

Brawdy Airfield

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Landscape and visual appraisal of potential  
wind energy development

**Final Report**

for

Pembrokeshire County Council

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# 1. Introduction

- 1.1. White Consultants were appointed in April 2021 by Pembrokeshire County Council (PCC) to give general advice regarding whether wind energy proposals might be possible on the site at Brawdy Airfield/Cawdor Barracks taking into account the potential landscape and visual impacts on the Pembrokeshire Coast National Park (PCNP). This report is a high-level appraisal which considers the landscape, seascape and visual character and constraints around the site and reviews existing wind turbine development to reach initial conclusions and recommendations for further work.
- 1.2. The site lies just outside the National Park and turbine development would be likely to have landscape and visual effects on receptors within the county outside the Park including nearby dwellings and leisure/tourism receptors. Whilst these are noted, the focus, as required by the brief, is on the effects on the National Park and its users.
- 1.3. PCC have asked that consideration should be given to the potential for development on all of the site, some parts or none of the site. If development is deemed appropriate, the Council has requested an initial steer on what numbers and sizes/heights of turbines might be possible in different parts of the site without causing unacceptable impacts on the National Park. There has been no feasibility or viability study on wind turbines on the site taking into account all relevant factors and constraints such as wind speeds, grid connection, utilities, nature conservation or noise. As such, there is no firm scheme and the assessment therefore considers a range of indicative options.
- 1.4. This study comprises an appraisal which discusses the potential impacts on the seascape, landscape and visual amenity of the area associated with various options. Although it is in line with the principles of the Guidelines for Landscape And Visual Impact Assessment Edition 3 (GLVIA 3), 2013, and notes NRW LANDMAP guidance note GN046, it does not comprise a full LVIA as a viable scheme has not been developed. Whilst current visualisation and photography guidance (Landscape Institute TGN 06/19) is also noted, the illustrative viewpoint photographs primarily only use full frame A3 photos due to budget limitations.
- 1.5. Landscape and visual impacts are independent, but related issues. Landscape impacts relate to changes in the fabric, character and quality of the physical baseline landscape, including landform and vegetation (landscape receptors). Visual impacts relate to the changes in appearance and perception of these changes on people who might see them (visual receptors). Cumulative effects considers the effects of the proposals in combination with other turbines.
- 1.6. This report considers the planning policy context (Section 2), discusses the options for wind energy development (Section 3), carries out a high-level appraisal of effects on landscape and seascape (Section 4) and visual effects (Section 5), considers the potential for cumulative effects (Section 6) and finally discusses the likely effects on the purposes and special qualities of the National Park (Section 7).

## 2. Consideration of planning policy

- 2.1. The site is located within Pembrokeshire County adjacent to PCNP (see Figure 1) so the policies of both authorities needs to be taken into account in the context of national policy. The relevant general policies but key documents and policies include:
  - Planning Policy Wales Edition 11 February 2021 (PPW)- Section 5.7.
  - Future Wales: The National Plan 2040- Policies 17 and 18.
  - Pembrokeshire Coast National Park Local Development Plan 2 (LDP) Policies especially Policy 8 Special Qualities, Policy 14 Conservation of the Pembrokeshire Coast National Park and Policy 33 Renewable and Low Carbon Energy, Renewable Energy Interim SPG for LDP 2 and Landscape Character Interim SPG for LDP 2 and Seascape Interim Supplementary Planning Guidance.
  - Pembrokeshire Local Development Plan policies, especially GN.1 General Development Policy, GN.4 Resource Efficiency and Renewable and Low-carbon Energy Proposals and strategic policy SP 1 Sustainable Development and SP 2 Port

and Energy Related Development. For the emerging LDP 2 it is GN 1 General Development Policy, GN 4 Resource Efficiency and Renewable and Low-carbon Energy Proposals and GN 5 Renewable Energy - target and allocations and SP 12 Port and Energy Related Development.

- 2.2. Planning applications for onshore generating projects in Wales which have an installed generation capacity below 10MW are determined by local planning authorities. Projects with capacity of 10MW and over are made directly to the Welsh Ministers under the Developments of National Significance (DNS) process. **These are defined as ‘large scale’**. This forms the primary basis for decisions by the Planning Inspectorate. Planning authorities are only statutory consultees in relation to these developments.

### **Future Wales: The National Plan 2040**

- 2.3. This spatial plan was issued in February 2021 replacing TAN 8. It sets out two policies **relating to wind energy and identifies ‘pre-assessed areas’**. The closest pre-assessed area to the site is around 26km away at its closest point.
- 2.4. Policy 17 - renewable and low carbon energy and associated infrastructure states that the Welsh Government strongly supports the principle of developing renewable energy at all scales. Decision-makers must give significant weight to the need to meet the target to generate 70% of consumer electricity by renewable means by 2030. *In pre-assessed areas* for wind energy policy states that the Welsh Government has modelled the likely impact on the landscape and have found them capable of accommodating development in an acceptable way. There is a presumption in favour of large-scale wind energy development including repowering in these areas subject to the criteria in Policy 18. Applications for large-scale wind energy development will not be permitted *in* National Parks and AONBs and all proposals should demonstrate that they will not have an unacceptable adverse impact on the environment.
- 2.5. Policy 18 - Renewable and Low Carbon Energy Developments of National Significance states that renewable energy projects qualifying as Developments of National Significance (DNS) will be permitted subject to policy 17 and criteria including:
- 1 outside of the pre-assessed areas for wind developments the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty).
  - 2 there are no unacceptable adverse visual impacts on nearby communities and individual dwellings

Cumulative impacts with existing and consented renewable energy schemes should also be considered.

- 2.6. The background text recognises landscapes across Wales whose intrinsic value should be protected from inappropriate development and cites National Parks. Outside these areas a positive policy framework exists. However, the location of the site is so close to the National Park that the potential influence of development on the site on **the Park’s** setting is a key consideration.
- 2.7. Irrespective of location or scale the design and micro-siting of proposals must seek to minimise the landscape and visual impact, particularly those in close proximity to homes and tourism receptors.

### **Planning Policy Wales Edition 11, February 2021 (PPW 11)**

- 2.8. Planning Policy Wales Edition 11 sets out the land use planning policies of the Welsh Government. It was issued at the same time as the National Plan.
- 2.9. Key planning principles are set out in Figure 4 for achieving the right development in the right place. This includes making best use of resources by making development resilient to climate change and decarbonising society. Facilitating accessible and healthy environments involves planning the built environment to promote mental and physical well-being. The best way of achieving this is to involve and collaborate with others to ensure issues are understood and prevented at the earliest opportunity through effective engagement. Finally, maximising environmental protection and limiting environmental impact is achieved by protecting, promoting, conserving and enhancing natural, historic and cultural assets. Negative environmental impacts should be avoided in the wider public interest. This means acting in the long term to respect environmental limits and operating in an

