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To: [Glyn Rhonwy Pumped Storage Scheme](#)
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Since the Applicant was the one to introduce the subject of psychoacoustics, I have been going back through some of my old work and found quite a lot of material on the subject. I was amused to remember that those who worked on sound were often referred to as 'Noise Boys', and this memory was prompted by the fact that when lecturing and training, I had to ensure that I raised awareness of the difference between 'noise' and 'sound' (keeping it simple to begin with).

I describe 'Sound' as what we want to hear, and 'Noise' is what often gets in the way. Leaving aside for now all the paraphernalia associated with hearing tests, and determining each individual's sensitivity, frequency range, etc. listening (consciously paying attention) to sound is pleasurable, and usually consists of 'natural' sounds (birdsong, wind in the trees, waves on the beach, running water, etc.) and human generated sounds such as speech, music, song, etc. 'Noise' by definition is more often than not unpleasant and unwanted, intrusive and too loud. In the home, it emanates from sources such as vacuums, fridges, washing machines, dishwashers, central heating, etc. (many adverts for domestic goods often quote figures to denote how 'quiet' they are) and outside most of the noise is generated by machinery, especially traffic (but also gardening, DIY, building works, etc.).

All this noise is more noticeable, and objectionable in a rural, quiet environment, such as ours here in Waunfawr, but controlling and/or eliminating it can be extremely difficult. At present, legislation exists to mandate, for instance, that vehicle exhausts have to be baffled, and other machinery must be operated within sound deadening housing (together with a plethora of rules and regulations, health and safety guidance, etc. relating to sound levels/noise in the workplace).

Frequently, people who have noise aversion problems move to rural areas, but as yet, there is insufficient medical research/data on this area of psychoacoustics to set up a database of 'hearing anomalies' to enable sufferers to be suitably assessed in order to ascertain the extent of their problem and so subsequently engage upon a successful treatment for their condition. In my work, I found it easier to promote understanding of the condition by relating it to problems with vision such as colour blindness, which is measurable. Dangers relating to this condition have been realised in the past, and for instance one remedy was to alter the colour code of electric wiring so that instead of red, black and green, the wire colours were changed to brown, blue and green/yellow, thus alleviating the problem for the most common manifestation of the phenomenon red/green colour blindness.

However, at present, due to an individual's sensitivity to sound/noise, there is no 100% guaranteed method of assessing levels of interference that won't cause distress in sections of the population. Another aspect to an individual's tolerance/intolerance of sound is how their background affects them if they are 'allergic' to certain sounds. The classic example is the noise of 'nails/chalk on a blackboard' which can set teeth on edge and cause pain to afflicted individuals, whereas others simply dismiss it as an unwanted noise. And as I have already stated, there is no scientific method of quantifying the level of anguish caused in these circumstances, no Hertz, dBs, Phons, etc. for regulatory bodies to use. But, from my professional experience, this is the main subject material in relation to the study of psychoacoustics. Hence my annoyance at the glib and facile superficiality of its treatment by the so-called acoustic experts employed by the Applicant. They bandy around technical terms and measurements without any in depth understanding of the subject, nor from the reference sources they quote do they appear to have any 'real world' appreciation of 'Sound'.

Finally, one area which has had the least research is the adverse affect all extraneous noise has on animals. Whilst there are a plethora of rules and regulations for protected species when it comes to despoiling their habitat, there is none whatsoever to protect them from intrusive levels of noise. We all know that dogs, especially, are extremely upset by sudden explosions, such as fireworks, and I have seen some who actively avoid vacuum cleaners at all costs. Thus, were regulations comprehensive enough to cover all problems associated with unwanted noise, then on this point alone, projects such as the proposed Glyn Rhonwy development would not be contemplated or authorised at all within our local environment.

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