



# **Awel y Môr Offshore Wind Farm**

## **Applicant's response to NRW REP1-080-3.1.24 to 3.1.25**

### **Marine Licence Submission 1**

**Date: 25 November 2022**

**Revision: A**

Document Reference: ML-1.10



| REVISION | DATE             | STATUS/<br>REASON<br>FOR ISSUE | AUTHOR | CHECKED<br>BY | APPROVED<br>BY |
|----------|------------------|--------------------------------|--------|---------------|----------------|
| A        | November<br>2022 | DCO<br>Deadline 3              | OPEN   | GoBe/RWE      | RWE            |
| A        | November<br>2022 | ML<br>Deadline 1               | OPEN   | GoBe/RWE      | RWE            |
|          |                  |                                |        |               |                |
|          |                  |                                |        |               |                |

[www.awelymor.cymru](http://www.awelymor.cymru)

RWE Renewables UK Swindon Limited

Windmill Hill Business Park

Whitehill Way

Swindon

Wiltshire SN5 6PB

T +44 (0)8456 720 090

[www.rwe.com](http://www.rwe.com)

Registered office:

RWE Renewables UK Swindon Limited

Windmill Hill Business Park

Whitehill Way

Swindon

# Contents

|     |   |    |
|-----|---|----|
| 1   | Applicant's response to NRW .....         | 4  |
| 1.1 | Introduction .....                        | 4  |
| 1.2 | Approach taken by White Consultants ..... | 5  |
| 1.3 | Suggested reduction measures .....        | 9  |
| 1.4 | Conclusion .....                          | 26 |

# 1 Applicant's response to NRW

## 1.1 Introduction

- 1 The Applicant has set out its response to Natural Resources Wales (NRW) representation that 'a further substantial reduction in the array area and number of turbines, along with a reduction in scale and height of the turbines would be needed to minimise adverse effects on the Isle of Anglesey area of outstanding natural beauty (AONB) and Snowdonia National Park (SNP) in REP1-080-3.1.21.
- 2 This response to REP1-080-3.1.24 to 3.1.25 addresses the comments provided by NRW in its Section 42 consultation response and in its Relevant Representation that further consideration be given to "Seascape & visual sensitivity to offshore wind farms in Wales: Strategic assessment and Guidance" (White Consultants for NRW, March 2019) in identifying a further reduction in the extent/scale of the proposed development. Hereafter, the report will be described as the 'White Consultants Report', which is set out in three parts as follows:
  - Stage 1: Ready reckoner of visual effects related to turbine size
  - Stage 2: Guidance on siting offshore windfarms
  - Stage 3: Seascape, and visual sensitivity assessment for offshore wind farms
- 3 As noted in the Executive Summary, NRW appointed White Consultants in November 2018 to undertake a strategic assessment and prepare guidance for seascape and visual sensitivity to offshore wind farms in Wales' draft Marine Plan areas'.
- 4 The Applicant has tried to ascertain from NRW what level of consultation the White Consultants Report had prior to its final publication and hence what weight it should be afforded in planning terms. Whilst the Applicant has not had it confirmed in writing, it understands that the document was not subject to any external consultation prior to issue.

- 5 It is noted in the White Consultants Report (Page 1, Stage 1) that part of its purpose is to share and promote use of NRW's evidence by others and develop future collaborations. *"However, the views and recommendations presented in this report are not necessarily those of NRW and should, therefore, not be attributed to NRW."*
- 6 The Applicant has also asked NRW to confirm if it has considered how the approach to avoiding significant effects on nationally designated landscapes, as set out in the White Consultants Report, sits with the Marine Plan and the Welsh Government's targets for decarbonisation. NRW has advised that no consideration was given to these matters.
- 7 The Executive Summary (Page 13) also notes that 'Planning Policy Wales (PPW10) states that great weight should be given to the statutory purposes of National Parks and AONBs including conserving and enhancing their natural beauty and their special qualities. This applies to both activities that lie within, or in the setting, of the designated area.'
- 8 The relevance of the White Consultants Report to the proposed Awel y Môr Offshore Wind Farm (AyM OWF) is that it is an offshore wind farm proposed in Welsh waters and the array area is located at distances of 17.3 km, 23.4 km and 16.6 km from the Anglesey Area of Outstanding Natural Beauty (AONB), Clwydian Range and Dee Valley AONB, and Snowdonia National Park (SNP) respectively.