- integrated way.
- 2.10. Planning authorities should support and guide renewable energy development to ensure **their area's potential is maximised (5.9.14)**. Planning authorities should assess the opportunities for renewable energy in their areas and use this evidence to establish spatial policies in their development plan which identify the most appropriate locations the development of energy developments below 10MW. *'There should be a presumption in favour of development in identified areas, including an acceptance of landscape change, with clear criteria-based policies setting out detailed location issues to be considered at the planning application stage'*. Outside these areas, policies should be developed with criteria against which planning applications will be determined.
  - 2.11. The text relating to **'large scale' development over 10MW (DNSs)** echoes Policy 17 and 18 of the National Plan with a presumption in favour within pre-assessed areas (5.9.17).
  - 2.12. In terms of development management, planning authorities should identify suitable ways to avoid, mitigate or compensate adverse impacts of renewable energy development (5.9.20). These should take into account cumulative impact amongst other factors.
  - 2.13. **Planning authorities have a statutory duty to have regard to National Parks' purposes (6.3.5)** and these areas must be afforded the highest status of protection from inappropriate developments (6.3.8). This duty applies in relation to all activities affecting the designated areas whether those activities lie within each area *or in their setting*. Planning authorities should give great weight to the statutory purposes which are to conserve and enhance natural beauty, wildlife and cultural heritage and to promote opportunities for public understanding and enjoyment of their special qualities (6.3.6). The special qualities should be given weight in the development planning and development management processes and proposals must be carefully assessed to ensure that their effects on features which the designation is intended to protect are acceptable (6.3.9).
  - 2.14. Pembrokeshire is close to the coast and needs to consider both landward and seaward pressures and the impacts of these pressures (6.5.4). The impacts associated with such activities can be widespread and overlap between sea and coastline. They may relate to inappropriate land use, pressure for services and facilities as well as the natural and historic character of the coastline and seascape where there is extensive intervisibility between land and sea along the coastline.

## LOCAL POLICIES

- 2.15. The local policies set out below were prepared before the publication of the National Plan 2040 and PPW 11. They should be regarded in this light and given the appropriate weight.

### Pembrokeshire Coast National Park Policies

- 2.16. Pembrokeshire Coast National Park is the only UK national park predominantly designated for its coast. The splendour of its coastline and islands off the coast, the influence of the seascape, its spectacular scenery, and rugged, unspoilt beauty combine to produce strong scenic quality. A sense of tranquillity and remoteness is also highly valued amongst visitors to the area.
- 2.17. The Pembrokeshire Coast National Park Local Development Plan 2 was adopted in September 2020. It includes a number of policies relevant to wind turbines.
- 2.18. The special qualities of the Park are listed such as coastal splendour, islands, remoteness, tranquillity and wildness and diversity of landscape. Policy 8 Special Qualities (Strategy Policy) states that the special qualities of the Pembrokeshire Coast National Park will be protected and enhanced. The priorities will be to ensure that:

**a) The sense of remoteness and tranquillity is not lost and is wherever possible enhanced...**

**c) The pattern and diversity of the landscape is protected and where possible enhanced...**

**d) The historic environment is protected and where possible enhanced...**

*i) Development of the undeveloped coast is avoided and sites within stretches*

**of the developed coast are protected for uses that need a coastal location.'** (this report emphasis)

- 2.19. Policy 14 Conservation and enhancement of the Pembrokeshire Coast National Park, states that: Development will not be permitted where this would adversely affect the qualities and special character of the Pembrokeshire Coast National Park by:
- 'a) causing significant visual intrusion; and/or,*
  - b) introducing or intensifying a use which is incompatible with its location; and/or*
  - c) failing to harmonise with, or enhance the landform, landscape and seascape character of the National Park; and/or*
  - d) losing or failing to incorporate important traditional features.'** (this report emphasis).
- 2.20. Pembrokeshire Coast National Park Local Development Plan Policy 33: Renewable and Low Carbon Energy, states that:
- 'for renewable and low carbon energy development including those relating to wind, solar and hydro power, anaerobic digestion and biomass will be permitted subject to the following criteria:*
- a) Small and medium scale renewable energy schemes would not individually or cumulatively have an unacceptable impact on the visual amenities, landscape character and/or nature conservation value of the local area.*
  - b) Large scale renewable energy and low carbon energy schemes would not individually or cumulatively have an unacceptable adverse effect on the special qualities **of the National Park**'.* (this report emphasis).
- 2.21. It goes on to clarify what is meant by these scales of energy and the potential for them in the Park in Table 6. This categorises wind energy as follows:
- Micro - building or mast mounted
  - Small - less than 25m to blade tip
  - Medium - 25 - 65m to blade tip
  - Large - more than 65m to blade tip
- 2.22. A Landscape Character Assessment SPG for Pembrokeshire Coast National Park was completed in 2006 and updated in 2011 and 2020. The relevant landscape character areas (LCAs) are described briefly in Section 4.
- 2.23. A local seascape character assessment was carried out for Pembrokeshire in 2013. The **National Park Authority's** Seascape Character Assessment SPG is based on this. The report explains the method, gives an overview of the seascape, sets out the cultural benefits and services, the forces for change and the key sensitivities. The relevant areas are described briefly in Section 4.
- 2.24. The Pembrokeshire Coast National Park Authority Renewable Energy SPG 2011 supports the positive implementation of Policy 33. This guidance has been rolled over to be effective for development management purposes for LDP 2 from the date of Plan adoption. Turbines are classified **in four sizes to blade tip 'to reflect the landscape sensitivities' of Pembrokeshire Coast National Park** as per Table 6 of the policy (above). The landscape sensitivity to the above scales of development of each of the 28 landscape character areas are set out based on a study carried out in 2008 and updated in 2020. These should be taken into consideration in any LVIA where the landscape impact assessment study area includes the National Park (see the most relevant areas in Appendix A).
- 2.25. Key landscape sensitivities for the Pembrokeshire Coast National Park are set out including:
- Locate any development back from the coastal edge
  - Locate any development away from the most prominent rural skylines
  - Consider views along the coast including along the Coast Path
  - Avoid siting turbines in the most tranquil areas
  - Only site turbines where they can relate well to existing buildings or built structures in the landscape
  - Wind turbine development within the protected landscape should not sacrifice the

essential integrity, coherence and character of the landscape or the special qualities of the Park.

(this report emphasis)

- 2.26. The centre of the site lies 2.8km from the St David's Peninsula Heritage Coast which runs from St. Brides Bay to Fishguard and 4.7km from the St Brides Bay Heritage Coast which runs along the eastern edge of St Brides Bay.
- 2.27. Heritage Coasts are delineated by the Natural Resources Wales, as stretches of outstanding, undeveloped coast, and were identified through agreement with local **authorities. Heritage Coasts aren't themselves protected by law, but where they are inside protected landscapes such as National Parks they are managed as part of that area.** Heritage Coasts are managed to conserve their natural beauty and improve accessibility for visitors.

