



The National Alliance of Windfarm Action Groups

**INQUIRY BY THE COMMUNITY AFFAIRS REFERENCES COMMITTEE
INTO
THE SOCIAL AND ECONOMIC IMPACT OF RURAL WIND FARMS**

The National Alliance of Wind Farm Action Groups (NAWAG) was formed in the UK in 2009. It is an alliance of over seventy action groups fighting wind farm proposals in their local areas. Membership numbers are fluid but over the two years of NAWAG's existence, members have shared their experience of opposing wind farm proposals and their knowledge of existing wind farms problems. Many have participated in Public Inquiries, which are held either when a developer appeals the refusal of their planning application or when government policy demands a public inquiry, usually because the proposal has an installed electrical capacity of more than 50 MW of electricity.

Groups belonging to NAWAG may have different concerns but there are many common issues including noise, shadow flicker and the potential effect on the landscape and property values. They are not opposed to renewable energy and support reduction in greenhouse gas emissions where this can be demonstrated. However, NAWAG members believe that wind farms cause a number of problems and so consider that wind energy should achieve these important objectives:

- 1) to reliably produce the electricity claimed in planning applications;
- 2) to ensure that emissions of greenhouse gases (particularly CO₂) from conventional power stations are reduced, as claimed in planning applications;
- 3) to not harm the rights of local residents;
- 4) to not harm the environment.

Scotland has a policy to eliminate nuclear power, but in the rest of the UK it appears to be recognised that wind power cannot replace this important source of energy, required to provide much of the base load of the UK's electricity supply.

There are therefore two broad issues which concern NAWAG, namely "targets" and "environment", and we shall deal with these separately.

A - TARGETS

1. There are two documents in the UK which are very important when considering renewable energy targets.
 - 1.1. The first is policy guidance issued by the former Labour Government, PPS22 (planning policy statement), which places great emphasis on the need for renewable energy from all sources including wind power.

- 1.2. The second is the Climate Change Act 2008. This Act requires the UK to cut its CO₂ emissions substantially, setting targets for 2020 to 2050. Section 1 states “It is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline.” Targets are set at 5 year intervals.
2. Many members of NAWAG have considered this issue and indeed some have actively pursued arguments about this at Public Inquiries. They believe the following points are relevant:

2.1. Wind Availability

- 2.1.1. Although developers frequently claim the UK is the windiest country in Europe, most of the UK is in the same wind contours as other countries. The possible exception is the far north and north-west of Scotland.
- 2.1.2. While totally windless days may be uncommon, they are far from non-existent. This winter, the UK has been in the grip of (by the UK’s standards) a harsh winter. Electricity demand has been high, but there has been very little wind. Articles have appeared in national papers, such as The Times and The Daily Telegraph, to state that on some days, output from the UK’s 3,000 or more wind turbines has amounted to less than 1% of national requirements and on occasions fell to zero.
- 2.1.3. The following was stated in an article in The Times on 3 January 2011:

“The turbines have delivered well below their usual output this winter and in the 24 hours to 5pm yesterday contributed only 0.5 per cent of the country’s power. Parts of the day were so still that wind power’s contribution fell below 0.2 per cent. On the windiest days, the turbines deliver about 8 per cent. A record of 10 per cent over a 24-hour period was set on September 6 last year.”

2.2. Turbine Efficiency

- 2.2.1. Developers regularly claim that wind turbines generate electricity at 30% of installed capacity. The actual figures from existing wind farms are not easy for lay people to obtain, but are available from the ROC (Renewable Obligation Certificates) register on the OFGEM (Office of the Gas and Electricity Markets) web site. After appropriate calculations, these show that most onshore wind farms operate in reality at a much lower rate than 30%.
- 2.2.2. Because wind power is intermittent, conventional power stations need to provide back-up even when wind farms are operating at full capacity. E.ON, a major electricity supplier in the UK, stated in a Wind Report it produced in 2005:

“Wind energy is only able to replace traditional power stations to a limited extent.....traditional power stations with capacities equal to 90% of the installed wind power capacity must be permanently online in order to guarantee power supply at all times”

- 2.2.3. This is expensive, as observed by Ruth Lea, a former CBI (Confederation of British Industry) director, commenting that high energy costs may force companies to relocate abroad.