## 1.2 Approach taken by White Consultants

- 9 The White Consultant's brief was to *"research and map buffers for different heights of turbines"* that would be required in order *"to avoid significant adverse effects on high sensitivity coastal visual receptors"* (Page 4, section 2.2 of Stage 1 (White Consultants for NRW, March 2019)).

- 10 The first part of the White Consultants Report (Stage 1) looks at the findings of 23 published Seascape and Visual Impact Assessments (SVIA) where assessments of magnitude of change have been undertaken for turbines of up to 300m to tip. These findings, together with further work carried out by White Consultants, for turbines of up to 350m to tip, were used to ascertain the thresholds of the distances from the coast where different levels of magnitude of change were assessed to occur – defined as low, medium or high or, in some cases intermediate levels of low-medium or medium-high.
- 11 The White Consultants Report considers, in particular, the distance threshold whereby the magnitude of change would be likely to drop from medium to low. When considered alongside the sensitivity of nationally designated landscapes (AONBs and National Parks) defined in the White Consultants Report as high sensitivity coastal visual receptors, this is the threshold at which a potentially significant effect may be expected to reduce to a not significant effect.
- 12 The key finding from the analysis carried out (and noted in the summary at Page 55) is that “A very approximate ratio between turbine height and distance for an average low magnitude of effect is 1:133 and 1:100 for average medium magnitude of effect.”. The distances stated as needing careful consideration for a number of reasons including that the specifics of each development and each sensitive receptor can vary importantly advising that “this digest must not be used to close down further discussion on a case by case basis”; and that “Not all AONBs and National Parks can be treated the same – their special qualities are important in understanding their relationship to the coast and related sea.”

- 13 Notably the research basis for turbines between 226m and 300m to tip includes only two assessments, one of which was Moray West Offshore Wind Farm (OWF), where the Seascape, Landscape and Visual Impact Assessment (SLVIA) for turbines of 285m was undertaken by the same SLVIA authors as was the case for AyM. In that instance, the cumulative effect with other wind farms was a key factor in determining the level of magnitude of change assessed, however, contrary to what the White Consultants Report suggests this did not reduce the magnitude of change assessed across all viewpoints but in numerous instances increased it. The other SLVIA considered was for Inch Cape where the consented turbines are 291m to tip. This limited evidence is used to provide buffers for a broad range of turbine heights, including turbines of a much lower 226m to tip.
- 14 Since the available SLVIAs only assessed turbines of up to 291m, work was carried out by White Consultants using wireframes for taller turbines whereby the wireline images were compared with the smaller 225m group range turbines shown at different distances. Using wirelines to inform desk-based analysis, the magnitude of change of turbines of up to 350m to tip was considered to have a low magnitude of change at 44 km from the shore and a medium magnitude of change at 32.8 km from the shore. This finding was based on 350m to tip wireline turbines produced to appear at the same scale as 225m turbines by working out the distance from the coast they would require to be in order achieve this. This was then verified as being proportionally in line with the assessed effects within the findings derived from a limited study of two SLVIAs. It is the opinion of the Applicant's SLVIA authors, following wireline review in the field compared with the views of operational OWFs, that wirelines do not always provide a good representation of likely turbine magnitude of change.

- 15 This interpolation of the data for the likely impacts of taller WTGs is considered to be a big leap in the justification for this finding in terms of the methodology used. In reality, distance reduces magnitude of change so that a larger object further away does not have the same visual impact as a smaller one at closer proximity. Whilst the Report notes that this is '*notwithstanding visibility modifiers*' this is clearly an important point and is particularly the case when turbines are viewed out at sea where atmospheric conditions can have a pronounced bearing on the relative visibility of turbines. This is particularly noticeable off the North Wales coast where there are examples of different wind farms at a variety of distances from the coast and opportunities to view these in different conditions.
- 16 This finding is also important in relation to AyM as it suggests that in order to avoid significant effects on the AONBs and SNP, turbines of up to 332m to tip would have to be located at over 44 km from the designated landscape areas. For the smallest turbines (282m to tip) currently being considered for AyM the site would have to be more than 41.6 km away.
- 17 The AyM Area for Lease (AfL) was identified through agreement with The Crown Estate in June 2020. Criteria for defining the boundary included that it had to be an extension to the operational Gwynt y Môr Offshore Wind Farm. Other constraints such as an existing wind farm to the east and a shipping channel to the north resulted in the boundary being set in its current location. It cannot be moved elsewhere. Further details on this can be found in the Site Selection Chapter of the Environmental Statement (APP-044)
- 18 Awel y Môr is located within a distance range where the White Consultant's Report suggests significant effects would arise even for turbines of 145m to tip. Notably this is a similar height to the Burbo Bank turbines at 143.5m and substantially smaller than the more recent Burbo Bank Extension WTGs at 187m. Smaller scale turbines such as these are rapidly going out of production and are also less economically efficient as technology improves.