### **Pembrokeshire County Council Local Development Plan Adopted 2013**

- 2.28. The current relevant Pembrokeshire Local Development Plan (LDP) policies include GN.1 General Development Policy, GN.4 Resource Efficiency and Renewable and Low-carbon Energy Proposals and strategic policies SP 1 Sustainable Development and SP 2 Port and Energy Related Development.
- 2.29. GN 1 General Development Policy states:  
*'Development will be permitted where the following criteria are met:*
1. *The nature, location, siting and scale of the proposed development is compatible with the capacity in character of the site the area within which it is located;*
  2. *It would not result in significant detrimental impact on local amenity in terms of visual impact, loss of light or privacy, odours, smoke, fumes, dust, air quality or increase in noise or vibration levels;*
  3. *It would not adversely affect landscape character, quality or diversity, including the special qualities of the Pembrokeshire Coast National Park and neighbouring authorities...'*
- (extract from full policy text with this report emphasis)
- 2.30. GN 4 Resource Efficiency and Renewable and Low-carbon Energy Proposals states:  
***'Development proposals should seek to minimise resource demand, improve resource efficiency and seek power generated from renewable resources, where appropriate. They will be expected to be well designed in terms of energy use.***  
*Developments which enable supply of renewable energy through environmentally acceptable solutions will be supported.'*
- 2.31. SP 1 Sustainable Development states:  
***'All development proposals must demonstrate how positive economic, social and environmental impacts will be achieved an adverse impact is minimised.'***
- 2.32. SP 2 Port and Energy Related Development focusses energy-related development on the ports of Milford Haven and Fishguard.
- 2.33. The Landscape Character Assessment Consultation Draft SPG, July 2019, identifies the key **qualities of the county's landscape, including:**
- *'Much of Pembrokeshire is cultivated rolling lowland with small areas of woodland, hedges and hedgebanks and a dense network of narrow lanes provide a sense of enclosure and seclusion. Settlements are sparser in areas to the north, and*
  - *Farmsteads frequently punctuate the landscape and traditional houses and buildings, alongside significant archaeology and historic buildings provide a sense of the long lived and human influence on the landscape.*
  - *Large areas of open, exposed and rugged landscape particularly to the north where there are exposed rock and stone, and views out towards the Preseli Hills and the coast, provide strong sense of place and coastal association. Historic towns and villages can sit prominently along ridgelines or hilltops or sit secluded within*

valley bottoms.

- *Quietness and tranquillity is still pervasive away from main roads and industrial areas. The naturalistic sounds of wind, birdcall or livestock complement the stillness of the soundscape.....*
- .....
- *Areas to the south and at the Haven in particular make a significant contribution to energy provision, including fossil and renewable sectors and can be visually intrusive.....'*

- 2.34. 28 LCAs are identified with associated underpinning LANDMAP information. The relevant LCAs are briefly discussed in Section 4 and shown in Figure 2. A sample LANDMAP visual and sensory map is shown in Appendix B.
- 2.35. An LDP renewable energy assessment (April 2017) did not identify opportunities for wind energy due to the consideration of potential cumulative effects with existing developments (page 18). In terms of assessing planning applications coming forward, these should be supported by a careful consideration of their impact on landscape character. Such impacts may include effects on the PCNP. PCC has a statutory duty to have regard to the purposes of the National Parks in this regard (3.13). In relation to assessing visual impact, proposals should include ZTVs indicating the maximum theoretical extent of visibility from turbine blade tip height along with photomontages or wirelines from viewpoints (3.21). Appendix 2 of the document sets out the key considerations and implications of wind energy developments including proximity to other developments. *Typical* turbine heights to blade tip are stated as:
- Microgeneration - 11m
  - Small - 20m
  - Medium - 65m
  - Large - up to 135m

This differs slightly from the PCNP ranges (2.21 of this document).

### **Pembrokeshire County Council Deposit LDP 2017– 2033**

- 2.36. This emerging plan has limited weight before adoption but sets out the thrust of future policy within the County. Relevant emerging development management policies include Policy GN 1 General Development Policy, Policy GN4 relating to renewable energy and Policy GN38 which considers landscape.
- 2.37. GN 1 General Development Policy states that:
- 'Development will be permitted where the following criteria are met:***
1. *The nature, location, siting and scale of the proposed development is compatible with the capacity in character of the site in the area within which it is located;*
  2. *It would not result in a significant detrimental impact on local amenity in terms of visual impact, loss of light, or privacy, odours, smoke, fumes, dust, air quality or increase in noise or vibration levels;*
  3. *It would not cause unacceptable adverse effect (a harmful impact that cannot be satisfactorily mitigated) on landscape character, quality or diversity, including the special qualities of the Pembrokeshire Coast National Park and neighbouring authorities.....'*

(extract from full policy text with this report emphasis)

- 2.38. GN 4 Resource **Efficiency** and Renewable and Low-Carbon Energy Proposals states that:
- 'Development proposals should seek to minimise resource demand, improve resource efficiency and seek power generated from renewable resources, where appropriate. They will be expected to be well designed in terms of energy use.*
- Developments which enable the supply of renewable energy through environmentally acceptable solutions will be supported.'*
- 2.39. Landscape impact, alone and in combination, is considered to be material consideration in the evaluation of proposals, with LANDMAP providing invaluable landscape analysis tool

(5.38).

2.40. GN 38 Landscape states that:

*‘Development which would have an unacceptably adverse effect on the landscape will not be permitted. All proposals will be required to:*

*i) Be well integrated into the landscape in terms of scale, siting and design and have an acceptable visual impact in relation to the characteristics and qualities of the landscape.*

*ii) Acceptably mitigate any impact on protected landscapes, registered historic landscapes, or parks and gardens.*

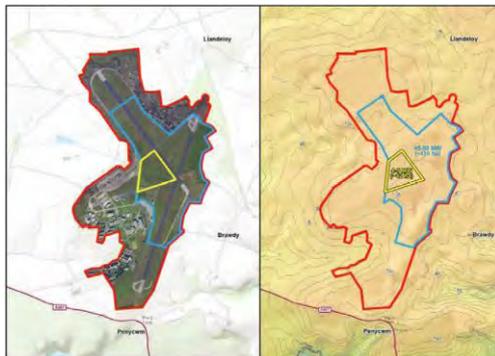
*Proposals which are likely to have a significant visual or landscape character impact will be required to demonstrate how the development can be acceptability mitigated.’*

2.41. The policy aims to ensure that unacceptable harmful impact on landscape is avoided. The **Authority’s** Landscape Character Assessment Consultation Draft SPG, July 2019 is referenced as the evidence base and, following public consultation, is intended to be adopted as Supplementary Planning Guidance. It will form a material consideration for the consideration of development proposals.

### 3. Options for wind energy development

#### Background

- 3.1. A Phase 1 scoping study<sup>1</sup> for future uses of the site was prepared in 2015. This briefly examined the potential for wind energy and considered this as a potential secondary use. In its viability analysis (page 40) the report concluded that the **site’s proximity to the National Park** and the sensitivity of the surrounding natural environment was considered to preclude wind energy generation from further consideration. The option was therefore deemed unviable on planning and consenting grounds. It also considered the proximity of some residential properties with views of the structures as an additional factor limiting potential.
- 3.2. The scoping study did consider that solar energy could be a viable use on the site and set out to options for potential land take as illustrated below.



