Foel Fach Wind Farm Limited.

Foel Fach Wind Farm - Environmental Statement Volume III

Appendix 9.10: Residential Visual Amenity Assessment (RVAA)

Project Reference: 664094

DECEMBER 2025

CONTENTS

1 APPENDIX 9.10 – RESIDENTIAL VISUAL AMENITY ASSESSMENT

1.1 Introduction

1.1.1 Residential visual amenity is defined as "*the overall quality, experience and nature of views and outlook available to occupants of residential properties, including views from gardens and domestic curtilage*".[1]

1.1.2 It is a widely established planning principle that no one has a private 'right to a view' including where a development may have a significant effect upon private views, as confirmed in many appeal decisions over recent years.

1.1.3 The purpose of Residential Visual Amenity Assessment (RVAA) is to identify if any significant changes in private views would be so great that they would breach the Residential Visual Amenity Threshold (RVAT) defined as:

"The threshold at which the visual amenity of a residential property is changed and adversely affected to the extent that it may become a matter of Residential Amenity and which, if such is the case, competent, appropriately experienced planners will weigh this effect in their planning balance.".[2]

1.1.4 The scale of change in views that would be experienced by residents includes consideration of whether a Proposed Development could be legitimately perceived as 'overbearing' which is defined as:

"the impact of a development or building on its surroundings, particularly a neighbouring property, in terms of its scale, massing and general dominating effect".[3]

1.1.5 The professional judgement on whether the RVAT would be breached or not is based on transparent and well-reasoned assessment techniques set out in best practice guidance[4] and described in **Section 1.2** of this Appendix.

1.1.6 The relationship between LVIA and RVAA is described as:

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[1] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraph 1.2

[2] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment – Glossary – page 17

[3] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment – Glossary – page 16

[4] Landscape Institute and Institute of Environmental Management & Assessment (LI and IEMA). (2013) Guidelines for Landscape and Visual Impact Assessment. Third Edition; and The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment.

"Effects of development on private property are frequently dealt with mainly through 'residential amenity assessments.' These are separate from LVIA although visual effects assessment may sometimes be carried out as part of a residential amenity assessment, in which case this will supplement and form part of the normal LVIA for a project. Some of the principles set out (in GLVIA3) for dealing with visual effects may help in such assessments, but there are specific requirements in residential amenity assessment."[5]

1.1.7 It is important to differentiate residential visual amenity from a range of other potential environmental effects that could impact living conditions close to proposed wind farms including noise and shadow flicker. Together these effects are considered as part of the 'planning balance'[6].

