. Carbon payback calculations were updated to reflect the removal of T10 and associated infrastructure from the Proposed Development. Based on the values input to the carbon calculator (Reference: I7CA-369P-Q35O) (Section 4 of EIAR Appendix 13.5 Carbon Balance Assessment) for the EIAR (v4) and for the Revised 2023 Design (v6), the total carbon losses associated with the Proposed Development are

summarised in **Table 4.3**, which demonstrates the reduction in carbon losses across almost all sources of loss, with an overall total reduction of 18,220 tCO<sub>2</sub> associated with the Revised 2023 Design.

Source of Losses	Carbon Losses (tCO <sub>2</sub> )	
	EIA Report Outcome	Revised 2023 Design Outcome
Turbine life cycle	77,654	71,683
Balancing capacity	67,645	59,944
Reduction in carbon fixing potential	2,142	2,074
Soil organic matter	39,100	35,808
DOC & POC leaching	2	2
Felling of forestry	51,438	50,250
<b>Total</b>	<b>237,981</b>	<b>219,761</b>

Table 4.3: Total Carbon Losses Due to Proposed Development

41. **Table 4.4** provides the predicted payback time, highlighting the EIA Report outcome and the Revised 2023 Design outcome. Counterfactual emission factors represent the estimated average emission of CO<sub>2</sub> resulting from generation of energy from different sources. Counterfactual emission factors are updated from the Department for Business, Energy & Industrial Strategy (DBEIS) and Digest of UK Energy Statistics (DUKES) for the UK, which is published annually. The recent trend towards renewable energy generation is reflected in the decreasing counterfactual emission factors for Grid Mix and Fossil Fuel Mix sources.
42. Counterfactual emission factors are fixed values that are updated annually in the carbon calculator. The 2019 data was applicable and reported at time of the EIA Report and 2022 data is applicable when assessing the Revised 2023 Design, as shown in **Table 4.4**.

Generation Source	Counterfactual Emission Factors (t CO <sub>2</sub> MWh <sup>-1</sup> ) (DUKES, 2019 / 2022)	EIAR Outcome		Revised 2023 Design Outcome
		Expected Payback Time (Years) (DUKES, 2019)	Expected Payback Time (Years) (DUKES, 2022)	Expected Payback Time (Years) (DUKES, 2022)
Coal Fired	0.92 / 1.00	1.0	0.9	0.9
Grid Mix	0.25 / 0.19	3.5	4.5	4.6
Fossil Fuel Mix	0.45 / 0.43	2.0	2.0	2.1

Table 4.4: Carbon payback period

43. As shown in **Table 4.4**, if replacing the Grid Mix source, the expected payback time for the Revised 2023 Design is estimated to be approximately 4.6 years. However, if replacing the Fossil Fuel Mix source, the expected payback time is estimated to be approximately 2.1 years. While these results would indicate an increase over the EIA Report outcomes, the increased payback periods calculated are primarily attributed to the UK trend of reducing counterfactual emission factors. This is demonstrated by applying DUKES 2022 data to the EIAR assessment, as shown in **Table 4.4**.

# 5 Comparative Environmental Impact Assessment

44. **Table 5.1** presents the comparative assessment for all the topics considered within the EIA Report.

