

RES

Upper Ogmore Wind Farm Rotor Diameter Increase Landscape and Visual Appraisal

Final report

Prepared by LUC

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Chapter 1

Introduction

Background

1.1 LUC prepared the Landscape and Visual Impact Assessment ('the LVIA') for the Upper Ogmore Wind Farm, which was submitted as Chapter 5 of the Environmental Statement in 2020 ('the 2020 ES'). The LVIA identified a number of significant effects on local landscape character, and on visual amenity experienced by people in the local area.

1.2 The Upper Ogmore Wind Farm was consented by the Welsh Government in September 2022 following an Examination. The Inspector largely concurred with the findings of the LVIA in his report.¹ During the Examination process the local planning authorities also indicated agreement with the findings of the LVIA.²

1.3 RES is now seeking to amend the consented development in order to construct turbines with larger rotors than those originally proposed. This report sets out the potential for additional landscape and visual effects to occur as a result of the proposed amendments.

The Scheme

1.4 The consented development comprises seven turbines located on high ground at Werfa, between the Ogmore, Afan and Garw valleys. Four of the consented turbines have a blade tip height of 149.9m, with three at 130m. All have rotor diameters of 105m.

1.5 RES is seeking consent for a development of turbines using a rotor of 117m diameter. The tip height and location of the seven turbines will not be changed. No other elements of the project would be varied. The proposed development is therefore identical to the consented development, with the exception of the dimensions of the proposed turbines.

1.6 Table 1.1 sets out the dimensions of the turbines of the proposed development.

Table 1.1: Turbine dimensions

Turbine	Tip (m)	Rotor (m)	Hub (m)
T1	130	117	71.5
T2	130	117	71.5
T3	149.9	117	91.4
T4	149.9	117	91.4
T5	149.9	117	91.4
T6	130	117	71.5
T7	149.9	117	91.4

Purpose and Scope

1.7 This report considers the potential for effects on landscape and visual receptors as a result of the proposed development to be different to the effects of the consented development, which are set out in the 2020 ES.

1.8 The overall extent of the development has not changed, and the maximum turbine height has not increased, suggesting that effects are unlikely to be more widespread. However, the potential for turbines of different dimensions to have different landscape and visual effects is identified in relevant guidance.

1.9 Designing Wind Farms in Wales notes that "*The landscape and visual impacts of a wind turbine vary not only with its size, but also with the make and model of the turbine proposed. Turbines of the same height may have varying visual appearances due to their different design and technical characteristics.*"³

¹ Planning & Environment Decision Wales (2021) Inspector's Report. PEDW case reference DNS/3213662.

² Upper Ogmore Wind Farm, Statement of Common Ground – Session 1, between RES, Bridgend CBC and Neath Port Talbot CBC. PEDW case reference DNS/3213662.

³ Design Commission for Wales (2014) Designing Wind Farms in Wales. Available at: <https://dcfw.org/designing-wind-farms-in-wales-2/>

1.10 Siting and Designing Wind Farms in the Landscape expands on this, noting *“The proportion of the tower to the blades should be considered as the visual effects can be quite different.”*⁴

Scope

1.11 Only receptors that would potentially be affected by the change in rotor diameter are examined within this appraisal. Receptors that are distant from the site are unlikely to be affected by a change of the type proposed. This appraisal therefore considers a smaller study area than the LVIA in the 2020 ES.

1.12 The 2020 ES concluded that significant effects on landscape character would be experienced *“across an area extending no more than 2 km from the proposed turbines, and much less to the north and west.”* Significant effects on views were identified at up to 5 km from the proposed turbines. As such, this appraisal focuses on an area up to 5 km from the proposed turbines, and examines whether any effects within this area would be different as a result of the proposed development.

1.13 As neither the tip height nor hub height of the turbines would be increased, no new zone of theoretical visibility (ZTV) maps have been produced. The maximum extent of visibility of the turbines remains as shown in Figures 5.3a-3b and Figures 5.4a-4b of the 2020 ES. An extract of the tip height ZTV showing the reduced study area for this appraisal is included in **Figure 1**.

1.14 There will be no difference in the construction or decommissioning of the proposed development, as compared to the consented development. Only the operational-stage effects of the proposed development are therefore considered. The operational period of the wind farm is up to 35 years.

1.15 To support this assessment, updated visualisations were prepared to show the revised proposal from selected viewpoints within the 5 km study area. The selection of viewpoints is discussed in Chapter 3, and visualisations are shown in **Figures 2 to 8**.

Structure of this Report

1.16 The remaining chapters of this report are:

- Chapter 2 reviews the baseline landscape and visual environment; and
- Chapter 3 presents the appraisal and draws conclusions.

