

MORE ATTENTION MUST BE PAID TO THE HARMFUL EFFECTS

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Plymouth GP Dr Amanda Harry has conducted her own survey on the effect of noise on people living near the Bears Down wind farm in Cornwall. Here, she reveals her findings

With ever-increasing emphasis being placed on renewable energy, we must balance our natural desire to save the planet today by fully weighing up the risks of available resources against possible benefits. And we must look carefully at the effects they have on our health and our countryside. Electricity generation from wind seems to be the current mainstay for the present Government's policy on renewable energy generation. Yet little research has been carried out regarding the problems of low frequency noise and its effects on the neighbours of these structures.

In fact, current recommendations for noise evaluation near wind turbine sites completely exclude the measurement of low frequency sound. The wind turbine companies state that the wind turbines at 350m will only produce noise which is equivalent to that in a quiet room, (35-45dB). However, the sound measurement scale which they are using (A weighting) completely ignores the low frequency components. A preferred method of noise measurement would take the whole range of frequencies into consideration by using, for example, a C weighting scale.

Low frequency sound is often beyond the audible range - i.e. you can't hear it, but you can feel it as a resonance, typically in the chest or through the feet etc.

This problem has been recognised by the World Health Organisation, which has said that special attention should be given to noises in an environment with low background sound levels, where there are combinations of noise and vibrations; and where there are noises with low frequency components.

It recognises that low frequency noise can disturb rest and sleep even at low sound levels. More importantly, the WHO states that in noises where a large proportion is in the low frequency range, the adverse effects on health may be considerably increased.

As a result of these findings WHO feels the evidence available on low frequency noise is sufficiently strong to warrant concern.

It goes further and suggests that for noise with a large proportion of low frequency sounds lower acceptable levels should be accepted (i.e. lower than 30dB).

Sadly, the UK is lagging behind the rest of Europe in taking these factors into consideration. But there is no getting away from the fact that low frequency noise causes extreme distress to a number of people who are sensitive to its effects.

I have recently had the opportunity to meet some people living near wind turbines. The range of distance from the nearest turbine to their properties was 300 metres to one mile. Of these people 93 per cent said that they felt their lives had been adversely affected by the effects of the turbines; 93 per cent are experiencing more headaches, and over 70 per cent are having problems sleeping, and suffering from anxiety symptoms.

Some people are having to leave their homes at times "to get away" from the nuisance. However, despite their obvious suffering, little is being done to help them relieve the situation and the residents feel their plight is being ignored.

Another complaint which I encountered when talking to these neighbours of turbines is the effect of the rotating blades in the sunlight - this characteristically causes a strobe effect (stroboscopic effects are a recognised trigger for epilepsy).

Interestingly, this effect is not only obtained by direct vision of the blades but also from the shadow flicker caused by the blades in the light. The people questioned stated that this was a cause of headaches, migraines, nausea, vertigo and disorientation in many residents, and this effect occurs at considerable distances.

The effects of low frequency noise are extremely difficult to manage as often sufferers develop an enhanced susceptibility - i.e. develop a heightened awareness to the noise after prolonged exposure.

Defra (the Department for Environment, Food and Rural Affairs) commissioned a review of published research on low frequency noise by Dr Geoff Leventhall earlier this year. In this document low frequency noise was classified as a background stressor which leads to inadequate reserves of coping and may lead to chronic psychological and physiological damage.

Therefore the symptoms can range from headaches, migraines, nausea, dizziness, palpitations, and tinnitus to sleep disturbance, stress and anxiety and depression. These symptoms will have a knock-on effect in daily lives, with poor concentration, daytime somnolence, irritability and inability to cope.

I have found from my discussions with neighbours of turbines that sleep disruption is a major problem. This is borne out by research from the University of Groningen in the Netherlands, which shows that sound levels

near a wind turbine park were up to 18dB higher at night when compared to daytime levels.

The researchers felt this discrepancy would be greater for taller turbines - which is important to remember, as the height of turbines is constantly increasing. (The gear box and gearing systems of the latest generation turbines are claimed to be quieter; however, the enormous blades increase noise levels as they swish through the air.)

The reason for these increased sound levels at night is because of air cooling, reducing the wind speed close to the ground. But the wind speed at hub height at night is higher than expected; therefore overall noise levels are increased.

With all the evidence available I feel that much more attention should be paid to health issues surrounding noise and shadow flicker. More detailed research is needed to explore these issues further. When sound measurements are being taken realistic measurement scales should be used, taking into consideration low frequency sound (i.e. C weighting). In addition to this much consideration should be made of the location of these structures so that they are not in a position to cause harm or distress to their neighbours.

The community as a whole should be involved in consultation and dialogue around planning issues - but first, full and independently-acquired information should be made freely available to the general public.