



COMMISSIONED REPORT

Summary

Visual Assessment of Windfarms: Best Practice

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Contractor : University of Newcastle

BACKGROUND

The development process for many windfarms requires formal environmental impact assessment (EIA) and the incorporation of the results into an environmental statement (ES). SNH's experience is that there can be a great deal of variation in the way that visual impact assessment (VIA) is dealt with in EIA. This project involved: a review of relevant guidance, research and development work on visibility, visual impact and significance; an investigation of the visibility of eight existing Scottish windfarms; a comparison between as-built visibility and estimates of visibility in the ESs; evaluation of Zone of Visual Influence (ZVI) and other assessment tools; and generation of Best Practice Guidelines for VIA of windfarms.

MAIN FINDINGS

- Many guidelines on windfarm development appear to be based on first generation windfarms and need to be revised for second and third generation turbines.
- There is some research and a wide and diverse range of guidance and opinion on the detailed issues of ZVI, distance, visibility and significance for windfarms, explained by the complexity and the subjectivity of the issues, the desire of one set of windfarm interests to minimise the political, professional and public perception of the visual (and landscape) effects of windfarms and an opposing desire by another set of interests to maximise these perceptions.
- The magnitude or size of windfarm elements, and the distance between them and the viewer, are basic physical measures that affect visibility, but the key issue is human perception of visual effects, and that is not simply a function of size and distance.
- The influences on apparent magnitude are reviewed, including factors that tend to increase it and factors that tend to reduce it. A new conceptual model and schema for assessing visual effects is provided.
- Based on survey work at eight sites - Beinn An Tuirc, Beinn Ghlas, Deucheran Hill, Dun Law, Hagshaw Hill, Hare Hill, Novar and Windy Standard - an overall analysis is provided of the effects on visibility of the Size and Scale of the Development, Proportional Visibility, Lighting, Movement and Orientation, Distance, Colour and Contrast, Contrast, Skylining and Backclothing, Elevation of Windfarm and Human Receptor and Colour and Design.
- Zones of Visual Influence (ZVI) are never wholly accurate and other tools such as photomontage are never wholly realistic. Suggestions are made of ways to address these issues.

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