⁴ Scottish Natural Heritage (2017) Siting and Designing Wind Farms in the Landscape. Version 3a. Available at:

<https://www.nature.scot/doc/siting-and-designing-wind-farms-landscape-version-3a>

Chapter 2

Baseline

Introduction

2.1 This chapter reviews the assessment baseline presented in the 2020 ES, and notes any relevant updates.

Legislation and Policy

2.2 Future Wales: The National Plan 2040 has been published and adopted since the LVIA was completed.⁵ Future Wales sets out Pre-Assessed Areas for onshore wind development, and the site is located within one of these. Policies 17 and 18 of Future Wales set out criteria against which renewable energy proposals will be considered.

2.3 The implications of Future Wales were considered by the Inspector at the Examination, who concluded that “*Policy 18 expressly omits any test in respect of landscape impacts for wind energy proposals located within the ‘Pre-Assessed Areas for Wind Energy’.*”⁶ However, the Inspector did include “*the effect of the proposed development upon landscape character and visual amenity*” as a principal matter for consideration in reaching his determination. As such, this appraisal considers potential landscape and visual effects.

2.4 No substantive changes to local planning policy have been identified since the LVIA was completed.

Landscape Baseline

2.5 The landscape baseline was described in the LVIA in terms of a description of the site and study area. A desk-based review of the relevant sections of the 2020 ES against the present landscape of the study area did not identify any substantive changes to the landscape baseline.

2.6 The LVIA referred to published landscape character assessments for Bridgend and Neath Port Talbot, as well as the LANDMAP information system published by Natural Resources Wales (NRW). The landscape character assessments have not been updated. Information contained in LANDMAP is periodically updated, but it is not known if details relevant to the study area have been revised recently. In any case, this would be a change to a published description, rather than a change in the actual baseline landscape.

2.7 The LVIA also noted landscape designations, including the Northern Uplands Special Landscape Area (SLA) which includes the site. No changes to landscape designations have been identified.

2.8 In summary, there have been no substantive changes to the landscape of the study area since the LVIA was completed. The judgements of susceptibility, value and sensitivity applied to landscape receptors in the LVIA are considered to remain appropriate for use in this appraisal.

Visual Baseline

2.9 The visual baseline was described in the LVIA in terms of the ZTV, and the different types of receptors who would experience views of the development.

2.10 As noted in paragraph 1.13 above, the ZTV has not changed, as the proposed turbines are of the same overall height as the consented turbines. A desk-based review did not identify any likely material changes to the potential visual receptors listed in paragraph 5.80 of the 2020 ES. The extent of settlement and the available routes through the study area have not changed substantively. The representative viewpoints listed in Table 5.3 of the 2020 ES remain relevant. The viewpoints within 5 km of the consented turbine locations are listed in **Table 2.1** and shown in **Figure 1**.

Table 2.1: Viewpoint Locations

No.	Name	X	Y	Distance
1	A4107, Hairpin Bend	291709	195676	0.9 km
2	Mynydd Llangeinwyr	291951	193247	1.2 km
3	Craig Ogwr	293803	194554	1.3 km
4	Parc Calon Lan, Blaengarw	289854	193095	1.8 km

⁵ Welsh Government (2021) Future Wales: The National Plan 2040. Available at <https://www.gov.wales/future-wales-national-plan-2040-0>

⁶ Planning & Environment Decision Wales (2021) Inspector's Report. PEDW case reference DNS/3213662.

No.	Name	X	Y	Distance
5	Ogmore Terrace, Nant-y-moel	293550	192759	1.9km
6	Caroline Street, Blaengwynfi	289242	196548	2.2km
7	Mynydd William Meyrick	295215	192726	3.1 km
8	Meadow Street, Pontycymer	290481	191472	3.2 km
9	Cwmparc	295537	196197	3.6 km
10	Pen y Foel	291900	189554	4.8 km

2.14 As in the LVIA, the focus of cumulative considerations in this appraisal is on the relationship between the proposed development and the operational wind farms nearby, particularly Llynfi Afan and Pant y Wal.

2.11 As noted above, there have been no material changes in the local landscape since the LVIA was completed, and the views and visual amenity likely to be experienced are therefore also unchanged. The judgements of susceptibility, value and sensitivity applied to visual receptors in the LVIA are considered to remain appropriate for use in this appraisal.

Wind Energy Development

2.12 Other wind farms to be considered in judging cumulative effects were listed in Table 5.7 of the 2020 ES. Most of these were operational at the time. The following updates have been noted.

- Foel Trawsnant (6.3 km from Upper Ogmore) has been consented as a revised scheme of 11 turbines at 145 m to tip. It remains unbuilt.
- A variation to the Melin Court scheme (7.6 km from Upper Ogmore) has been consented to permit turbines up to 149.9 m. It remains unbuilt.
- A Scoping Report for Y Bryn Wind Farm was submitted in 2021. According to consultation documents online, a group of six turbines (206m to tip) is proposed west of Maesteg, 6.8 km from Upper Ogmore, with the main body of turbines further south. No application has been submitted.