2.3. CO₂ Emissions

- 2.3.1. The wind industry has now had to reduce its claims on CO₂ emissions savings by half, from 860 tonnes per MW to 430 tonnes, as a result of a ruling from our Advertising Standards Authority. This is a significant reduction but represents only the savings from displaced power. In practice even these levels of savings are not being achieved due to the emissions produced during manufacture, construction, operation and decommissioning of wind turbines, and due to the emissions from back-up plant.
- 2.3.2. Studies of emissions savings have taken place in the Netherlands, and Colorado and Texas in the United States. While it is acknowledged that full details have not been made available, the studies have indicated that, CO₂ may increase as a result of wind farms (see <http://www.masterresource.org/2010/05/wind-integration-realities-part-i/>).
3. Such evidence has been given a number of times to Public Inquiries into wind farm applications in the UK and in every case the Inspector has declined to accept them. The following cases are examples:
- 3.1. At the Whinash Public Inquiry in 2006, witnesses were called by one action group to give evidence about the effectiveness of wind farms. The Inspector dismissed the appeal but, in his decision, stated that although he had heard “a number of well-researched and technically competent presentations”, he did not consider such evidence appropriate for a public inquiry and further stated it was “effectively, an outright challenge to current Government policy”.
- 3.2. At the Armistead Public Inquiry in 2008, before the Climate Change Act came into force but when its provisions were known, the Inspector appeared to be saying that the relevant issue from his point of view was whether the proposal provided renewable energy in accordance with PPS 22. He allowed the appeal and did not accept the arguments on emissions reductions.
- 3.3. At the Cotton Farm Public Inquiry in 2010, emissions arguments relating to the Climate Change Act were specifically and fully argued. The Inspector (who was also the Inspector at the Armistead Public Inquiry) allowed the appeal and stated in his decision, issued in December 2010:
- “CFAG (the action group in this case) points out that because the appellant has provided no evidence of the reduction in CO₂ emissions resulting from the wind farm, there is nothing to weigh in the benefit side of the balance. In its view the CO₂ savings would, at best, be small. It is clear to me, however, that progress and targets for renewable energy generation have generally been measured in terms of installed capacity; as the Climate Change Committee’s recent report testifies, for wind energy that remains the position today.”*
4. The net result is that unless there is a legal challenge that determines that the Planning Inspectorate has made a mistake in law in the way it treats such evidence, it cannot be

argued successfully at Public Inquiries. Yet there is clearly evidence now available to strongly suggest

- i) wind farms are not generating as much electricity as claimed
- ii) wind farms are not reducing greenhouse gas emissions as claimed
- iii) wind farms may in fact be increasing CO₂ emissions
- iv) there appears to be no way of determining whether the targets in the Climate Change Act are being met

B – ENVIRONMENT

5. There have been numerous applications for wind farms in many parts of the UK and many have now been installed. In many cases, action groups have been formed by local residents concerned about the effects of a wind farm in their neighbourhood. They are not only concerned about the effect on the landscape but also the issues listed in your Invitation to Comment. NAWAG has collected evidence from those living close to existing wind farms and so is not dealing entirely in “speculation”.
6. In the UK, many decisions hinge on landscape. Whilst very important, landscape issues are obvious so we shall not deal with them here. On the other matters raised, our comments are as follows:

6.1. Noise, health and vibrations (and shadow flicker)

- 6.1.1. We have included shadow flicker as we think this is a closely related issue and is the source of many complaints.
- 6.1.2. So far as noise is concerned, it is accepted that not all wind farms create a noise nuisance. However wind farms are creeping ever closer to homes in the UK and residents are increasingly worried about the potential impact of noise, particularly at night, and about the increased noise resulting from the effects of wind shear.
- 6.1.3. There are many noise complaints from existing wind farms and probably as many complaints that concerns are not being properly dealt with by the relevant authorities. There is currently a well publicised case before the High Court where a resident has had to move from her property because of the noise from a recently erected wind farm. This case has still not been decided.
- 6.1.4. In a current case (from Durham in the North East of England) before the Planning Inspectorate, residents complain of noise from two nearby existing wind farms and claim that the current appeal site will, if approved, exacerbate this problem. At least one resident has already moved bedrooms because of the noise from the existing wind farms. The site inspection took place on 13 January so the decision is awaited.
- 6.1.5. The relevant guidelines in the UK for wind farm noise are set down in ETSU R 97, devised some fourteen years ago. This has been criticised as being not fit for purpose and there is currently a government review taking place. We have little faith in this review as it is being undertaken by Hayes McKenzie, a firm with close connections to the wind industry.