- 19 These factors may seem to be choices that developers are free to make however, they are key drivers in achieving a Contract for Difference which is the UK Government's only finance mechanism for an offshore wind farm. The lowest offer of cost per megawatt is the deciding factor in determining whether an offshore wind farm can be developed and thereby produce renewable energy to meet our carbon reduction targets. In the timescale for AyM being developed it is vital that there remains maximum flexibility of turbine height balanced with acceptable environmental effects, in order for the development to have any chance of being built.
- 20 It is recognised by the White Consultants Report that Stage 1 focusses on one aspect of the magnitude of change as a result of development and that other factors also contribute. Some of these factors are set out in Stages 2 and 3 of the Report and it is advised that these should also be taken into account in order to '*optimally locate and design development.*'
- 21 The approach taken by the Applicant is to set out each of the specific reduction measures suggested by NRW (REP1-080-3.1.25) as part of its 3-stage approach, with reference to their Evidence Base Report, and respond to each of these in turn.

### 1.3 Suggested reduction measures

- 22 Table 1 sets out the Applicant's response to each of NRW's suggested reduction considerations, which it has extracted from the White Consultants Report.

Table 1: Applicant's response to NRW's suggested reduction considerations.

| NRW'S SUGGESTED REDUCTION CONSIDERATION   | APPLICANT'S RESPONSE  |
|---|---|
| Stage 1 Report: Ready Reckoner  |   |
| <p>The proposed MDS A is for turbines of 332m height to blade tip. This places them in the 301-350m range, where the report advises that a buffer of 32.8 km is required to avoid medium magnitude effects on high sensitivity receptors, which are frequently of major moderate significance. A buffer of 44 km is required to avoid low magnitude effects on high sensitivity receptors, which are frequently of moderate significance.</p> <p>MDS B is for turbines of 282m to blade tip. This places them in the 226-300m range, where the report advises that a buffer of 28 km is required to avoid medium magnitude effects on high sensitivity receptors and 41.6 km required to avoid low magnitude effects.</p> | <p>The AyM Area for Lease (AfL) was identified through agreement with The Crown Estate in June 2020. Criteria for defining the boundary included that it had to be an extension to the operational Gwynt y Môr (GyM) Offshore Wind Farm (OWF). Other constraints resulted in the boundary being set in its current location to the west of GyM OWF. It cannot be moved elsewhere as set out in the Site Selection Alternatives Chapter of the Environmental Statement (APP-044)</p> <p>It is not possible for the AyM array area to be located at a distance of 41.6 km or 44 km from the nationally designated landscapes.</p> <p>At a range of less than 14 km from the shore it is noted that even turbines below 145m to tip would exceed the threshold of medium magnitude likely to be required to avoid significant effects on the AONBs and National Park whilst at a range of 18.8 km turbines of 145-175m would exceed a medium magnitude. Again, it is noted in the Report that 'existing wind</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION | APPLICANT'S RESPONSE   |
|---|--|
|   | <p>farms may modify the likely impacts' and this is an important factor when considering actual likely effects against theoretical effects based on distance thresholds.</p> <p>With respect to individual WTG sizes, the Applicant has set out the rationale for the size of individual turbines in the WTG Size Technical Note (APP-299). The size of individual turbines has increased over time, and smaller models, such as those used for Gwynt y Môr, Rhyl Flats and North Hoyle, are no longer available on the market. The WTG sizes (in terms of rotor diameter and maximum tip height) that are described in MDS A and MDS B represent the Applicant's view on the anticipated range of size of WTGs that will be available in the timeframe that AyM will be delivered. This principle is captured in 2.6.43 of NPS-EN3, which states that 'In accordance with Section 4.2 of EN-1, the [Secretary of State] should accept that wind farm operators are unlikely to know precisely which turbines will be procured for the site until some time after any consent has been granted.' The Applicant is therefore unable to reduce the size of the individual WTGs representing the WTG envelope as it would create a significant risk that the Applicant is unable to</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION  | APPLICANT'S RESPONSE   |
|--|--|
|  | <p>procure turbines and/or would make the project economically unviable. This principle is captured within 2.6.210 of NPS EN-3, where it is noted that 'Neither the design nor scale of individual wind turbines can be changed without significantly affecting the electricity generating output of the wind turbines. Therefore, the [Secretary of State] should expect it to be unlikely that mitigation in the form of reduction in scale will be feasible.'</p> |
| Stage 2 Report: Guidance on siting offshore windfarms  |  |
| Table 4.1 of this report identifies measures to avoid or minimise seascape and visual effects including:   |  |
| <p>3. Locate developments beyond the limit of negligible visual effects, particularly for the highest sensitivity area National Parks/AONBs overlaid with Heritage Coasts.</p> | <p>The range at which it is considered negligible effects would occur is not clear however, it is clear that it would be a distance greater than the predicted range for low effects.</p> <p>It is not possible for the AyM array area to be located at distances of greater than 41.6 km or 44 km from the nationally designated landscapes.</p>  |