*(Derived from Phase 1 scoping study Figure 5.1 Potential solar PV land take, page 49)*

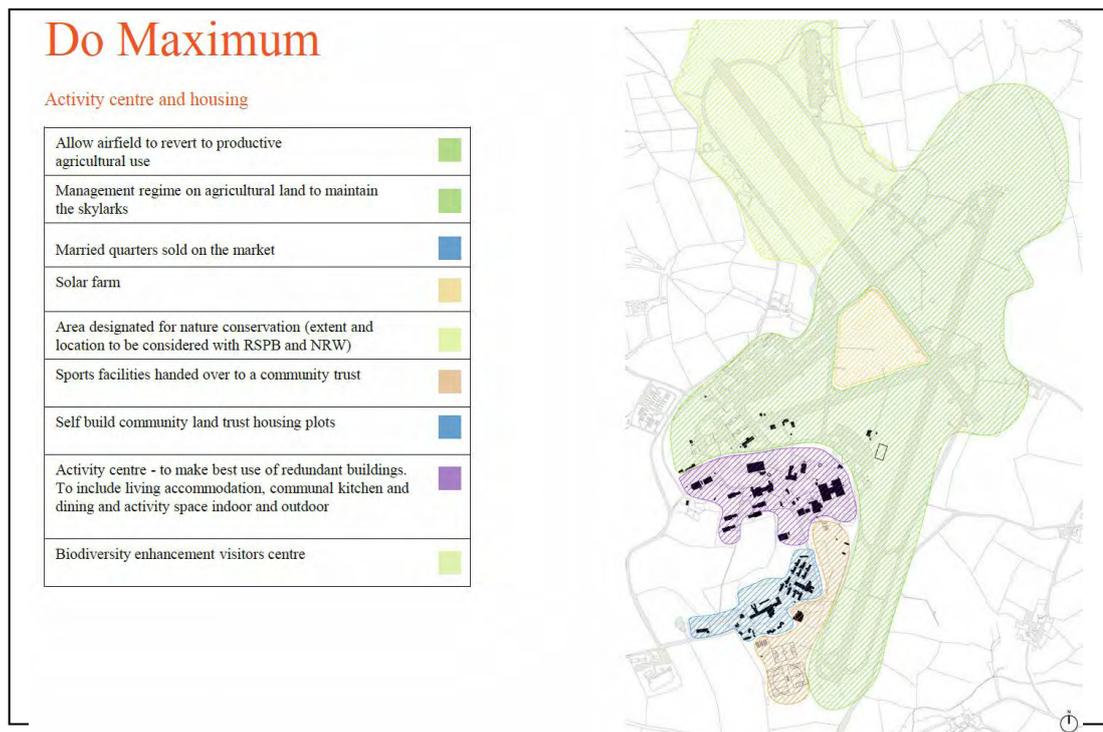
- 3.3. The deposit Local Development Plan 2017 - 2033 considered that the 4-5MW option outlined in yellow above was a potential allocation. Consultation with the Ministry of Defence (MoD) found that this conflicted with the existence of an aviation radio beacon just to the north east of the proposed allocation on the other side of the runway. The MoD Defence Infrastructure Organisation stated that this beacon provided a navigational aid to aircraft **as part of the UK’s** distress auto - triangulation network and was to be retained on the site. The constraints in relation to solar energy was a buffer from the antenna of 200m for security fencing and 250 m for security cameras and switchgear.
- 3.4. In relation to buffers for wind turbines, initial enquiries have pointed to aviation safety guidance<sup>2</sup> which requires a ground level safeguarding of circle radius 120m centred on the navigational aid, and a 2% (1:50) slope from ground level at the navigational aid out to

<sup>1</sup> Cawdor Barracks and Brawdy Airfield: Scoping Study – Future Uses Phase 1 – Consideration of Uses and Market Testing, Arup, 2015.

<sup>2</sup> Air Traffic Services Safety Requirements CAP670, Civil Aviation Authority, 2019

450m radially (GEN02.24). The 1:50 slope out to 450m results in no structures greater than 9m being permitted within the area. This effectively excludes wind turbines but still theoretically leaves opportunities on the majority of the airfield site beyond. This can be taken as a constraint or it is understood that the beacon could be moved subject to finding an alternative site and a related cost benefit analysis. It is outwith the scope and competence of this report to verify this information.

- 3.5. The scoping 2015 report summary presentation indicated a **‘do maximum’ development** scenario of housing, sports facilities and activity centre based on the current built up part of the site. On the open airfield itself a mix of productive agricultural use, solar farm and agricultural land to the north managed for skylarks was proposed (see below). Consultation responses on behalf of the MoD to the Deposit Plan essentially based on 2015 report have indicated that a more intensive set of uses should be pursued.



(Source: Arup 2015 scoping report summary presentation)

## Site extent

- 3.6. For the purposes of this report it is considered that the approximate areas shown as agricultural land are those that may be considered for wind turbine development, excluding a 450m radius around the radio beacon to the north east of the proposed solar farm. The site is indicated on Figures 2 to 4 is just over 3 km from north to south and just over 1.5 km east to west. It lies on gently undulating plateau ranging from around 100mAOD up to 110mAOD. It comprises tarmac and concrete runways and associated access roads, hard standings and infrastructure, unimproved grassland and developing scrub/low trees.

## Existing development surrounding the site

- 3.7. Figure 4 indicates the location of turbines consented and constructed within and around 5km of the centre of the site (at the junction of the three runways). This includes:
- 6 medium single turbines between 25.4m and 39m high to blade tip within 5km, of which four are further north than the site and the closest to the coast is 2.5km (Maerdy to the west).
  - Four small single turbines and a pair between 9m and 20m to blade tip within 5km.
  - Two small turbines 22m and 27m to blade tip to the north west relatively close to the National Park boundary (Berea and Cruglas) and one just within the National Park to the south at 19m (Rainbolts Hill Farm).
- 3.8. An examination of nearby planning applications and appeals shows that there have been several refusals or dismissal at appeal for turbines between 34m and 60m close to or within

the National Park. Of note, a 60m turbine proposed just west of Brawdy Business Park to the south west of the site was refused. Larger proposals for turbines around 80m to blade tip, such as around Pen y Bank 6km to the north, have been dismissed at appeal. It is understood that the landscape and visual effects on the National Park have been a major factor in these decisions.

- 3.9. The decisions above were made before the introduction of Future Wales 2040 and related planning policy PPW 11. The question needs to be asked whether this new national policy changes the context leading to more likely approval of wind turbines close to National Parks. Whilst a more positive framework exists, National Parks still must be afforded the highest status of protection from inappropriate developments and this duty applies in relation to activities affecting the designated areas whether they lie within the Park or in its setting. The appraisals in Sections 4, 5 and 6 will discuss the potential for these effects. **The location of the nearest ‘pre-assessed area’** for large-scale wind farm development (10 MW and above) 26km away is an indicator of this consideration.

### Potential scenarios

- 3.10. Notwithstanding the prevalence of small and smaller medium-sized turbines in the area it is assumed that any development would have to be commercial in nature in order to justify its inclusion on the site. As such domestic or farm related micro and small scale turbine developments (as defined within local planning policy) are not likely to be considered viable. At the other end of the scale it is considered that large scale development (10MW and above) is highly unlikely to be appropriate in this location. As such, development coming forward would remain a matter for decision-making by PCC. Taking into account the sizes of turbines coming forward it is considered that a slightly different range of sizes of turbines to the PCC/PCNP definitions should be used for the purposes of this assessment:
- Up to 35m to blade tip (small to medium)
  - 35-80m to blade tip (medium to large)
  - 80-135m to blade tip (large)
- 3.11. In terms of numbers, the majority of turbines in the surrounding area are single with one pair of small turbines. In aesthetic/design terms, pairs of turbines tend to look awkward and like goal posts so are not a desirable precedent. The appraisal will consider the possible effects of turbines throughout the site, whether single or grouped.

