PEMBROKESHIRE COAST NATIONAL PARK AUTHORITY
DEVELOPMENT MANAGEMENT COMMITTEE
17th April 2013

REPORT OF PLANNING OFFICER (PARK DIRECTION)

SUBJECT:
THE CONSIDERATION OF WIND TURBINE COLOUR IN LANDSCAPE VISUAL IMPACT ASSESSMENTS (LVIA'S) FOR WIND TURBINE PROPOSALS

Purpose of Report

1. To respond to members queries at Development Management Committee over the colour of wind turbines.

2. To recommend that members note the contents of the report.

Background and Context

3. In dealing with a number of planning applications for wind turbines of varying scales, members have queried whether the use of colour would influence the visual impact of wind turbines and whether there is scope to consider different colours for such turbines within the National Park.

4. To assist members this report aims to provide a very brief overview of the issues of colour and visual impact; the approach of this Authority to date, the considerations taken into account, the approaches of other local planning authorities and the views from local agents who submit wind turbine proposals. A number of research papers have touched on this issue and the report draws on their findings.

Overview of Issues, Colour and Visual Impact

5. It is acknowledged that, at very short distances, the visibility of turbines is not affected to a great extent by their colour. However, at longer distances, the colour of a turbine, when viewed against certain backdrops, becomes more prevalent in affecting a receptor's visibility and perceptions. Scottish Natural Heritage advises that whilst larger turbines are generally lighter to reduce their contrast with the sky, there may be greater scope to carefully consider the use of other colours for small scale turbines particularly where they are located in lower elevations, are non-skyline or are in enclosed landscape situations. Here, there may be greater opportunities to relate the turbines more closely to their backdrop colour. It also advises that there may be locations where small scale turbines are predominantly viewed against the skyline, in which case a lighter colour

may be more appropriate. A variety of seasons and weather conditions should also be considered when choosing turbine colour.[1]

6. The concept of tailoring a turbine's colour to blend in more effectively with its backdrop, for example choosing darker colours to make it appear more recessive when viewed against land or next to trees on the skyline, has its critics. Stanton (1996) argues that the colour used should be white rather than off-white or grey, arguing that white represents a forthright design statement, rather than off-white or grey which may be seen as a form of deception. Stanton also argues that white is associated with purity and neutrality, whilst grey appears technically primitive, linked with other industrial elements.[2]

7. Graduated colour schemes, for example turbines which start dark at the base but get progressively lighter with tower height, have been proven to help *"root"* a turbine within its setting. *"Earthy"* colours such as browns, greens and greys are considered to work the best in this regard. Although if not successful, differing shades and colours can lead to a visually complex and confusing turbine within the landscape.[3]

8. The above suggests that choosing the "*right"* colour for a wind turbine is a highly subjective matter; which depends on an individual's personal opinion of wind turbines. Should every effort should be made to make them blend in as much as possible, or should they be clearly visible within the landscape as a design statement for what they are?

9. Despite this conflict, there is wide acknowledgement that darker colours help to reduce visual prominence when turbines are viewed against land, trees or built features and that lighter colours have the same effect for skyline views:

"Careful selection of colour and materials can reduce contrast and visual impact of wind turbines on the landscape. Colours which are muted (soft grey, tan, cream) and materials which have a matte finish can reduce distant visibility and contrast. However, borrowing colour from the surrounding landscape can increase contrast, where the sky is the backdrop. Because of the scale of wind turbines, most views of the tops of the towers and the rotors are against the backdrop of the sky, and as such lighter colours are frequently recommended."[4]

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[1] SNH (2012): "*Siting and Design of Small Scale Wind Turbines between 15 and 50 metres in height"*, page 7.

[2] University of Newcastle (2002) Visual Assessment of Windfarms Best Practice. *Scottish Natural Heritage Commissioned Report* F01AA303A, page 15.

[3] European Wind Energy Association (2000). *Turbine colours: do they have to be grey?* Wind Directions XIX, http://www.ewea.org/src/march0003.html (accessed 13th March 2013

[4] Sustainable Energy Authority of Ireland: *Case Study 10 - Landscape & Managing Visual Impact,* http://www.seai.ie/Renewables/Wind_Energy/Good_Practice_Wind/TCS_10_Landscape_and_Managing_Visual_Impact.pdf, accessed 13th March 2013.