| NRW'S SUGGESTED REDUCTION CONSIDERATION  | APPLICANT'S RESPONSE   |
|--|--|
| <p>4. If the above is not possible, locate development beyond Stage 1 Report low magnitude buffer distances of the highest potential turbine proposed from National Parks and AONBs (44 km for 301-350m turbines).</p> | <p>The AyM Area for Lease (AfL) was identified through agreement with The Crown Estate in [CHECK date]. Criteria for defining the boundary included that it had to be an extension to the operational Gwynt y Môr Offshore Wind Farm. Other constraints resulted in the boundary being set in its current location. It cannot be moved elsewhere. It is not possible for the AyM array area to be located at distances of 41.6 km or 44 km from the nationally designated landscapes.</p>  |
| <p>6. Locate developments in areas identified as lower sensitivity in the Stage 3 Report.</p>  | <p>The Stage 3 report Figure 8 shows the designated landscapes, their seascape settings and their sensitivity to offshore windfarms off North Wales at page 34. The identified sensitivity areas are shown on Figure 2c of the SLVIA Figures (APP-193) along with the boundary of the array area.</p> <p>The AyM array area spans across areas defined as having different levels of sensitivity as follows.</p> <ul style="list-style-type: none"> <li>➤ Area 1: North East Wales Inshore - Medium Sensitivity</li> <li>➤ Area 2: North East Wales Offshore - Medium/low Sensitivity</li> </ul> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION  | APPLICANT'S RESPONSE   |
|--|--|
|  | <p>Notably, Figure 8 on page 11 of the Stage 3 report shows that the majority of the Draft Welsh National Marine Plan area is of High or Medium/High Sensitivity and none of the area within the Draft Welsh National Marine Plan area is categorised as Low so that Medium/Low is the lowest level of sensitivity identified.</p> <p>Embedded mitigation that resulted from the iterative design process between the scoping and application stages removed WTGs from the western part of the AfL, which is identified as being of high sensitivity. The array area is now proposed within areas identified as lower sensitivity, as far as it is possible within the AfL area, as shown on SLVIA Figure 2c (APP-193)</p> |
| <p>14. Particularly avoid developments within buffer distances of several separate designations.</p> | <p>The Stage 3 report sets out an example of what is meant here. Example 1 shows an OWF site located within a wide bay where there is a National Park or an AONB on the coast indicated on either side of a coastal bay.</p> <p>In this example, not only would both nationally designated landscapes be affected by views of the OWF in their key aspect the views from one nationally designated landscape to</p>  |