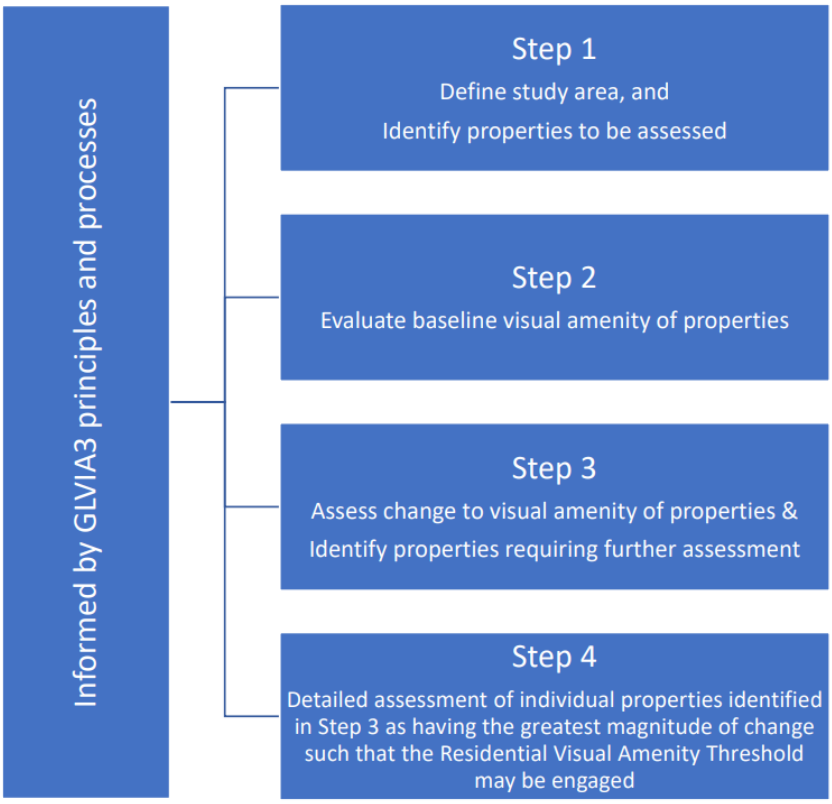
1.2 Assessment Methodology

1.2.1 This Technical Appendix comprises a RVAA of the Proposed Development that follows the staged approach outlined in the Landscape Institute Technical Guidance Note 02/19, with Figure 1 of the RVAA process reproduced as **Plate 1** below.

[5] Landscape Institute and Institute of Environmental Management & Assessment (LI and IEMA). (2013). Guidelines for Landscape and Visual Impact Assessment. Third Edition - paragraph 6.17

[6] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraph 1.9

Plate 1: RVAA Process (TGN 02/19)



Step 1: Definition of the Study Area and Scope of the Assessment[7]

1.2.2 This RVAA defines a preliminary study area as a radius of 2 km from the proposed turbines. Within this study area the properties or groups of properties that are located within the Zone of Theoretical Visibility (ZTV) are scoped into the evaluation of baseline amenity as Step 2 below (**ES Volume IV, Figure 9.32: Residential Properties within 2 km**).

1.2.3 The RVAA seeks to identify, under Step 2 and 3 of the process described below, if any of the residents scoped into the assessment would experience a significant effect on views from their property (from the dwelling or its curtilage) during the operational period of the Proposed Development. This assessment has focused on the likely effects resulting from the wind turbines, given their vertical scale.

[7] *The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraphs 4.3-4.8*

Step 2: Evaluation of Baseline Visual Amenity[8]

1.2.4 The existing visual amenity of each residential property or groups of dwellings scoped into the RVAA under Step 1 is described in terms of the type, nature, extent, and quality of views that may be experienced 'in the round' from the dwelling itself, including its ‘domestic curtilage’ (domestic gardens and access drives).

Step 3: Assessment of Likely Change to Visual Amenity of Properties[9]

1.2.5 As part of Step 3, the sensitivity of the receptor (in all cases considered high from a combination of high susceptibility and medium to high value) is combined with the assessed magnitude of change at each receptor to determine the significance of effect.

1.2.6 As set out in TGN 2/19[10] this step involves both desk study and detailed fieldwork but has not required visits to every individual property which, for the purposes of this step, can generally be assessed from the nearest publicly available vantage/access point.

1.2.7 The assessment of magnitude of change was undertaken from appraisal in the field and from wireline visualisations of the proposed wind turbines (**Figures 2 - 44** of **Annex 1** to this Appendix). It should be noted that these are bare-earth illustrations and therefore do not take account of available screening from woodland, buildings and other intervening features in the landscape. Judgement of the magnitude of change in Step 3 considered a range of factors where relevant, as listed below, with seasonal variation also considered:[11]

- Distance between the property and wind turbines accounting for size/scale and location relative to dwelling e.g. on higher or lower ground;
- Type and nature of views e.g. open or enclosed;
- Direction of views accounting for primary and secondary views from the property;
- Extent of wind turbines visible from the property including likely principal rooms, domestic curtilage and private access route;
- Scale of change in the views from introduction of wind turbines; and
- Degree of contrast the wind turbines would introduce into views compared with the baseline e.g. presence of other vertical structures already in the view.