## 4. Landscape and seascape appraisal

- 4.1. The desk study has identified landscape character areas (LCAs) and seascape character areas (SCAs) around the airfield. The level of intervisibility and resulting effect of potential turbine development on the closest areas has been assessed only through study of OS mapping contours and a site visit, not through ZTVs.

### National Landscape character

- 4.2. The site lies within Taf and Cleddau Vales National Landscape Character Area (NLCA) 44. This is a very extensive area which runs as far east as Carmarthen and south to Tenby. Directly adjacent to the south and south west is the West and North Pembrokeshire Coast NLCA 44. This covers a large proportion of PCNP to the north and west excluding the Preselis. The key characteristics of this NLCA include a spectacular coastal edge which is the main unifying characteristic of the area and many coastal features including a varied and rugged, exposed and highly indented coastline. The coast at Newgale with the unspoilt plateau skyline backdrop is featured in the photographs.

### Local landscape character

- 4.3. LANDMAP underpins the local landscape character assessments. As a sample, the LANDMAP visual and sensory layer with associated value is set out in Appendix B. This demonstrates the value of the coastal edge which is considered outstanding.
- 4.4. The site lies within Treffynnon LCA which lies outside PCNP (see Figure 2). Within 5km of the centre of the site there are the following LCAs:

*Within PCNP*

- St Brides Bay
  - Brandy Brook
  - Solva Valley
  - A very small part of St David's Headland
- Outside PCNP*
- A very small part of Pelcomb and Simpsons Cross
- 4.5. Within 10km of the centre of the site there are the following LCAs in addition to the above:
- Within PCNP*
- Dowrog and Tretio Commons
  - **St David's**
  - **St David's Head**
  - Carn Llidi
  - Trefin
- Outside PCNP*
- Treffgarne and Plumstone Mountains
  - Scleddau Lowlands
  - Treffgarne Gorge
- 4.6. LCA 1: Treffynnon: This LCA is described in the Pembrokeshire Landscape Character Assessment Consultation Draft, 2019. The key characteristics include a series of low broad ridges, rich pastoral farmland and relatively contained small-scale wooded valleys, and Brawdy airfield with associated buildings and installations.
- 4.7. Its key qualities include views to the coast to the north and west which introduce a coastal association (although Brawdy is to the south east).
- 4.8. Landscape change includes wind turbines which are largely sporadic and small-scale. Future change includes the closure of Cawdor Barracks with likely pressure for redevelopment.
- 4.9. Key sensitivities include *'panoramic views out to the coast- the introduction of large-scale or dominant features interrupting skyline views towards the coast would significantly affect the relationship with adjacent areas.....'*
- 4.10. Guidelines include avoiding intrusive skyline developments.
- 4.11. Relating this to possible turbines at RAF Brawdy the key issues appear to be that RAF Brawdy does include views to the coast/St Brides Bay and is located on high ground which acts as skyline from certain views to and from the coast.
- 4.12. The LCAs within PCNP most likely to be affected are 12 St Brides Bay and 13 Brandy Brook due to proximity and the level of likely intervisibility. The site lies on a gently rising high ground and so structures on it have the potential to be visible as part of the backdrop to the adjacent LCAs. The LCAs' landscape sensitivity to wind turbines are assessed in the PCNP Renewable Energy SPG 2011 and the assessments are set out in Appendix A.
- 4.13. LCA 12 St Brides Bay: This LCA is high sensitivity to large turbines (65m-125m) and medium turbines (25-65m) and moderate-high sensitivity to small turbines (less than 25m). The key sensitivities to wind turbine development of any scale are:
- *'The strong relationship between landing coast and the constant sight and sound of the sea.*
  - *The views across St Brides Bay and along the undeveloped coastline.*
  - *Sense of remoteness/tranquillity associated with the higher ground and the cobble beach at Newgale Sands.....'*
- 4.14. The guidance states that the LCA is considered unsuitable for large or medium scale turbines but there may be some limited opportunity for single or small clusters of small-

scale single turbines in areas of the rolling farmed landscape. Small turbines that are visually associated with existing buildings and rationed within the landscape rather than concentrated in one particular area will be most suited to this landscape. Turbines should be avoided on the undeveloped coastline within views across St Brides Bay and in the most tranquil areas i.e. on the higher ground.

- 4.15. Relating this to possible turbines at RAF Brawdy the key issues appear to be a constraint on the appropriate scale and spacing of turbines, the location of the site on higher ground behind the coastal strip and the potential for structures on it to be visible in views across St Brides Bay (see Visual Appraisal in Section 5). Whilst the built form of the Cawdor Barracks and former airfield reduces intrinsic tranquillity the extensive grass and scrub areas away from the built form, especially to the north and east, contribute to tranquillity with the runways not being visible in the wider landscape.
- 4.16. LCA 13 Brandy Brook: This LCA is high sensitivity to large turbines (65m-125m) and medium turbines (25-65m) and moderate-high sensitivity to small turbines (less than 25m). The key sensitivities to wind turbine development of any scale are:
- *'... The relative sense of tranquillity and peacefulness.*
  - *Strong visual relationship with Roch Castle as a prominent skyline feature.*
  - *Views to sea from hilltops....'*
- 4.17. The guidance states that large or medium scale turbines would not be appropriate in this landscape due to its small scale and tranquil character but small-scale turbines that are visually associated with existing groups of buildings and rationed within the landscape rather than concentrated one particular area would be most suited to this landscape. It should be ensured that Roch Castle remains the dominant skyline feature, making sure that turbines do not conflict with this local landmark.
- 4.18. Relating this to possible turbines at RAF Brawdy the key issues are similar to LCA 12. There appears to be a constraint on the appropriate scale and spacing of turbines and association with buildings. Whilst the built form of the Cawdor Barracks and former airfield reduces intrinsic tranquillity the extensive grass and scrub areas away from the built form, especially to the north and east, contribute to tranquillity with the runways not being visible in the wider landscape. Roch Castle is on the other side of the LCA from RAF Brawdy but it is the most distinctive manmade landmark visible along the coast of St Brides Bay and the relative scale of turbines should be considered in wider views.
- 4.19. The Newgale Coastal Adaptation Project is underway, one element of which requires the diversion of the A487 away from the shingle bank onto a new alignment further inland. Design work is ongoing. This project is likely to modify the character of the area and the perception of it from the road and elsewhere. Views towards the airfield will also be modified and would need to be taken into account in due course.