The approach of this Authority to date

10. This Authority has a statutory duty to conserve and enhance the landscape character of the National Park. In Wales, there is an implicit objective to prevent change in landscape character from wind turbine development, within the National Parks[5]. This Authority therefore endeavours to only permit wind turbines where they can be adequately absorbed into the existing landscape, without changing the existing landscape character. In this respect, it is considered more appropriate to use different colours to reduce visual prominence of turbines, rather than allowing them to be clear visual statements (as Stanton argues above) and become a defining characteristic of the National Park landscape. There are many factors to consider when looking at turbine colour for a proposal, these comprise:

- The scale and design of the turbine
- What is the backdrop for the vast majority of viewpoints? E.g. developed/undeveloped skyline, land, trees, etc.
- Weather conditions? E.g. will the turbine be predominantly viewed against overcast skies?
- What is the sensitivity of the receptor from the viewpoints?
- Should some viewpoints be prioritised over others e.g. a view from the coastal path above the skyline over a view from a busy main road against land?

11. Within the National Park to date, the colours of approved turbines have either been in grey, or with galvanised steel towers with white hub and blades. White hub and blades have been considered to be more appropriate where the turbines are viewed against the skyline, in line with most guidance, as the majority of our days are overcast. However the white blades have proven to be more visually prominent on sunny days or against dark skies. Matt finishes are encouraged rather than those which are more reflective of sunlight, galvanised steel towers quickly *"weather in"* to give a dulled, non reflective appearance.

The approach of other Local Planning Authorities

12. To find out how other authorities are dealing with the issue, planning officers and landscapes architects from the following authorities were contacted for an informal discussion. They were selected for being either our neighbouring authorities, other National Park authorities or having well established renewable energy guidance:

- Brecon Beacons National Park Authority (BBNPA)
- Carmarthenshire County Council (CCC)
- Cornwall Council (CC)

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[5] Welsh Government (2005) *Technical Advice Note 8 Renewable Energy,* page 63.

- Exmoor National Park Authority (ENPA)
- Pembrokeshire County Council (PCC)
- Snowdonia National Park Authority (SNPA)

13. None of the above authorities have a definitive policy approach to dealing with wind turbine colour and all operate on a site by site basis. ENPA do promote a certain shade of grey (RAL6022 Olive Drab) when turbine proposals are viewed against land and remain below the skyline. They deal primarily with proposals up to twenty metres in height, similar to those within the Pembrokeshire Coast National Park. CCC does try to promote the removal of logos from turbine hubs and towers, but have no strict preference on colour.

Views of local agents

14. Two agents who have submitted a number of planning applications for wind turbine proposals (more than five in the last year) within Pembrokeshire, including the National Park, and who deal with a range of turbine models were contacted, again for an informal discussion. The main purpose was to discuss any difficulties in tailoring turbine colours to fit with their landscape contexts. The agents confirmed that turbine manufacturers can, and do, change the colours of their turbines upon request, accommodating most colours. However, this does add greater cost to the customer. It is also far easier to change the colour of the turbines prior to their installation.

Analysis

15. From researching available guidance, talking with other authorities and agents, and taking into account the complexity of the issue, particularly in Pembrokeshire with its huge diversity of landscapes, it is concluded that the current site by site basis approach is most appropriate when considering wind turbine colour. This current approach also remains consistent with existing practice elsewhere.

16. Whilst it is possible to change the manufacturer's standard colour for a turbine model, the colour needs to be agreed at an early stage, preferably at pre-application stage. A planning condition to control colour can also be attached to planning approvals where appropriate, this approach has been previously used by this Authority. However, again, agreement with the applicant/agent before imposing this condition is desirable.

17. Further action can involve considering a greater range of light and dark colours and shades, beyond the normal greys and whites, in an attempt to further reduce visual prominence. Carmarthenshire County Council's approach of eliminating large logos, which could add colour complexity to turbines, should also be considered. Interestingly a recent appeal case has been dismissed for the retention of advertisement lettering on a

turbine.[6] Both these additional considerations should be taken into account when considering future proposals both from within the National Park and those from neighbouring authority areas which could potentially cause a visual impact upon the National Park. Finally, it is important that officers maintain awareness of recent examples of *"good practice"* from other authorities and new policy/guidance documents which deal with this subject.

Conclusions

18. In conclusion, therefore it is considered that the current site by site approach is the most appropriate. However, consideration of colour will be given at the pre-application stage, with agents and applicants being alerted to the possible use of different colours to reduce visual impacts.

Recommendation

That members note the contents of this report.

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[6] The Journal of the Royal Town Planning Institute: *Planning* (March 2013), page 20.