1.2.8 Step 3 concludes by identifying if any properties, or groups of properties, should be assessed further in a final Step 4, forming the RVAA Judgement.

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[8] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraphs 4.9-4.12

[9] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraphs 4.13-4.16

[10] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment – paragraph 4.15

[11] The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraph 4.14

Step 4: Forming the RVAA Judgement[12]

1.2.9 In line with best practice guidance Step 4 is only considered for those properties where the largest magnitude of effect has been identified[13] i.e., a Very High Magnitude of Change. It is stated at footnote 7 linked to paragraph 4.18 of TGN 02/19 that:

"In line with GLVIA3 best practice (page 38, paragraph 3.27, point 2), visual impact magnitude is expressed on a sliding scale from minimum to maximum, typically using descriptors such as negligible, small, medium and large. Being a continuum, each of these has its upper and lower limits. It is important for assessors to keep in mind that RVAA is only concerned with those properties in the highest magnitude category".

1.2.10 With reference to the LVIA Methodology at **ES Volume III, Appendix 9.1: LVIA Criteria** the definitions for the visual magnitude of change that could result in Significant visual effects is reproduced below:

- Medium Magnitude of Change - Some change in the view that is clearly notable in the view and forms an easily identifiable component in the view;
- High Magnitude of Change - A change in the view that is highly prominent and has a strong influence on the overall view; and
- Very High Magnitude of Change – A change in the view that has a dominating or overbearing influence on the overall view.

1.3 Assessment of Effects

1.3.1 **Table 1 – RVAA Steps 2 and 3** below contains the survey information gathered through desktop study and field appraisal and concludes with an assessment of the level of effect and significance for each receptor.

1.3.2 In this case all residential properties assessed are isolated properties that are each assessed individually.

1.3.3 As noted in the methodology above, an initial screening exercise was undertaken in order to establish which of the properties within 2 km were located within the ZTV, with those with no potential view of the turbines not considered for further assessment. This exercise established that of the properties with 2 km, only the following 20 no. discussed in **Table 1** below would have any potential visibility of the turbines.

1.3.4 A letter was written to each of the 20 no. properties requesting access to visit the property to help inform the assessment. Permission to visit was received for 4 no. of

[12] *The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment - paragraphs 4.17-4.20*

[13] *The Landscape Institute (2018). Technical Information Note 02/2019 – Residential Visual Amenity Assessment – paragraph 4.18*

the properties (R1: TYN Y DDÔL UCHAF, R3: CREIGIAU UCHAF, R9: LLWYN IOLYN, and R17: WERN FAWR). The remainder of the properties were assessed from the nearest publicly accessible locations.

1.3.5 Where a distance between a residential property and a turbine is provided, the figure given is an approximate measurement between the centre point of the turbine tower and the corner of the nearest façade to the proposed wind turbines.

1.3.6 Where a property is set back from the public road along an access track that extends beyond the curtilage of the property, views on approach and departure from the property are also assessed.

1.3.7 A bare earth wireframe illustrating a 90-degree angle of view towards the proposed turbines, from the corner of the nearest façade of the nearest property is provided in **Annex 1** to this assessment. These wireframes do not take account of any intervening screening that may reduce or prevent visibility of the proposed turbines such as buildings, trees or any other visual barriers.

In this assessment no 'Very High' magnitude of change was concluded for any receptor at Step 3 set out in **Table 1** below. Consequently, no further detailed assessment is required because none of the assessed effects would be of a scale that could reach the RVAT. This is predominately due to an important part of the design process which included minimising the visual effects that would be experienced by residents of the closest dwellings, i.e., to avoid overbearing visual effects.