EIA Report chapter	Key conclusions of the EIA Report	Change to baseline condition, guidance or planning policy	Comparative assessment based on the removal of Turbine 10	Statement of Significance compared to EIA Report
Chapter 5 - Landscape and Visual	Significant effects were concluded in respect of landscape character, landscape designations and on receptors, key routes and recreational routes and destinations.	<p>Localised changes to forestry due to felling.</p> <p>Adoption of South Ayrshire LDP2 (EIA report considered relevant draft policies and assessed effects on local designations which are also assessed within this update).</p> <p>Intention to adopt NPF4 which indicates that effects on wild land arising from proposals outwith Wild Land Areas will not be a significant consideration. Hence no update is provided to the Wild Land Assessment.</p>	<p><b>Figure 5.1c(AI)</b> provides an updated ZTV study taking account of the removal of T10 and updates Figure 5.1c of the EIA Report. It indicates limited difference in the overall visibility pattern, which is an expected result given that it would only indicate changes in the extent of visibility where T10 was the only visible turbine.</p> <p>The removal of T10 has the potential to reduce effects on receptors where either the arc of view occupied by the turbines would be markedly reduced (i.e., those nearby to the north and south), and those where T10 would have been noticeably closer or markedly more visible than the rest of the wind farm (i.e., receptors nearby to the northeast).</p> <p>Updated visualisations have been prepared from viewpoints 1, 6 and 23 (<b>Figures 5.17(AI), 5.22(AI) and 5.39(AI)</b>) to illustrate the changes.</p> <p>At viewpoint 1, which is located 2.9km to the south of the nearest turbine on a local road near Cornish Hill, the arc of view occupied by turbines would be markedly narrower. The scale of effect would remain unchanged from EIA Report (i.e., High-medium scale).</p> <p>At viewpoint 6, which is located 5.4km to the north of the site near Straiton, the view towards the Site is now slightly more open due to the felling of forestry within Bennan Wood. The removal of T10 would not increase the distance to the nearest turbine from this viewpoint, as the visible turbines would all be at a similar distance, however, T10 would have been the most visible turbine at this location and its removal decreases both the prominence of the turbines and the arc of view occupied. Taking account of both the more open views post-felling, and the omission of T10 from the Proposed Development, effects for the Proposed development would remain Low scale (as assessed within the EIA report).</p> <p>At viewpoint 23, the removal of T10 results in the viewpoint being located 3.1km from the nearest turbine (T9) rather than 2.9km. T10 would have been the most visible turbine from this viewpoint and its removal decreases both the arc of view occupied and the prominence of the turbines. The scale of effects of the Proposed Development alone would reduce from Medium (as assessed within the EIA report) to Medium-Low.</p> <p>The combined changes identified at viewpoints 6 and 23 indicate that effects on visual receptors within the upper Water of Girvan valley would typically be Medium-Low to Low scale for a High-Medium extent of views within 3-5km. The magnitude of change would be Medium-Low, resulting in <b>Moderate, adverse (significant) effects</b>.</p> <p>Landscape receptors represented by viewpoints 6 and 23 are 13 Intimate Pastoral Valleys (Water of Girvan) LCT and Water of Girvan LLA.</p> <p>In terms of effects on landscape character, the turbines would be a new presence on the valley skyline affecting perceptions of scale, containment and the undeveloped nature of the valley. The removal of T10 would markedly reduce the presence of the Proposed Development when seen from the valley floor. Effects would be Medium-Low scale within the area of visibility between Craigfad, Linfairn and Knockdon (a Medium extent). The magnitude of change would be Medium-Low. Taking into account the High-Medium sensitivity of the LCT, to the Proposed Development, the significance of effects on the character of the Intimate Pastoral Valley - Water of Girvan LCT is considered to be Moderate, Adverse (Significant).</p>	<p>Effects would <b>remain significant</b> but reduced (Moderate rather than Major-Moderate) for visual receptors within the upper Water of Girvan Valley and LCT 13 Intimate Pastoral Valleys (Water of Girvan).</p> <p>Effects would reduce to become <b>not significant</b> (Moderate-Minor rather than Moderate) for the Water of Girvan LLA.</p> <p>Effects on residential visual amenity at Tairlaw Toll Cottage, Tairlaw Toll House and Tallaminnoch would be further reduced below the RVAA threshold, due to the removal of the nearest and most prominent turbine in views from these homes.</p>

