Wind farm impacts study

Review of the visual, shadow flicker and noise impacts of onshore wind farms in Scotland

Statement from the Project Steering Group:

The *Wind Farm Impacts Study* report published today (xx July 2015) represents a significant contribution to our understanding of how to better predict and mitigate visual, shadow flicker and noise impacts of new wind farm developments in Scotland. The report presents the findings of a two-year study reviewing ten wind farms from across Scotland, comparing the impacts predicted before development to those evident once the wind farm is operational.

The Project Steering Group welcomes the work of the consultants in conducting the study. We believe the research is particularly valuable as it points to a constructive path for ensuring that the assessment of impacts is consistent and valid, and to how consultation with residents when assessing developments can be improved. We look forward to continuing to work together, and with others, to consider the report's recommendations.

The findings from this study, conducted by consultants SLR and Hoare Lea Acoustics, highlight that the majority of assessments presented at planning stage for the ten case study wind farms followed guidelines that applied at the time, and point to improvements in planning guidance and best practice that have been made more recently.

The consultants suggested further improvements that could be made:

1. Guidance and methodology should be developed for residential visual impact surveys and also, where appropriate, the overall impact on residential amenity due to the combined visual, shadow flicker and noise effects of wind energy developments.
2. Checklists are needed for planners at scoping and post submission stages of an LVIA (Landscape and Visual Impact Assessments) to ensure consistency and consideration of key matters.
3. Consistent and clear reporting on the landscape and visual design objectives for a wind farm should be set out in assessments.
4. Guidance, definitions and significance thresholds should be developed for the assessment of shadow flicker, shadow throw and light effects, including their presentation in public consultations.
5. Assessments should give fuller consideration to the experiential impacts of wind farm noise, including its character.
6. A review should be undertaken to establish whether the existing derivation of noise limits offers the appropriate balance between protection, simplicity and robustness.
7. Good practice should be developed in terms of assessing modulated noise from wind turbines.
8. Where noise issues are found to occur, these should be identified and assessed within clear timescales, and affected neighbours should be provided with regular and informative updates.
9. Guidance should be developed to achieve consistency across competent authorities in respect of retention and accessibility of key documents throughout the consenting process, including post consent agreements.
10. Decisions about micro-siting should be taken by competent authorities and recorded, based on the specific implications for visual, shadow-flicker and noise impacts, alongside other potential impacts and in relation to stated design objectives.

The consultants conclude that adopting these recommendations would ensure a more consistent approach to predicting, measuring and documenting impacts throughout the design and operation of the wind farm.

The study extends our understanding of how local residents experience wind farms. The report makes a number of further recommendations for better guidance on how to predict and mitigate impacts, and how to present expected impacts to residents in a more meaningful way. The assessment of noise in the study was mainly based on modelling, and we recognise that noise modelling cannot capture all aspects of experienced noise. This is an area that should be explored further. There are a number of parallel initiatives and research projects aimed at deepening understanding of impacts, and we are pleased that this study is able to add to that important body of work.

As the study has focussed on issues relating to the planning process, we are confident that the findings will feed into improved practice in how developers measure the predicted impacts of proposed wind farms, and how they should communicate this to decision-makers and those likely to be affected. We believe these research findings should also help the Scottish Government and partners assess whether planning guidance for wind farms could be further improved in order to continue to safeguard against unacceptable impacts on local residents.

The Steering Group recognises that a range of disciplines will need to be brought to bear to inform any changes to planning guidelines and good practice on managing the impacts of wind farms on local residents. We also recognise that, whilst important, central guidance can only achieve so much – improved practice will require the support of planning authorities, developers, environmental consultants and communities.

In considering shadow flicker and in the research's approach to gauging people's experience of impacts, the study is the first of its kind in relation to wind farms in the UK. There is a need for more research in both these underdeveloped areas, and this study makes a significant contribution to building the evidence base.

We are encouraged by the way the project has been overseen by such a broad steering group, and urge developers and planning authorities to continue this inclusive process to develop the impact assessment process. As a group made up of representatives from local and national government planning interests, and interest groups representing both those living near wind farms and wind farm developers and operators, we have ensured a balanced approach in the research and analysis.