2.13 The Y Bryn proposal remains at an early stage, with no certainty that it will proceed to an application. The more certain cumulative baseline, including operational and consented turbines and incorporating the updates above, has not changed materially since the 2020 ES was produced. On this basis, no consideration has been given to future cumulative effects within this appraisal.

Chapter 3

Assessment

Effects on the Landscape

3.1 The 2020 ES concluded that significant effects on landscape character would be experienced “*across an area extending no more than 2 km from the proposed turbines, and much less to the north and west.*” (paragraph 5.5).

3.2 The significant effects were attributed to “*the introduction of seven large turbines alongside access tracks, substation, control building and the Energy Storage Facility (ESF).*” In reaching these conclusions, the LVIA did not refer to the dimensions of the turbines other than describing them as ‘large’ (see paragraphs 5.118 and 5.119 of the 2020 ES).

3.3 Paragraphs 5.120 to 5.122 describe the relationship of the consented development with the operational Llynfi Afan Wind Farm. These sections focus on the influence of wind turbines on visual aspects of character, but these conclusions depend on the presence of the turbines rather than their specific appearance.

3.4 It is judged that, had the LVIA considered the proposed development, the conclusions set out in the 2020 ES in relation to landscape effects would have been the same. There is no reason to conclude that the increase to rotor diameters, without change to tip height, would result in material differences to either the extent or the intensity of effects on landscape character.

3.5 As there is no difference in the conclusion on landscape character, it follows that there would be no difference in relation to landscape designations. The Proposed Development would not result in the primary landscape qualities of the Northern Uplands SLA being unduly undermined.

Effects on Views and Visual Amenity

3.6 The viewpoint assessment carried out as part of the LVIA concluded that there would be “*significant effects on sensitive visual receptors up to 4.8 km from the Proposed Development, with effects judged as major being limited to sensitive receptors within 2 km.*” (paragraph 5.7). The receptors likely to experience these significant effects included people within the nearby settlements; recreational users on high ground, surrounding hills, footpaths and cycle routes; and users of the A4107.

3.7 To consider whether views experienced by these receptors would change materially as a result of the rotor diameter increase, a review was undertaken of the viewpoint assessment presented in the 2020 ES. Revised wirelines and photomontages were prepared to show the revised proposal from selected viewpoints within the 5 km study area.

3.8 Not all the viewpoints within 5 km have been reviewed in this appraisal. The focus is on the closer viewpoints, from where a change in turbine dimensions would be most apparent. Locations where no significant effects were found in the 2020 ES were not reviewed. Viewpoints 1-7 from the 2020 ES were therefore selected for this appraisal. These are listed in **Table 2.1** and shown in **Figure 1**.

3.9 Revised wirelines and photomontages were prepared to show the revised proposal from Viewpoints 1-7, using the same format as the visualisations presented in the 2020 ES. These are included in **Figures 2 to 8**.

Viewpoint 1 A4107, Hairpin Bend

3.10 In this view, the turbines of Llynfi Afan are already prominent features in the view. The 2020 ES identified a moderate effect, as the turbines of the consented development would be “*clearly visible, though seen in the context of, and partly behind, the Llynfi Afan turbines.*” The 2020 ES visualisation shows that the consented turbines would appear to have similar proportions to the Llynfi Afan turbines. The updated visualisation shows that the turbines with larger rotors would be noticeably different from the Llynfi Afan turbines in their proportion. While this difference would be noticeable, it is not considered so great to lead to a change in the level of effect.

Viewpoint 2 Mynydd Llangeinwyr

3.11 In this view, the turbines of Llynfi Afan are visible but set well back behind the rising landform. The 2020 ES identified a major effect, as the turbines would be “*seen in the context of Llynfi Afan, though appearing closer and larger, and extending the presence of turbines on the skyline.*” The 2020 ES visualisation shows that the consented turbines appear larger than the Llynfi Afan turbines, due to proximity as well as actual size, but would have similar proportions. The updated visualisation shows that the larger rotors of the proposed turbines would be clearly apparent. The overall proportion of the turbines is less easy to perceive in this view due to the

intervening landform. The presence of the turbines across the skyline would remain the principal source of effect, and no change in the level of effect would occur.

Viewpoint 3 Craig Ogwr

3.12 In this view, the proposed turbines are clustered on the skyline, with the turbines of Llynfi Afan visible behind and set back behind the higher ground. The 2020 ES identified a major effect, in part as the turbines would be “*seen in front of existing turbines at Llynfi Afan, and appearing larger and closer*”. The 2020 ES visualisation shows that the consented turbines appear substantially larger than the Llynfi Afan turbines, due to proximity as well as actual size. The updated visualisation shows that the larger rotors of the proposed turbines would be clearly apparent, particularly for the turbines with lower hub heights (e.g. T6). The rotors would appear substantially larger than those of Llynfi Afan, though this would in part be due to their proximity. The presence of the turbines across the skyline would remain the principal source of effect, and no change in the level of effect would occur.