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EIA Report chapter	Key conclusions of the EIA Report	Change to baseline condition, guidance or planning policy	Comparative assessment based on the removal of Turbine 10	Statement of Significance compared to EIA Report
			<p>Effects on the Water of Girvan LLA would be Medium-Low scale between Craigfad, Knockskae and Linfairn, remaining Medium scale around the nearby Colonel Hunter Blair memorial which has more open elevated views. Together these effects would arise for a Limited (Low) extent of the LLA. Elsewhere within the LLA, effects would be Low-Negligible scale across a Medium extent of the LLA as set out within the EIA report. The magnitude of change would be Low and effects would be Moderate-Minor and Adverse (not significant).</p> <p>T10 was also the closest turbine to three of the properties considered within the RVAA (Appendix 5.4 to the EIA Report). Tairlaw Toll Cottage and Tairlaw Toll House would be 2.1km from the nearest visible turbine (Turbine 9), rather than 1.4km, resulting in a marked decrease in prominence of the turbines seen from these properties and further reducing effects below the RVAA threshold. Tallaminnoch would be 1.6km from the nearest turbine (Turbine 12), rather than 1.5km from T10 also further reducing effects below the RVAA threshold</p>	
Chapter 6 - Hydrology, Hydrogeology, Geology and Soils	No likely significant effects were concluded / detail of effects	No change	Removal of T10 avoids impacts to deeper peat in that area of the Site and reduces the overall peat excavation requirements by 18,000m <sup>3</sup> for the Proposed Development. However, the change to the Proposed Development does not alter the outcome of the original EIA Report hydrology, hydrogeology, geology and soils assessment.	No change in Significance of Effects
Chapter 7 - Ecology and Biodiversity	No likely significant adverse effects were concluded. There is predicted to be a potential beneficial effect through restoration and enhancement of bog habitats onsite.	<p>Revised Draft NPF4 policies relevant to Chapter 7 are:</p> <p>Policy 3: Biodiversity; Policy 4: Natural Places; Policy 6: Forestry, Woodland and Trees; and Policy 11: Energy.</p> <p>The inclusion of Policy 3 is the most notable change which states: <i>"LDPs should protect, conserve, restore and enhance biodiversity in line with the mitigation hierarchy. They should also promote nature recovery and nature restoration across the development plan area, including by: facilitating the creation of nature networks and strengthening connections between them to support improved ecological connectivity; restoring degraded habitats or creating new habitats; and incorporating measures to increase biodiversity, including populations of priority species"</i>.</p>	The change in the Proposed Development does not alter the conclusions of the ecology and biodiversity assessment relating to fauna and all mitigation is still deemed to be relevant and effective. The removal of T10 results in a very slight reduction in bog habitat loss (Annex I/priority habitat), however this is negligible and does not alter the outcome of the assessment. The remaining habitat (conifer plantation) originally assessed to have been impacted by the position of T10 and associated infrastructure was not identified as an Important Ecological Feature. Therefore, this change to the Proposed Development does not alter the outcome of the original EIA Report ecology and biodiversity assessment.	No change in Significance of Effects
Chapter 8 - Ornithology	No likely significant effects were concluded.	No change	The removal of T10 would reduce collision risk assessed within the EIAR and reduce the effects of disturbance and displacement on IOFs. However, this does not alter the outcome of the original EIA Report ornithology assessment.	No change in Significance of Effects
Chapter 9 - Noise	<p>The following key conclusions were drawn:</p> <ul style="list-style-type: none"> <li>Construction noise: Negligible effect – Not Significant.</li> <li>Construction vibration: Negligible effect – Not Significant.</li> <li>Blast induced vibration and air overpressure: Negligible effect – Not Significant.</li> <li>Operational wind turbine noise: Not significant*</li> </ul> <p>*Residual Effect (with adherence to appropriate noise level limits including limit apportionment scheme for cumulative scenarios).</p>	<p>Revised Draft NPF4 pertinent policies are now:</p> <ul style="list-style-type: none"> <li>Policy 11: Energy;</li> <li>Policy 14: Design policy and place;</li> <li>Policy 23: Health and safety; and</li> <li>Policy 33: Minerals.</li> </ul> <p>There has been either no change or only a minor change (i.e., minor rewording) to the noise related policy text since the initial Draft NPF4, and/or there has been the introduction of text concerned with new noise-sensitive development which is not applicable to the Proposed Development.</p> <p>There have been no changes which have any bearing on the completed noise and vibration assessment work presented in the EIA Report.</p>	<p><u>Construction Noise</u></p> <p>The change to the Proposed Development has no bearing on the construction noise assessment because it does not give rise to new works within 300m of noise-sensitive receptors, in fact less construction works would be needed. Therefore, the removal of T10 does not alter the outcome of the original EIA Report construction noise assessment.</p> <p><u>Construction Vibration</u></p> <p>The completed assessment identified that turbine foundation works would be at such distances from receptors (&gt;1km) that a construction vibration impact would not arise. The EIA Report assessment considered the onsite construction works in closest proximity to sensitive receptors (site access track upgrade works approximately 220m from Tallaminnoch Cottage). The removal of T10 does not change those works, and, in fact, less construction work is needed in general. Therefore, the removal of T10 does not alter the outcome of the original EIAR construction vibration assessment.</p> <p><u>Blast Induced Vibration and Air Overpressure</u></p>	No change in Significance of Effects