| NRW'S SUGGESTED REDUCTION CONSIDERATION | APPLICANT'S RESPONSE  |
|---|---|
|   | <p>the other would also be affected, altering their visual interrelationship.</p> <p>The AyM array area does not have this type of relationship with the coast or designations. Views from one nationally designated landscape to another would not be affected.</p> <p>The reduced AyM array area lies within the 'buffer distances' for the Isle of Anglesey AONB, the Clwydian Range and Dee Valley AONB and SNP.</p> <p>The amendment to the AyM array area boundary following the Section 42 consultation has increased the separation distance from the Isle of Anglesey at Puffin Island by 400m to 17.3 km. However, the reduction in the array area has a more pronounced influence in relation to the more northerly section of the Isle of Anglesey AONB coastline. At Viewpoint 2: Penmon Point the distance to the array area has increased by 2.2 km from 26.5 km to 28.7 km. The reduction in the horizontal extent of the array area is most pronounced in views from SNP and the more southerly parts of the Isle of Anglesey AONB, e.g. around Puffin Island.</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION                     | APPLICANT'S RESPONSE   |
|---|--|
|   | <p>Whilst SNP includes a long section of coastline in its south-westerly extents (i.e. beyond the SLVIA study area) at its northern extent, within the AyM study area, it reaches the coast only along approximately 1 km of its boundary at Penmaen Beach. North-facing areas of the northerly slopes and high peaks within SNP do have visibility out to sea, and often including the settled coastline and views of existing OWFs. The majority of SNP is not influenced by views of the north Wales seascape.</p> <p>Visibility from the Clwydian Range and Dee Valley AONB is largely limited to the northerly extents where the character of its setting is affected by existing OWF development so that effects are assessed and agreed with stakeholders as being non-significant.</p> |
| <p>16. Example 1 avoid locations offshore from Islands.</p> | <p>The Isle of Anglesey AONB includes 30 islands located at relatively close proximity to the shoreline as noted in Table 7 of the SLVIA (AS- 027). As a result, any OWF visible from the Isle of Anglesey would be seen offshore from these islands.</p> <p>The AyM array area would be seen offshore from four of the 30 islands as assessed in Table 7 of the SLVIA with the closest of</p>   |

| NRW'S SUGGESTED REDUCTION CONSIDERATION                                      | APPLICANT'S RESPONSE   |
|--|--|
|  | <p>these to the AyM array area being Puffin Island at 17.3 km. It is not possible to locate an array area within the AyM AfL area without it being visible offshore from the relevant islands on the eastern coast of the Isle of Anglesey.</p>  |
| <p>18. Example 3 avoid locations filling or almost filling framed views.</p> | <p>Framed views from the north Wales coastline are part of its character due to the prevalence of bays contained by headlands and the incidence of several estuaries and straights. However, the White Consultants Report is focused on such incidences where framed views occur in views from the Isle of Anglesey AONB and SNP rather than more generally such as at Llandudno Bay.</p> <p>The extension of the GyM OWF could only occur on its westerly edge, as described above. The addition of AyM therefore inevitably results in increasing the combined west to east extents of the OWF development when viewed from the south.</p> <p>Viewpoints 10, 12, 34, 36, 38, 39 and 40 are representative of a range of views from within SNP. It is considered the elevated locations of these views means that the landform does not frame the views in the same way as may be the case with</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION | APPLICANT'S RESPONSE  |
|---|---|
|   | <p>views closer to sea level. In the majority of instances, the seascape extends to either side of coastal features. It is only in the view from 12: Conwy Mountain (APP-241) that it could be said that the addition of AyM to the operational OWFs results in wind farms extending across the seascape between the Great Orme and Little Orme. In this instance, the seascape also extends more widely beyond these coastal features so is not entirely contained or 'framed' by them.</p> <p>Framed views from locations within the Isle of Anglesey occur where views are across the Menai Strait and Conwy Bay defined by the Great Orme and the south coast of Anglesey/ Puffin Island and also from bays along the north-eastern coast of Anglesey such as Red Wharf.</p> <p>Viewpoints 5, 7, 8, 28 and 44 are located within the Isle of Anglesey AONB and illustrate views that are considered to be 'framed' and have the potential to be 'filled'.</p> <p>The AyM array area does not fill or almost fill framed views at Viewpoint 5 (APP-234), Viewpoint 7 (APP-236), either on its own or cumulatively in addition to operational OWFs.</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION | APPLICANT'S RESPONSE  |
|---|---|
|   | <p>The 'framed' part of the views seen in Viewpoints 8 (APP-237), 28 (APP-257) and 44 (APP-237) lies in the seascape horizon located between Puffin Island and the Great Orme where GyM OWF may be visible extending across part of this framed view in very good or excellent visibility conditions. When they are visible, the addition of the AyM WTGs would 'fill' the remaining open seascape horizon. However, the scale, of GyM WTGs, at ranges of 29.7 km to 33.5 km ensures that whilst the WTGs of GyM may be sometimes visible, they are seen as diminutive in their seascape and landscape context and may not be readily noticeable or draw attention for much of the time. The AyM array area would be more apparent and when GyM is less visible OWFs would not appear to fill the gap between Puffin Island and the Great Orme.</p> <p>Embedded mitigation has sought to reduce the horizontal extent of the AyM array area with reference to these specific viewpoints. However, the Applicant considers that the substantial reduction in the horizontal extents of the array area that would be required to avoid appearing to 'fill' these views in very good to excellent visibility conditions would make AyM</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION   | APPLICANT'S RESPONSE   |
|---|--|
|   | economically unviable and the effects on these viewpoints would nevertheless remain significant.   |
| 19. Avoid potential cumulative impacts by extending the width of arrays visible through extensions or additional wind farms.  | <p>As OWF wind development increases around the UK coast it is entirely driven by The Crown Estate's leasing and is most often occurring in locations where there are existing OWFs visible. In many instances, this will result in cumulative effects arising due to extending the width of arrays visible through extensions or additional wind farms.</p> <p>Even if new OWFs are located behind existing OWFs, when viewed from some sections of the coast they would appear to increase the width of the arrays visible from locations further along the coast.</p> |
| Stage 3 Report, Seascape, and visual sensitivity assessment for offshore wind farms   |  |
| Part 1 of Stage 3 identifies zones within the offshore area with differing levels of sensitivity. Part 2 provides a detailed sensitivity and capacity assessment for each zone. | The Applicant acknowledges this. As noted previously, embedded mitigation that resulted from the iterative design process between the scoping and application stages removed WTGs from the western part of the AfL, which is identified as   |

