

## Shropshire Campaign to Protect Rural England - advice note Responding to wind energy applications

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Any response to a wind turbine application needs to be assessed against current planning policies and its impact on a variety of receptors. One needs to judge whether the perceived benefits outweigh damage.

Areas of concern may be summarised as follows:

**1. Landscape.** Would turbine(s) be located within the AONB or in an adjacent area so as to impact on it, or in an undesignated area, but still with recognised landscape quality?

**2. Listed buildings** or gardens, e.g. country houses, gardens, a church.

**3. Wildlife**

a. Is the site in or near an SSSI or in a location which would harm birds or bats, due to disturbance, either to foraging or nesting habitat?

b. Would construction of turbines or access to the site involve disturbance to peat deposits, or increase flooding because of run-off?

**4. Access.** Can access be achieved without significant road alterations to accommodate large turbine components?

**5. Residents.** Impact on the amenity of residents tends to be underplayed by official guidance but is a vital element in formulating an objection as well as in launching a campaign.

a. **Noise.** Planning guidance is based on outdated guidance ETSU-r-1997, no longer valid for larger turbines introduced since 1997.

What is the distance between a turbine and the nearest dwelling?  
There have been many health problems for residents living near a windfarm.

b. **Flicker** of shadow from rotating blades near residences, more likely in winter when the sun is low.

**6. Tourism.** Is the area popular for visitors who would be put off by turbines, thus undermining the local economy?

**7. Property values** Planners refuse to accept loss of value as a valid ground for objection, but it is an important issue. Written evidence from a local estate agent or surveyor is essential.

**8. Hydrology** Are dwellings with private water supply likely to be affected?

### **Actions**

1. An assessment of impact based on the above criteria should be the basis of any objection.
2. Consult national and local planning policy, for example, the Shropshire Core Strategy
3. Any Wind Turbine application above a certain size, determined by the council planning authority and based on government guidance, has to be accompanied by an Environmental Assessment, available on line or in local offices and possibly libraries. Study this carefully and be prepared to challenge statements which run contrary to fact or established local opinion.
4. Engage other organisations such as the Shropshire Wildlife Trust if their interests are affected.

### **Conclusions**

The response to a wind energy application has to be based on a judgement of whether the benefits outweigh the damage it would cause. There appears to be a general presumption in favour of wind energy because of government targets (as in other development at the present time) and despite talk of localism, the views of local people appear to carry very little weight. But there have been many refusals over the past year or two, so if the benefits of the application are not thought to justify the harm to the environment and residents' well-being, it is worth objecting and supporting local residents against the proposal.

## **Solar panels**

The government's formula for calculating the likely output of solar panels is as follows:

For each 1kW of installed capacity x 8760 (number of hours in the year) the gross theoretical maximum would be 8760kWh [kilowatt hours] per annum. Due to the expected availability of sufficient light and sunshine, the government assumes an overall annual average load factor of 9.13%.

The final output figure will thus be the installed capacity in kW x 8760 x 0.13%.

A typical domestic panel installation of 4kW capacity will therefore be expected to produce  $4 \times 8760 \times 9.13\% = 3,199\text{kWh}$  a year.

## **Wind turbines**

For each kW of installed capacity, multiply by 8760 and assume a load factor of 25% for lowland areas, (and 30% for windy upland sites). For example, a small 50kW turbine's output will be calculated as  $50 \times 8760 \times 25\% = 109,500\text{kWh}$ . A larger commercial turbine at least 100m tall would be 2,000kW (2MW) capacity giving an annual yield of 4,380,000 kWh (4,380 MWh).

This shows that a wind turbine's output is significantly higher than that of solar panels, since the sun shines for fewer hours than the wind blows and capacities are greater. However, wind is more variable and less predictable than overall light and given the large amount of wind power now installed, back-up capacity has to be available to fill inevitable power gaps in high pressure calm periods. Nevertheless these formulae and considerations cannot factor in environmental damage - residential amenity, landscape, wildlife, etc. The difficulty facing those campaigning for or against renewable energy is to be cautious about which technology is involved when determining how to balance quantifiable benefit against unquantifiable harm.