Table 1 RVAA – Steps 2 and 3

Property ID and Name	Distance to turbines	Magnitude of Change (Worst-Case)	Assessment – Level of Effect and Significance (Worst-Case)
R1: TYN Y DDÔL UCHAF	1251 m	Medium	**Moderate-major effect (significant)**. The property is located on elevated ground with the principal elevation appearing to face south-east. The wireline indicates partial visibility with turbines T05, T06, T07, T02, T03 and T01 visible to varying degrees. Significant topographic screening limits the visibility with several turbines appearing only as blade tips or upper towers above the intervening landform. The property is situated in a relatively open upland landscape with scattered mature trees around the property visible on the aerial imagery, particularly to the north and west. At just over 1.2 km distance, the turbines would form noticeable but not dominant elements in south-east views.
R2: HENDRE BACH	1630 m	Medium-high	**Moderate-major (significant)**. The property is situated in an open location with expansive views across the agricultural landscape. The wireline shows visibility of T05, T06, T04, T03, T09, T07, T10, T08, T02 and T01 across the horizon. Despite the distance of over 1.6 km, multiple turbines would be visible from this location, appearing as notable features on the skyline. The aerial imagery indicates some tree cover to the south, though the landscape is predominantly open agricultural land, such that any screening of views by vegetation is likely to be limited. The turbines would however appear well related to their upland context and their layout well-designed, with regular spacing and no notable turbine stacking. The broad, open nature of the landscape would help to accommodate the turbines in the view in such a manner as they would not be a dominating feature in the view.
R3: CREIGIAU UCHAF	1251 m	Low-medium	**Minor-moderate effect (not significant)**. Located on rising ground as suggested by the name ('Uchaf' meaning upper), the property has an elevated position in the landscape. The wireline reveals significant topographic screening with only T03, T04 and T10 showing limited visibility, mainly as blade tips above the intervening landform, with the only visible hub relating to T04. The property is surrounded by

			agricultural fields with some mature trees around the property boundaries that would further reduce the potential for views of the turbines.
R4: CREIGIAU ISAF	1533 m	Low-medium	**Minor-moderate effect (not significant)**. Set lower in the landscape than Creigiau Uchaf ('Isaf' meaning lower), the property benefits from increased topographical screening. The wireline confirms limited visibility with T03, T02, T04, T09 and T10 showing partial visibility, appearing mainly as distant blade tips. The lower elevation combined with intervening topography significantly limits views of the Proposed Development.
R5: RHYD YR EWIG	1609 m	Low	**Minor effect (not significant)**. The property is located in a relatively open agricultural landscape. The wireline shows very limited visibility with only T05, T03 and T01 visible with the latter two appearing as blade tips only on the horizon. The topographic screening results in a minor visual impact from the Proposed Development.
R6: GREIGWEN	1026 m	Low-medium	**Minor-moderate effect (not significant)**. Located just over 1 km from the turbines in agricultural land. The wireline reveals significant topographic screening with only T02 and T03 showing blade tip visibility above the intervening landform. The topography provides substantial screening that significantly reduces the visual impact on this property.
R7: PENTRE	905 m	High	**Major effect (significant)**. One of the closest properties to the proposed turbines at 905 m. The wireline demonstrates T04, T01, T03, T02, T08, T07, T05, T10 and T09 clearly visible although to differing degrees (T01, T02, T07, T07 and T08 being visible only to blade tips). T10 would be prominent in views from the property, though this and others benefit from partial topographic screening of the lower sections of their towers. The property is situated in an exposed upland setting. The turbines would be seen on the elevated ground above the property but would be set back into the landscape and as such would not appear dominant or overbearing in views from the property.
R8: PANDY	1649 m	Medium	**Moderate effect (significant)**. The property name suggests a mill location, typically situated in valleys. The wireline shows visibility of T08, T07, T06, T10, T05 and T09 to varying degrees. Despite the distance of over 1.6 km, the position allows views of multiple turbines on the skyline. The aerial imagery shows the