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EIA Report chapter	Key conclusions of the EIA Report	Change to baseline condition, guidance or planning policy	Comparative assessment based on the removal of Turbine 10	Statement of Significance compared to EIA Report
		<p>The previous relevant policies from the South Ayrshire LDP 2014 have been incorporated into LDP2. There is either no change or only a minor change (i.e., minor rewording) to the noise related policy. There have been no changes which have any bearing on the completed noise and vibration assessment work presented in the EIA Report.</p> <p>Section 3.7 of the OWPS Onshore Wind Policy Statement (2022) is concerned with noise and confirms that, until such a time as new guidance is produced, all applicants are required to follow the noise assessment guidance contained within <i>The assessment and rating of noise from wind farms</i> (ETSU-R-97). It is also recognised that the Institute of Acoustics (IoA) published <i>A good practice guide to the application of ETSU-R-97 for the assessment and rating of wind turbine noise</i> (IoA GPG) and confirmed that the Scottish Government recognises that guide as a useful tool which developments can use in conjunction with ETSU-R-97. The noise assessment prepared within the EIA Report was undertaken in accordance with ETSU-R-97 and the IoA GPG. The introduction of this policy therefore has no bearing on the completed noise assessment work and re-affirms the acceptability and appropriateness of adopted assessment method.</p> <p>No other changes to policy or guidance have been identified which affect the methodologies applied in the assessment work presented in the EIA Report.</p> <p>There have been no changes to the baseline in respect of the noise assessment.</p>	<p>The change to the Proposed Development does not affect the location of the on-site borrow pits, the proximity of the closest receptor (Glenalla, &gt;1.2km), or the embedded mitigation measures. The removal of T10 therefore does not alter the outcome of the original EIAR of the blast induced vibration and air overpressure assessment.</p> <p><u>Operational Wind Turbine Noise</u></p> <p>The assessment of operational wind turbine noise presented in the EIA Report compares predicted noise levels for the Proposed Development (and cumulative developments) against site specific noise level limits determined in accordance with ETSU-R-97 and the IoA GPG.</p> <p>The removal of T10 would reduce the potential noise emissions from the Proposed Development and increase the degree of limit compliance at the receptors in closest proximity to this turbine. The assessment presented in the EIA Report therefore represents a worst-case scenario and the removal of Turbine 10 does not alter the outcome of the original EIAR operational wind turbine noise assessment.</p>	
Chapter 10 - Archaeology and Cultural Heritage	No likely significant effects were concluded.	No material change	The removal of T10 would result in a very slight reduction in turbine tips and hubs visible in peripheral views from a number of assets; however this would be negligible and does not alter the outcome of the original EIAR archaeology and cultural heritage assessment.	No change in Significance of Effects
Chapter 11 - Traffic and Transport	No significant effects were concluded in respect of traffic and transport.	No change	It is anticipated that there would be a small reduction in construction trips, due to a reduction in the materials required to install T10. It is however considered that this change is negligible / not significant and does not alter the outcome of the original EIAR Traffic, Transport and Access assessment.	No change in Significance of Effects
Chapter 12 - Socio-economics, Tourism and Recreation	No likely significant effects were concluded.	No material change	<p>The removal of T10 would result in the reduction of the total net construction job generation and total net GVA in South Ayrshire from approximately £8.8 million GVA and 140 jobs to approximately £8.1 million GVA and 130 jobs. It would also result in the reduction of the total net construction job generation and total net GVA in Scotland from approximately £26.4 million GVA and 421 jobs to approximately £24.4 million GVA and 389 jobs. However, the reduction of construction job generation and GVA are not considered to be significant and does not alter the outcome of the original EIAR Socio-economics assessment.</p> <p>The removal of T10 would also lead to a reduction in total net job generation and total net GVA in South Ayrshire during the operational phase from approximately £974,000 GVA and 25 jobs to approximately £900,000 GVA and 23 jobs. At the Scottish level, it would result in the loss of net operational jobs and GVA from approximately £1.3 million GVA and 35 jobs to approximately £1.2 million GVA and 32 jobs. However, the reduction of operational job generation and GVA are not considered to be significant and does not alter the outcome of the original EIAR Socio-economics assessment.</p>	No change in Significance of Effects
Chapter 13 - Other Issues				
Forestry and Land Use	No likely significant effects were concluded.	Revised Draft NPF4 policy is relevant: Policy 6: Forestry, Woodland and Trees	The removal of T10 would reduce the area of felling required to accommodate the Proposed Development. As a consequence, the extent of compensatory planting for the amended Carrick Windfarm layout is 95.17 ha. This is a 2.25 ha reduction from the 97.42 ha reported	No change in Significance of Effects