### Seascape context

- 4.20. Seascape character areas (SCAs) within 5km of the centre point of the site are SCA 20 St Brides Bay coastal waters north and SCA 21 St Brides Bay coastal waters east. Within 10 km of the above areas are joined by the main part of SCA 24 St Brides Bay.
- 4.21. SCA 20 St Brides Bay coastal waters north key characteristics include:
- Indented jagged cliffs, small promontory headlands, islets, and bays with narrow inlets.
  - Gently sloping plateau in hinterland...
  - The Coast Path is particularly well used, especially near St Davids and Solva and allows access all along the sea edge and around the indented inlets.
  - Views are panoramic from several high viewpoints, and narrowly channelled in **inlets. The view from around Newgale is one of Pembrokeshire's iconic views.**
- 4.22. Key sensitivities include:
- Unspoilt rural character of sea edge with highly indented, rocky character with cliffs and features.
  - Wide views across St Brides Bay

- Coast Path as a sensitive receptor
- 4.23. SCA 20 St Brides Bay coastal waters east key characteristics include :
- Long sandy beaches interspersed with cliffs and rocky foreshores.
  - Low rolling hills **running back from the coast...**
  - Access along the sea edge and the Coast Path...
  - Long views across Brides Bay and contained by the distant high ground of the north and south coasts.
- 4.24. Key sensitivities include:
- Open wide views along the coast and back inland, juxtaposed with small-scale **visitor facilities....**
  - Coast Path as a sensitive receptor
- 4.25. SCA 24 St Brides Bay key characteristics include:
- Open, very wide bay with virtually unspoilt, simple, consistent and unified Marine character at a vast scale and significant sense of openness, remoteness and exposure increasing to the west
  - From land, the area forms an important part of the superb vistas from Ramsey and Skomer islands, and the Coast Path.
- 4.26. Key sensitivities include:
- Simple, open, wild and remote character with views of the western coast and islands.
  - Coast Path as a sensitive receptor overlooking the area at a distance.
- 4.27. Relating to seascape character to possible turbines at RAF Brawdy the key issues appear to be the potential intervisibility of structures on the site with the open, wide bay which has an unspoilt, simple and consistent character with a sense of remoteness, and visibility from the Coast Path with its views across the bay and along its coast. Any potential relationship between the iconic view from Newgale and its approaches, such as on the A487, should also be considered.
- 4.28. The diversion of the A487 and a permanent route of the Coast Path away from the shingle bank inland as part of the Newgale Coastal Adaptation Project will also modify the character of this part of the area. It could make the coastal edge character more tranquil and change views towards the airfield from the path and road. This would need to be taken into account in due course.

### Historic Landscape

- 4.29. The St Davids Peninsula and Ramsey Island Landscape Of Outstanding Historic Interest lies 4.5 km to the west at its closest point to the centre of the site. The inland areas closest to the site are gently undulating commons and open access land and may have views of turbines on the site at a distance. However it is unlikely that the historic interest of the area would be significantly adversely affected by turbine development at Brawdy, unless it is large scale.

## 5. Visual appraisal

- 5.1. Visual effects are concerned with changes in available views of the landscape and the effect of these changes on people. Hence the appraisal is concerned with:
- The direct effects of the development upon views of the landscape through intrusion or obstruction
  - The sensitivity of viewers who may be affected
  - Overall likely impact on visual amenity
- 5.2. Locations from which potential turbine development may be visible have been identified by

a broad brush desk study of OS mapping without benefit of ZTV, and from field study observations. Viewpoints have been selected and photographed to illustrate effects from PCNP. The location of photo viewpoints are shown in the Figures 1 and 3. A commentary on the likely effect of different sizes of turbines in different locations on the site and eight representative viewpoints is made in Appendix C. These are illustrated in the Photographs.

- 5.3. This assessment focusses on the effects on PCNP and its related purposes and special qualities. The effects on nearby residential properties such as at Rickeston Hall or Llandeloy or tourism developments such as the Park Hall Village caravan site are therefore not considered further in this study. They would need to be taken into account in any formal LVIA and may influence the location of any potential turbines. The key high sensitivity receptors within PCNP are:

- Users of the Coast Path
- Users of any common land/open access land along the coast
- Users of public footpaths and other rights of way
- Users of the national cycle network
- Visitors to beaches and the coastal edge
- Marine leisure users of St Brides Bay.

### **Users of Coast Path and related common land/open access land**

- 5.4. Users of Wales/Pembrokeshire Coast Path would have direct and slightly oblique intermittent views of wind turbines on the site walking from the south and west along the coast of St Brides Bay. Visibility is likely to occur where the path runs on high points, at the height of the plateau and on the upper slopes of steep valleys running to the coast. A ZTV has not been carried out to establish the likely intervisible length of path. Views of structures on the site have been established from the headland at Porth Clais to the west and from St Brides to the south as well as numerous intervening locations. It is likely that views further to the west and south-west would be possible. It is not considered likely that there would be views from the northern coast of the St Davids Peninsula due to intervening landform but this is not verified by ZTVs.
- 5.5. The views from the northern edge of St Brides Bay (Viewpoints 1 and 2) would be seen in conjunction with the indented coast featuring rocky cliffs up to 80m high with semi-natural vegetation, promontories and islets. Views from the eastern edge of the bay are more direct and more consistent with a less indented coast (Viewpoints 4 and 5). The views take in the open sweep of the bay. The rural hinterland back from the coast, of which the site is a part, comprises gently undulating pastoral plateau with walls and low hedges and very limited tree cover. The skyline is gently undulating and simple and rarely broken by development form- normally farm complexes. There are occasional settlement clusters visible as well as caravan sites set back from the coastal edge. Structures at Cawdor Barracks are visible on the skyline to a greater or lesser extent- the most prominent being the steel-clad cream coloured building. The line of Newgale beach is visible and structures on the site would be usually visible relatively closely in conjunction with this particularly when viewed from the south. As walkers get closer to the site from the west it appears to be located relatively further inland, away from the coast.
- 5.6. Turbines up to 35m would be higher than the existing buildings and would be likely to be apparent on the skyline as the site rises to 110mAOD. They would contribute to built form on the airfield site and would be likely to extend it if located to the north or south. They would have less effect if limited in size, number, well-spaced and with limited spread set as far back from the coast as possible, possibly related to the existing buildings.
- 5.7. Turbines 35-80m high would be approaching the height of the dramatic coastal cliffs and would be seen in conjunction with them in many views, especially from the south. This would diminish their apparent scale. Turbines would intensify the built form on the airfield site introducing development at a larger scale on the skyline and provide an additional prominent focus of views. Turbines of this size would be seen more frequently above intervening landform/vegetation than smaller turbines.
- 5.8. Turbines 80-135m high would be significantly higher than the existing buildings and the coastal cliffs. They would diminish their apparent scale and be large-scale features on the skyline. They would markedly intensify the built form on the airfield site and become a

new highly prominent visual focus in the north-eastern corner of the bay. Turbines of this size would be seen more frequently above intervening landform/vegetation than smaller turbines with consequentially larger effects.