| NRW'S SUGGESTED REDUCTION CONSIDERATION   | APPLICANT'S RESPONSE  |
|---|---|
|   | <p>being of high sensitivity. The array area is now proposed within areas identified as lower sensitivity, as far as it is possible within the AfL.</p>   |
| <p>The proposal is located in Zones 1 and 2. Zone 1, adjacent to Gwynt y Môr is of medium sensitivity, and up to 22.6 km from shore considered to have potential for a small extension, but scope is limited. Extending windfarm development westwards of Gwynt y Môr would cause cumulative effects on sensitive receptors. A small number of additional turbines may be possible, but cumulative effects and avoiding extending across the horizon from key viewpoints would need to be carefully considered.</p> | <p>The extension of the GyM OWF could only occur on its westerly edge, as described above.</p> <p>The AyM array area is located at a range of less than 22.6 km from the shore. The Stage 3 report notes that for all WTG heights within this range '<i>existing windfarms may modify the likely impacts</i>'.</p> <p>As assessed in the SLVIA Chapter (e.g. Table 8 of AS-027) the incidence of the existing wind farms reduces the impact of AyM within this range.</p> <p>The White Consultants Report does not define what a 'small number' of WTGs is. However, the Applicant advises that it is not commercially viable to restrict development within the AyM array area to a 'small number of additional turbines' and has set out previously why a reduction in the project envelope would be unlikely to be economically viable as set out in</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION   | APPLICANT'S RESPONSE  |
|---|---|
|   | <p>section 6.4 of the Planning Statement (APP-298) and in response to ExQ1.17.25.</p> <p>The effects of AyM on the agreed viewpoints along the coast have been assessed in the SLVIA (AS-027). Careful consideration of the horizontal extents of the AyM array area, in combination with the operational OWF (i.e. potential cumulative effects), has been a key driver in the refinement of the AyM array area and the reduction in its west to east horizontal extent.</p>   |
| <p>Zone 2 is of medium/low sensitivity, and between 22.6 and 44 km from shore and the White Consultants indicates that potential development is dependent on the height of turbine and likely extent of the overall windfarm. Development beyond Gwynt y Môr would tend to limit harm. There is potential for combined cumulative effects on the Great Orme and Snowdonia if further windfarms or extensions extend west, especially closer to the shore. The area has the ability for further development to be accommodated north</p> | <p>The AyM array area is located fully or partially 'beyond' GyM in views from the east and southeast of the study area respectively.</p> <p>The extension of the GyM OWF could only occur on its westerly edge, as described above.</p> <p>Even if the constraints to the north of GyM had not restricted an extension within this area, it would only be possible to locate a very small number of WTGs entirely 'beyond' GyM without extending the horizontal cumulative extents in views from the Great Orme and Snowdonia.</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION  | APPLICANT'S RESPONSE   |
|--|--|
| <p>of Gwynt y Môr (but away from Douglas oil field). The size of the turbine should be similar to the existing development closer to the shore but can increase in height further offshore taking into account the visual impact analysis.</p> | <p>The rationale for the range of WTG heights proposed, and the reasons the AyM WTGs cannot be similar in height to existing development closer to the shore, or within the ranges suggested by the White Consultants Report, have been explained previously by the Applicant in the WTG Size Technical Note (APP-299).</p>  |
| <p>NRW provided 2 figures.</p> <p>Figure 2: showing the Awel y Môr Order Limits overlaid with the buffers from the White Consultants' report for a Low magnitude of effect.</p>  | <p>The figure shows that the majority of the AyM array area lies within a buffer that would require the WTGs to be less than 145m to tip to be within a Low Magnitude buffer from SNP and the Isle of Anglesey AONB.</p> <p>The rationale for the range of WTG heights proposed, and the reasons the AyM WTGs cannot be similar in height to existing development closer to the shore, or within the ranges suggested by the White Consultants Report, have been explained previously by the Applicant in the WTG Size Technical Note (APP-299).</p> |
| <p>Figure 3: showing the Awel y Mor Order Limits overlaid with the buffers from the White</p>  | <p>The figure shows that the AyM array area lies within three different buffers from SNP and Isle of Anglesey AONB that indicate (according to the White Consultants Report) where</p>   |