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EIA Report chapter	Key conclusions of the EIA Report	Change to baseline condition, guidance or planning policy	Comparative assessment based on the removal of Turbine 10	Statement of Significance compared to EIA Report
			in the EIA Technical Appendix 13.1: Forestry. Whilst this reduction of felling and lower requirement for compensatory planting is a positive, it does not alter the outcome of the original EIA forestry assessment.	
Aviation and Radar	No likely significant effects were concluded	No change	<p><u>Glasgow Prestwick Airport</u></p> <p>The removal of T10 reduces the total number of turbines in Radar Line of Sight (RLoS) between the Site and the S511 and Terma Primary Surveillance Radars (PSR); however, this does not alter the outcome of the original EIA Report aviation assessment.</p> <p><u>NATS (En Route) (NERL) Safeguarding</u></p> <p>The removal of T10 removes the possibility of it being within RLoS of the Lowther Hill PSR; however, this does not alter the outcome of the original EIA Report aviation assessment.</p>	No change in Significance of Effects
Climate and Carbon Balance	No likely significant effects were concluded	No change	<p>The removal of T10 reduces the estimated overall carbon losses associated with the Proposed Development.</p> <p>The expected payback time for the Revised 2023 Design is estimated to be approximately 4.6 years (based on Grid Mix). While this result would indicate an increase over the EIA Report outcome, the increased payback period calculated is largely attributed to the UK trend of reducing counterfactual emission factors.</p>	No change in Significance of Effects
Telecommunications	No likely significant effects were concluded.	No change	The removal of T10 makes no material difference to the telecommunications assessment.	No change in Significance of Effects
Shadow Flicker	No likely significant effects were concluded.	No change	The removal of T10 would reduce shadow flicker experienced at Receptors C, D and E. The change to the Proposed Development makes no material difference to the shadow flicker assessment.	No change in Significance of Effects

Table 5.1: Comparative Environmental Impact Assessment

## 6 Conclusion

45. This Addendum has been prepared and submitted to respond to the objections raised by SEPA and SAC in the s36 application consultation process, in respect of the impacts of the Proposed Development on deep peat across the Site.
46. **Figure 4.1(AI)** of this Addendum presents the removal of T10 from the Site Layout of the Proposed Development, as a direct response to the objections raised by SEPA and SAC. An assessment of likely significant effects as a result of this design change has been undertaken as a comparative assessment exercise against the assessment previously undertaken in the EIA Report to assess any changes to the significance of effects.
47. This assessment process has highlighted that the removal of T10 also provides a benefit in respect of reducing some landscape and visual impacts and residential amenity impacts, which addresses aspects of the objection raised by SAC in this regard. The design change has resulted in positive changes in respect of the assessed significance compared to the EIA Report for:
- Chapter 5 - Landscape and Visual.
48. Furthermore, benefits were identified in other assessments; however, these did not change the assessed significance compared to the EIA Report in respect of:
- Chapter 6 - Hydrology, Hydrogeology, Geology and Soils;
  - Chapter 8 - Ornithology;
  - Chapter 9 - Noise;
  - Chapter 10 - Archaeology and Cultural Heritage;
  - Chapter 11 - Traffic and Transport and
  - Chapter 13 - Other Issues:
    - Forestry and Land Use;
    - Climate and Carbon Balance; and
    - Shadow Flicker.
49. Since submission of the s36 application in December 2021, significant changes in legislation, planning policy and guidance have occurred in respect of the publication of the Revised Draft NPF4 and, upon adoption of NPF4 on 13 February 2023, its imminent status as forming part of the Development Plan. Furthermore, SAC adopted LDP2 in August 2022 and the Scottish Government published the OWPS in December 2022. NPF4 will be adopted at the time of determination of this application and, as such, it and the OWPS will attract significant weight as a relevant consideration. The LDP2 will also be a relevant consideration; however, as planning policy and given the advent of NPF4 being part of the Development Plan and it being more current, LDP2 will not attract as much weight in the policy balance when determining this application.

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