			property has a relatively open aspect towards the Site despite the fact it is surrounded by linear woodland block providing a secluded backdrop. Turbine T10 would be the most notable of the turbines, with the remainder much more screened by topography. The turbines would also only occupy a relatively narrow horizontal angle of view when seen from the property.
R9: LLWYN IOLYN	1473 m	High	**Moderate effect – worst case (significant)**. The property is situated adjacent to a wooded valley ('Llwyn' meaning grove, copse or thicket). The wireline reveals T04, T03, T02, T08, T07, T06, T10, T05 and T09 clearly visible across views in the direction of the Site. The property appears only partly orientated towards the Site but there would be clear views to multiple turbines from the curtilage and some garden areas. The woodland surrounding the property will provide partial screening but there is otherwise limited topographic screening which would result in clear views of some turbines above the treeline. Nonetheless, at a distance of over 1.4 km, the turbines would not be dominant over overbearing in the view and would appear well related to their upland location.
R10: CWM HWYLFOD	1157 m	Medium-high	**Moderate-major effect (significant)**. Set within a valley location as indicated by 'Cwm'. The wireline shows multiple turbines visible (T04, T08, T07, T06, T05, T10, T09) with the turbines appearing prominently on the skyline above the valley sides. The aerial imagery confirms the valley setting with some tree cover along the valley slopes that may serve to partially screen views. Turbine 10 would however be notable in particular, albeit at a distance of over 1.1 km, the turbine would not appear dominant or overbearing in the view.
R11: TY CAPEL GLAN YR AFON	1961 m	Low-medium	**Minor-moderate effect (not significant)**. The property name indicates a location near the river ('Glan yr Afon' - riverside). The wireline confirms very limited visibility with only T03 and T01 showing minimal visibility. The distance and topographic screening result in a limited visual impact.
R12: TY'R NEUADD	1969 m	Low-medium	**Minor-moderate effect (not significant)**. Located at the edge of the study area. The wireline shows only T03 and T01 as distant blade tips on the horizon. At nearly 2 km distance with substantial topographic screening, the visual impact is limited.

R13: NANT Y PYD	1929 m	Low-medium	**Minor-moderate effect (not significant)**. The property name indicates a valley or stream location ('Nant'). The wireline reveals only T05 and T06 appearing as blade tips on the distant horizon. The valley location and distance provide notable screening with limited visual impact.
R14: MAES Y FEDW	1875 m	Medium-high	**Moderate-major effect (significant)**. The property is located in open farmland ('Maes' – meaning field). The wireline shows theoretical visibility of blade tips only for T01, T03, T05, T06, T09 and T10, with views of hubs T04, T06 and T07 only. Noting the visibility of T04 however, the development would be noticeably visible and would give rise to a significant visual effect. At a distance of over 1.8 km the turbines would not however be dominating of the view, being seen within a wide panorama and with the exception of T04, being largely screened by landform.
R15: MAES Y BYLLAN	1033 m	High	**Major effect (significant)**. Located just over 1 km from the turbines in an agricultural setting. The wireline confirms theoretical visible of the towers of T06, T07, T02, T03 and T01 with the blade tips of T04, T05, T08 and T09 also likely to be just noticeable in the view. The turbines would form notable elements, despite some topographic screening of the lower sections of the towers, but would appear well-designed, with even spacing and little overlapping of turbines, and well related to the elevated landform in which they are sited. The turbines would not be seen in context of 360 degree views to such a degree that they would be a dominant or overbearing feature that would overwhelm the view.
R16: PALE BACH CWM MAIN	1114 m	High	**Major effect (significant)**. Located in a valley setting as indicated by 'Cwm Main'. The wireline shows visibility of T04, T08, T07, T06, T05, T10 and T09 on the skyline, with T04 only visible to blade tips. The valley sides limit the extent of turbines visible but those that are visible appear prominently above the valley, albeit set back from the property by over 1.1 km which limits the impact and ensures that the turbines would not be dominant or overbearing in the view.
R17: WERN FAWR	1662 m	Low	**Minor effect (not significant)**. The property name suggests a location near wetland ('Wern' - alder marsh). The wireline shows limited visibility with T06, T02, T01 and T03 showing partial visibility. The topographic screening significantly reduces visual impact at this distance.