Viewpoint 4 Parc Calon Lan, Blaengarw

3.13 In this view, only one turbine of Llynfi Afan is visible, with three of the proposed turbines occupying a more prominent position. The 2020 ES identified a moderate effect, as the turbines “*would occupy the middle-ground and extend the angle of view affected by turbines*”. The 2020 ES visualisation shows that the consented turbines appear substantially larger than the one visible Llynfi Afan turbine, but mainly due to proximity and position. The updated visualisation shows that the size difference remains noticeable. However, the lower hub heights mean that the turbines appear to sit lower on the skyline than the consented turbines. The three turbines would remain relatively prominent, and no change in the level of effect would occur.

Viewpoint 5 Ogmore Terrace, Nant-y-moel

3.14 In this view, two of the Llynfi Afan turbines are visible, but set well back behind the valley edge. The 2020 ES identified a major effect, since the turbines would be visible on the skyline, with the local landmark Braich yr Hydd (within the site) likely to draw the eye to their presence, and with T3 framed by landform. The 2020 ES visualisation shows that the consented turbines appear substantially larger and closer than the Llynfi Afan turbines. The updated visualisation shows that this would still be the case. Due to their lower hub heights, the proposed turbines would appear slightly lower on the skyline than the consented turbines. This is noticeable for the turbines on Braich yr Hydd as well as the framed T3. The presence of the turbines on the skyline would remain the principal source of effect on this view from the settlement of Nant-y-moel, and no change in the level of effect would occur.

Viewpoint 6 Caroline Street, Blaengwynfi

3.15 In this view, the turbines of Llynfi Afan are clearly visible across the head of the valley, separated into two groups. The 2020 ES identified a moderate effect, as the turbines of the consented development would appear as an extension to the Llynfi Afan scheme, with “*turbines falling into two groups as with Llynfi Afan, both of which will appear balanced*”. The 2020 ES visualisation shows that the consented turbines appear slightly larger than the Llynfi Afan turbines, despite being further away, although they would be lower on the skyline. The updated visualisation shows that the larger rotors of the proposed turbines would be clearly apparent. The different proportions of the proposed turbines will be noticeable, with the lower hub heights being closer to the skyline. The layout has not changed therefore the proposed turbines would still fall into position behind Llynfi Afan. The difference in the appearance of the proposed turbines is not considered so great as to lead to a change in the level of effect.

Viewpoint 7 Mynydd William Meyrick

3.16 In this view, the turbines of Llynfi Afan are visible in small groups along the skyline, seen across the Ogmore valley. The 2020 ES identified a moderate effect, as the turbines would be “*clearly visible on the Werfa summit, with turbines seen on the near side of the hill and stepping down the Braich yr Hydd ridge*”. The 2020 ES visualisation shows that the consented turbines appear as a loose group, in front of the most northerly Llynfi Afan turbines. The consented turbines clearly appear larger due to proximity and position on the skyline as well as actual size. The updated visualisation shows that the larger rotors of the proposed turbines would be apparent. This is particularly the case for the lower tip height turbine (T6) on Braich yr Hydd. The presence of the turbines across the skyline would remain the principal source of effect, and no change in the level of effect would occur.

Conclusion on Visual Effects

3.17 The review of the viewpoint assessment did not identify any locations where the change in rotor diameter would lead to materially different effects on views, compared to the assessed effects of the consented development. Based on the observations set out in the preceding paragraphs, there is no reason to anticipate that materially different effects would occur at other more distant viewpoints.

3.18 It can therefore be concluded that the increase to rotor diameters, without change to tip height, would not result in material differences to either the extent or the intensity of effects on views or visual amenity, as described in paragraph 5.132 to 5.157 of the 2020 ES.

Conclusion

3.19 This appraisal, supported by the visualisations provided in Figures 2 to 8, concludes that the proposed variation to the rotor diameter, without change to layout or tip height, would result in turbines of noticeably different proportions. This would be more apparent in some views, particularly from the north-west where the smaller Llynfi Afan turbines would be seen in the foreground. In other views, such as VP5 at Nant-y-moel, the lower hub heights would reduce the relative prominence of the turbines, as they would sit closer to the skyline.

3.20 The review further concludes that these differences in visual appearance would not be such that any of the assessed effects on landscape or visual receptors would change.

3.21 This appraisal has not identified any material changes to the landscape and visual baseline against which the proposed development would need to be assessed. The landscape and visual effects of the proposed development, featuring larger rotor diameters, would therefore be the same as those of the consented development, as described in the 2020 ES.