### **Users of public footpaths and other rights of way**

- 5.9. Many public footpaths link the Coast Path to points inland and some will have direct views towards the site, while others will have oblique views. Other paths run across the plateau and intervening valleys. An example of an elevated inland public footpath is on Rhyndaston Mountain (Viewpoint 8) which could also reflect views from inland open access land. The view takes in the open sweep of the bay defined by the cliffs and the distinct landforms of Carn Penberry and Carn Llidi to the west above the plateau landscape. The rural hinterland back from the coast to the north comprises the gently undulating pastoral plateau with hedge banks and hedges and very limited tree cover. There are occasional settlement clusters visible on the skyline- Roch with its landmark castle and Solva, but mostly occasional farmsteads are apparent, set back from the coastal edge. Several structures at Cawdor Barracks are visible on the skyline- the most prominent being the steel-clad cream coloured building. There are also four small/medium wind turbines visible to the east and west of the site from this plateau viewpoint.
- 5.10. Turbines up to 35m would be higher than the existing buildings and would be likely to be apparent/noticeable feature on the skyline as the site rises to 110mAOD. They would contribute to built form on the airfield site and would be likely to extend it if located to the north or south. They would have less effect if limited in size, number, well-spaced and with limited spread set as far back from the coast as possible, although avoiding spoiling views to Carn Penberry.
- 5.11. Turbines 35-80m high would be significantly higher than the existing buildings and would be likely to be noticeable and distinct vertical features on the skyline, and potentially conflict with views of Carn Llidi and Carn Penberry. They would significantly intensify and could extend the built form on the airfield site introducing development at a larger scale. They would contrast with the existing turbines to the west/north west in terms of scale. Turbines of this size would be seen more frequently above intervening landform/vegetation than smaller turbines.
- 5.12. Turbines 80-135m high would be significantly higher than the existing buildings and would be likely to be prominent on the skyline. They would be likely to be a major focus in view and markedly intensify the built form on the airfield site introducing development at a significantly larger scale. Turbines of this size would be seen more frequently above intervening landform/vegetation than smaller turbines with consequentially larger effects.
- 5.13. The relationship of larger turbines with Roch Castle is an issue, with apparent diminishing of its scale and importance as a landmark.

### **Users of the national cycle network**

- 5.14. Views from the national cycle network route 4 would be possible from the south and from the west.
- 5.15. Views from south (represented by Viewpoint 7) would be similar to views from the Coast Path on the eastern edge of St Brides Bay in many places but would also allow views from a higher level across the plateau hinterland. These views would often be direct and include Roch Castle and several other scattered turbines up to 35m in height in the environs of the site. These set a pattern of development.
- 5.16. Direct views from the west would be possible on the undulating plateau but the inland route would see any turbines within the context of the inland rural plateau rather than in the context of St Brides Bay or the coast.
- 5.17. Turbines up to 35m on the site would have a similar effect to existing turbines providing they are limited in number, widely spaced and set back from the coast. Turbines of 35-80m and 80-135m would be a significant increase on the height of established turbines, become prominent foci and be out of character.

### **Visitors to beaches and the coastal edge**

- 5.18. There are a few small beaches in coves along the north and south coasts of St Brides Bay with southerly views defined by adjacent headlands but the majority of larger beaches are located on the eastern coast, most notably at Newgale (Viewpoint 3) and Broadhaven.

These allow views along the coast to the north and in places there are views of the plateau skyline on which RAF Brawdy lies, especially at low tide. These views are sensitive as they could include juxtaposition of the rocky coast with turbines on site. As the views are from a lower level it is likely that less of any proposed turbine would be visible. In the case of lower turbines, particularly set further back from the coast, there may be no views of the structures at all. This could only be evaluated by use of a ZTV. The larger the turbine, the greater the risk that there would be views to it from these locations.

### Marine leisure users of St Brides Bay.

- 5.19. The bay is popular for sailing, particularly out of Solva, surfing and kite surfing especially at Newgale, dinghy sailing, kayaking and swimming. There would be a large potential for open views towards wind turbine development on the site from the south and just out from the northern coast. It could become a noticeable or prominent additional focus and landmark, and, depending on size, could compete with the scale of the cliffs and with Roch Castle. Views across the bay from a distance are illustrated by Viewpoint 6.

## 6. Cumulative effects appraisal

- 6.1. The location of existing turbines are discussed in Section 3 and illustrated in Figure 4. These are all fairly well spaced single turbines aside from a pair of 20m high turbines 95m apart 2.5km to the north of the centre of the site. Distances between medium-sized turbines up to 35m high within 5km of the centre of the site are 1km, 1.45km, 1.5km, 2km, 2.2km and 2.6km- an average of 1.8km. Some smaller turbines lie closer. The nearest turbine to the site is 650m to the west.
- 6.2. The PCNP guidance for the adjacent LCAs indicates that any proposed (small) turbines **should 'rationed' in the area ie not be clustered. This approach appears to be relevant on this site as it is elevated and so intervisible with these adjacent PCNP landscapes and seascapes.**
- 6.3. Views are possible from the Coast Path to **chimneys at Milford Haven's Valero refinery**, around 21km, to the south. Large turbines here would cumulatively affect the character of St Brides Bay.
- 6.4. To avoid cumulative development and the appearance of a cluster would mean the number of turbines on the site would be very limited, especially if the southern half of the site which lies closest to the coast and offers the greatest potential for adverse landscape and visual effects is avoided.

## 7. Summary, relationship with the National Park special qualities and recommendations

### Scope and limitations of study

- 7.1. The study is intended to give general advice regarding whether wind energy proposals might be possible on the site at Brawdy Airfield/Cawdor Barracks taking into account the potential landscape and visual impacts on the Pembrokeshire Coast National Park (PCNP). This report is a high-level appraisal which considers the landscape, seascape and visual character and constraints and reviews existing wind turbine development.
- 7.2. There has been no feasibility or viability study on wind turbines on the site taking into account all relevant factors and constraints such as wind speeds, grid connection, utilities, nature conservation or noise. As such, the potential turbine development scenarios considered are indicative- turbines to three different height ranges to blade tip- up to 35m, 35-80m and 80-135m.

### The site

- 7.3. The extensive site is a former airfield located on gently undulating elevated plateau ranging from around 100mAOD up to 110mAOD. It is just over 3 km from north to south and just over 1.5 km east to west, set back from the coast at the north eastern corner of St Brides Bay. Whilst the surface of the site including grass and runways is not generally visible, some buildings relating to Cawdor Barracks are visible from the surrounding landscape, coast and the bay.

### Summary of effects on landscape and seascape character

- 7.4. The site lies close to two landscape character areas (LCAs) within the National Park. For LCA 12 St Brides Bay the site lies on the skyline backcloth and most turbines on the site would be visible above this. This LCA itself is high sensitivity to large turbines (65m-125m) and medium turbines (25-65m) and moderate-high sensitivity to small turbines (less than 25m). The key sensitivities to wind turbine development of any scale are the strong relationship between land and coast, the constant sight and sound of the sea, views across St Brides Bay and along the undeveloped coastline and sense of remoteness/tranquillity associated with the higher ground.
- 7.5. LCA 13 Brandy Brook itself is high sensitivity to large turbines (65m-125m) and medium turbines (25-65m) and moderate-high sensitivity to small turbines (less than 25m). The key sensitivities to wind turbine development of any scale are the relative sense of tranquillity and peacefulness, the strong visual relationship with Roch Castle as a prominent skyline feature and views to sea from hilltops.
- 7.6. Relating to seascape character to possible turbines at RAF Brawdy the key issues appear to be the potential intervisibility of structures on the site with the open, wide bay which has an unspoilt, simple and consistent character with a sense of remoteness, and visibility from the Coast Path with its views across the bay and along its coast. Any potential relationship between the iconic view from Newgale and its approaches, such as on the A487, should also be considered.
- 7.7. The diversion of the A487 away from the shingle bank inland as part of the Newgale Coastal Adaptation Project will modify character and would need to be taken into account in due course.