- 6.1.6. In a recent case, Gorsedd Bran in Wales, an Inspector dismissed the appeal partly on noise grounds. He agreed that the noise levels fell within ETSU but determined from his own observations that noise could still be a problem. The developer challenged this decision. The High Court established that the ETSU guidelines are precisely that, guidelines, but considered that the Inspector had not adequately explained his reasons for dismissing the appeal on this basis and sent it back to him for reconsideration. This decision has been appealed to the Court of Appeal and whilst we understand that the appeal has been allowed, the formal written decision has not been published nor the full reasons for allowing it been made known.
- 6.1.7. Following a public inquiry involving a site at Matlock Moor in England, heard early in 2010, the Inspector again observed that noise levels fell within ETSU guidelines but agreed that a small number of properties could suffer undue nuisance as the margin of error at certain wind speeds was very tight. This decision has not been challenged in the courts.
- 6.1.8. It is perhaps significant that PPS22 (which applies to England only) states *“The 1997 report by ETSU for the Department of Trade and Industry should be used to assess and rate noise from wind energy development”* whereas the Welsh equivalent document TAN 8 states *“The report presents the findings of a cross-interest Noise Working Group and makes a series of recommendations that can be regarded as relevant guidance on good practice”*. Nonetheless, it appears similar principles apply in each case, although the written decision of the Court of Appeal on Gorsedd Bran is still awaited.
- 6.1.9. The Gorsedd Bran case is now being argued at Public Inquiries but this is meeting with limited success. Residents living close to existing wind farms are also giving evidence of their experience. If ETSU guidelines are being met, Inspectors appear to want direct evidence that the proposal in question will cause a noise nuisance. Critics also consider that ETSU does not adequately deal with wind shear and AM noise - the guidelines were drafted when turbines were typically much smaller and are considered outdated now.
- 6.1.10. The Durham case will perhaps be interesting. No expert evidence has been called in that case but witnesses have given evidence as to what is actually occurring. Despite this, the proposed wind farm is said to meet ETSU Guidelines.
- 6.1.11. Developers claim that shadow flicker occurs within a specific distance and cannot occur beyond that. The Durham case is again interesting on this point - residents claim they suffer shadow flicker from existing turbines that are beyond this distance. In response, the developers have claimed this is impossible. We understand the residents have now submitted video evidence to corroborate their claims.
- 6.1.12. There have been many claims that health is affected by flicker and noise, the latter particularly when responsible for sleep deprivation and its consequences. Evidence has been given recently to Public Inquiries but again Inspectors appear to want proof that people will be affected – something almost impossible to give.

6.1.13. There have been many studies into the potential effect of wind farms on people living close to them. We do not propose to consider all of these in detail but more details can be found on <http://www.windvigilance.com/page002.aspx>

6.1.14. Currently there is a Bill before the UK Parliament which, if it becomes law in its present form, will set a minimum distance between turbines and houses. The distance will vary according to the size of the turbine but in the case of the largest turbines a minimum distance of 2 kilometres is suggested. The separation distance can only be reduced if all affected persons agree. If passed into law, which is only a possibility rather than a probability, this will resolve some of the problems currently identified by NAWAG, particularly on the issues raised in this section.

6.2. Property values, jobs and financial incentives

6.2.1. In the UK, the issue of property values is not considered a planning one. There is evidence that wind farms affect property values - problems such as noise and visual impact cause a loss of amenity and so must indirectly have a negative effect.

6.2.2. While NAWAG accepts that under the current UK planning system a diminution in property values is not a ground for refusing planning permission, it still considers that this provision is applied too rigidly in the UK. It has also been said at a number of public inquiries that a fall in property values acts as a measure of the effects on living conditions. Drop in value may be one thing but planning blight - where it becomes impossible to sell a house as a result of a development - is another. Indeed such a situation could be a breach of Article 8 of the European Convention of Human Rights which states:

“(1) Everyone has the right to respect for his private and family life, his home and his correspondence

(2) There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others”

6.2.3. Apart from at the construction stage, there is no evidence that wind farms create jobs in the UK. Indeed, it has been claimed that they may have the reverse effect in time - as commented upon by Ruth Lea (See 2.2.3). They are however likely to increase the income of any farmer who agrees to have them on his land - clearly an incentive for rural landowners.

6.2.4. Financial incentives are frequently offered to local communities and, under proposed legislation, may become an integral part of future applications. But these incentives rarely compensate nearby residents directly affected by the proposal - they are more likely to benefit the wider community. Many critics

rightly regard such incentives as bribes that should not outweigh the planning merits of the application.

6.3. Planning Laws

- 6.3.1. Whilst there are no specific laws to distinguish wind farms from any other form of development in the UK, government policy is obviously a major consideration. NAWAG accepts that many appeals from developers have recently been dismissed but we are concerned that government policy appears to outweigh the many negative factors, in particular wind energy's lack of effectiveness in reducing greenhouse gas emissions and providing a reliable source of electricity.
- 6.3.2. Many question why there is no "third party right of appeal" should a planning authority grant permission against the wishes of the majority of local residents. There was mention of it in the Conservative party's (now in government) manifesto before the recent General Election. Whilst problems may arise if such an appeal existed in all cases, it is surely appropriate that in large applications local residents should have the same right of appeal as the developer, who has an automatic right of appeal where permission is refused. The resident only has recourse to the financially risky judicial review mechanism, and that only where permission is granted by the court.

6.4. Other matters

We do not propose to detail these, but other arguments that frequently occur are safety, air safety if near an airport or close to a Ministry of Defence station, highway safety and use during construction, effect on horses on bridle paths and the potential effect of turbines on birds and bats.

CONCLUSION

In the UK we are unable to introduce evidence relating to the effectiveness of wind farms, because government policy dictates that installed capacity is the measure to be used.

It is difficult to introduce evidence relating to the reliability of ETSU R 97 given that the UK government believes that the guidance is robust. We have mentioned the rare occasions where an Inspector has been prepared to question its application, but usually compliance with ETSU is considered sufficient.

NAWAG does not know the views of the Australian Government on such issues, but in view of the difficulties in even debating such matters in the UK, we wish to present these points to the Senate Inquiry.