| NRW'S SUGGESTED REDUCTION CONSIDERATION                       | APPLICANT'S RESPONSE   |
|---|--|
| <p>Consultants' report for a Medium magnitude of effect).</p> | <p>medium magnitudes of change would arise relative to various heights of WTGs as follows:</p> <ul style="list-style-type: none"> <li>▲ Buffer located between 14-19 km range includes 145-175m WTGs.</li> <li>▲ Buffer located between 19-22 km range includes 176-225m WTGs.</li> <li>▲ Buffer located between 22-28 km range includes 226-300m WTGs.</li> </ul> <p>This would suggest that within less than one third of the north-eastern extent of the AyM array area it would be possible to have approximately 17 (of the 50 currently proposed) MDS B WTGs at 282m to tip and achieve a medium magnitude of change. However, for the SNP and Isle of Anglesey AONB receptors, that are defined in the White Consultants Report as being of high sensitivity, significant effects would still be predicted to arise.</p> <p>Notably, even if approximately 17 of the MDS B scale WTGs were located in this north-eastern area at the currently proposed density, the horizontal extents of the array area in views from SNP and Isle of Anglesey AONB (as well as the Great</p> |

| NRW'S SUGGESTED REDUCTION CONSIDERATION | APPLICANT'S RESPONSE  |
|---|---|
|   | <p>Orme) would only be marginally reduced compared with the current horizontal extents of the application AyM array area.</p> <p>None of the AyM array area lies within the buffer whereby it is suggested WTGs of 301-350m (i.e. MDS A) would result in a medium magnitude of change. For this to be the case, according to Figure 3 and the White Consultants Report, the array area would have to be at a minimum distance of 32.8 km.</p> |

## 1.4 Conclusion

- 23 The Applicant has considered the measures suggested by NRW in detail and has concluded that it is not possible to further minimise the effects of AyM following the 3-stage approach suggested and retain an economically viable and deliverable project.
- 24 It is also apparent that even with a further reduction in the extent of the AyM array area, the effects on some views from the Isle of Anglesey AONB and SNP are likely to remain significant.



RWE Renewables UK Swindon Limited

Windmill Hill Business Park

Whitehill Way

Swindon

Wiltshire SN5 6PB

T +44 (0)8456 720 090

**[www.rwe.com](http://www.rwe.com)**

Registered office:

RWE Renewables UK Swindon Limited

Windmill Hill Business Park

Whitehill Way

Swindon