### Summary of visual effects

- 7.8. The key high sensitivity receptors within PCNP are discussed below.
- 7.9. Users of the Coast Path and common land/open access land along the coast are likely to have direct intermittent views of wind turbine development on the relatively unspoilt skyline seen within the context of the indented rocky coastal cliffs which reach up to 80m high, islets and the seascape of St Brides Bay.
- 7.10. Users of public footpaths and other rights of way inland are likely to have a mix of direct and oblique views of wind turbine development, usually on the skyline and potentially in **front of views to Carn Llidi and other landforms on the St David's Peninsula. While some views would see development only in the context of the plateau landscape, others would**

perceive the site in relation to St Brides Bay and Roch Castle.

- 7.11. Users of the national cycle network are likely to have direct intermittent views of wind turbine development on the relatively unspoilt skyline seen within the context of the seascape of St Brides Bay, Roch Castle and some small scale and well-spaced turbine development further inland.
- 7.12. Visitors to beaches and the coastal edge of St Brides Bay would be likely to see larger wind turbine development located in parts to the site closer to the coast above the skyline backdrop within the context of the indented rocky coastal cliffs, islets and beaches.
- 7.13. Marine leisure users would be likely to have open and unobstructed views wind turbine development on the skyline across much of St Brides Bay within the context of the coast.
- 7.14. The diversion of the A487 and a permanent route of the Coast Path away from the shingle bank inland as part of the Newgale Coastal Adaptation Project will modify views towards the airfield. This would need to be taken into account in due course.

### Potential effects on National Park special qualities and purposes

- 7.15. The potential effects on the special qualities of the National Park are considered in Table 1.

Table 1 Relationship of proposal with the National Park's special qualities

Quality	Discussion of effect
Coastal Splendour	The site is located over 800m away from the coast at its closest point and structures on it could be visible above the skyline backcloth, competing with the scale and character of the dramatic cliffs. The level of adverse effect would be dependent on the height, number and location of turbines. If turbines up to 35m tall were located on the northern part of the site this would reduce the potential for adverse effect on coastal splendour.
Diverse Geology	The proposal has no direct effect on the geology.
Diversity of Landscape	The diversity of character is unaffected.
Distinctive Settlement Character	Larger turbines may compete with the scale of Roch Castle which is a distinctive landmark visible on St Brides Bay.
Rich Archaeology	Archaeology has not been assessed.
Cultural Heritage	The landscape setting of Roch Castle may be an issue. The effects on scheduled monuments and listed buildings have not been assessed. The Landscape of Outstanding Historical Interest is unlikely to be materially affected.
Richness of Habitats and Biodiversity	Turbines may have an effect on skylark habitat on the northern part of the site.
Islands	Turbines may be visible in views in juxtaposition with islets off the coast.
Accessing the Park	Turbines would not affect Park access although would be visible from the Coast Path and National cycle route.
Space to Breathe	Turbines could affect this perceptual experience as they would be located in views along the coast and across the bay, potentially introducing a prominent man-made intervention into the generally unspoilt views.
Remoteness, Tranquillity and Wildness	The sense of remoteness, tranquillity and wilderness of St Bride Bay where it occurs, would be adversely affected by views of turbines. Smaller turbines set back from the coast would be likely to reduce visibility and related impacts.

- 7.16. The analysis of effects indicate that wind turbine development on the site in the setting of the Park is likely adversely affect special qualities depending on the scale and location.

The qualities primarily affected are coastal splendour, remoteness, tranquillity and wildness, space to breathe and distinctive settlement character.

- 7.17. In turn, wind turbine development is likely to conflict with the statutory purposes including conserving and enhancing natural beauty and cultural heritage and promoting enjoyment of special qualities. The level of intrusion depends on the scale and location of potential development.
- 7.18. The Heritage Coast designation of St Brides Bay to the south and west of the site is a further indication of the scenic quality of the coast.

### Discussion of effects of different scales of wind turbine development

- 7.19. Turbines up to 35m would be higher than the existing buildings and would be likely to be apparent on the skyline in many views but their effect would reduce over distance. They would contribute to built form on the airfield site and would be likely to extend it if located to the north or south. They would have less effect if limited in size, number, well-spaced and with limited spread set as far back from the coast as possible, possibly related to the existing buildings.
- 7.20. Turbines 35-80m high would be approaching the height of the dramatic coastal cliffs and would be seen in conjunction with them in many views, especially from the south. This would diminish **the cliffs'** apparent scale and associated grandeur. Turbines would intensify the built form on the airfield site introducing development at a larger scale on the skyline and would be likely to be an additional prominent focus of views along the coast and across St Brides. Turbines of this size would be seen more frequently above intervening landform/vegetation than smaller turbines.
- 7.21. Turbines 80-135m high would be significantly higher than the existing buildings and the coastal cliffs. They would diminish their apparent scale and be large-scale features on the skyline. They would markedly intensify the built form on the airfield site and would be very likely to be a highly prominent visual focus in the north-eastern corner of the bay. Turbines of this size would be seen more frequently above intervening landform/vegetation than smaller turbines with consequentially larger effects.
- 7.22. The pattern of existing turbines around the site is generally very well-spaced (average 1.8 km) and turbines do not exceed 35m to blade tip. If this pattern was reflected on the site then this may not significantly contribute to cumulative effects but this would need to be verified with more detailed assessment. The nearest turbine to the site is 650m to the west and so this would limit the number of turbines which may be appropriate- say two. These should be located to the north west and north east of the airfield in terms of trying to minimise the effect on the National Park but these locations may cause issues with extending the perceived development on the site and having effects on residents and nature conservation. Locations would also need to be at least 450m away from the radio beacon near the centre of the site if this is retained. Turbine clusters on the site would be highly likely to increase the level of intrusion, exacerbating adverse visual and landscape effects due to the location on the skyline on the north east corner of St Brides Bay.
- 7.23. Overall, whilst smaller wind turbine development up to 35m may be possible, subject to further assessment, it is not considered to be a desirable form of renewable energy on this site in terms of landscape, seascape and visual effects on the PCNP.

### Further work

- 7.24. The conclusions above are provisional based on the available desk study information and site visit. The following work would further assist in verifying and refining conclusions on landscape, seascape and visual effects:
- Preparation of a virtual model of three indicative scenarios for wind turbine developments on site using three different heights of turbine- small, medium and large (three scenarios in total)
  - Production of bare ground ZTVs for each scenario to explore the extent of likely landscape and visual effects including quantifying areas or lengths of receptor potentially affected (e.g. Coast Path).
  - Preparation of wireframes from selected key viewpoints.
  - Commentary on ZTVs and wireframes.

- 7.25. If firm proposals are developed, based on feasibility and viability studies taking all the relevant factors into account, a full SLVIA should be carried out to come to firm conclusions.