R18: LLAITHGWM	890 m	Medium-high	**Moderate-major effect (significant)**. The closest residential receptor to the proposed turbines at 890 m. The wireline reveals no visibility of the majority of the turbines, with only T02, T03 and T01 showing any visibility above intervening topography and only T01 having any notable visibility below hub height. The property is set within a working farm complex with substantial topographic screening limiting the visual impact and whilst T01 would form a notable element in the view it would not form a dominant or overbearing feature, appearing well related to the upland context of the Site and partially behind the foreground landform.
R19: PENMAEN UCHAF	1672 m	Low-Medium	**Moderate-Minor effect (not significant)**. The property is situated on higher ground as indicated by 'Uchaf' (upper). The wireline shows T01, T02, T03, T06 and T04 visible to varying degrees but appearing as relatively distant features at over 1.6 km. Some topographic screening limits the full extent of turbines visible.
R20: HENDRE	1964 m	Low-Medium	**Moderate-Minor effect (not significant)**. Located at the northern edge of the study area at nearly 2 km distance. The wireline shows turbines T04, T03, T07, T08, T06, T05, T10 and T09 visible but with mostly the blades or blade tips appearing as distant features on the horizon and towers set behind the intervening landform.

Notes: Turbines numbers referenced from the wireline visualisations (**Annex 1**) are noted moving from left to right.

1.4 Summary and Conclusions

1.4.1 The purpose of Residential Visual Amenity Assessment (RVAA) is to identify if any significant changes in private views would be so great that they would breach the Residential Visual Amenity Threshold (RVAT).

1.4.2 This RVAA of the Proposed Development follows the staged approach outlined in the Landscape Institute Technical Guidance Note 02/19 (TGN 02/19). Step 1 defined the study area as extending 2 km from the turbines and included all properties at this range that fell within the Zone of Theoretical Visibility (ZTV).

1.4.3 Step 2 and 3 of TGN 02/19 included desktop appraisal, field studies and preparation of wireline visualisations to assist in judging the magnitude of change that would be experienced from each residential receptor as a result of the Proposed Development. The magnitude of change was combined with the sensitivity of the receptor (high in all cases) to establish the overall significance of effect as set out in the LVIA Methodology.

1.4.4 The assessment identified that significant effects would be experienced at ten residential receptors: R1, R2, R7, R8, R9, R10, R14, R15, R16 and R18. The wireline analysis demonstrates however that topographic screening provides substantial mitigation for many properties, limiting the number of properties with significant visual effects.

1.4.5 Arrangement of the layout of the wind farm has followed an iterative design process as set out in the **ES**, **Planning Statement** and **Design and Access Statement**, which accompanies the application. The natural topography of the Site provides significant screening benefits, particularly for properties in valley locations and those closest to the development. While property R9 was assessed as experiencing a high magnitude of change, the RVAA at Step 3 predicted that there would be no potential for a Very High magnitude of change to be experienced from any dwelling. This ensures that no visual effect would be close to meeting the Residential Amenity Threshold (RVAT).

1.4.6 In accordance with best practice guidance TGN 02/19, the Step 3 results indicate that there is no requirement for a more detailed Step 4 study where a judgement is made on whether the Proposed Development would result in the RVAT being met or not at specific properties.

1.4.7 The RVAA concludes that the RVAT would not be reached at any property. The detailed wireline analysis demonstrates that natural topographic screening significantly reduces the visual impact for many properties, particularly those closest to the development. Whilst unavoidable significant effects would be experienced by residents at some properties, at no property would the effects experienced be so great as to reach the RVAT.

Annex 1


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