

UK NOISE ASSOCIATION MANIFESTO

PAPER 3:

NOISE AND ENERGY

Decarbonisation

There has been a real danger that noise will lose out in the rush to decarbonise. Both the House of Lords Science and Technology Committee, which conducted a major inquiry into noise in 2023 (1), and the Welsh Government's draft Noise Plan (2) are clear this must not be allowed to happen. The Lords Committee said, 'The move to net zero requires widespread infrastructure changes, for example the possible widespread use of heat pumps and electric cars, which may have implications for noise pollution.' It recommended 'the Government should take steps to ensure that the implications of the technological shifts required for net zero and adapting to climate change for noise pollution are understood and addressed early on'. The Welsh Noise Plan is equally clear: 'The sounds generated by air conditioning units, wind turbines and heat pumps must be factored into decision-making as we seek to adapt to and mitigate man-made climate-change.'

The UK Noise Association is calling for:

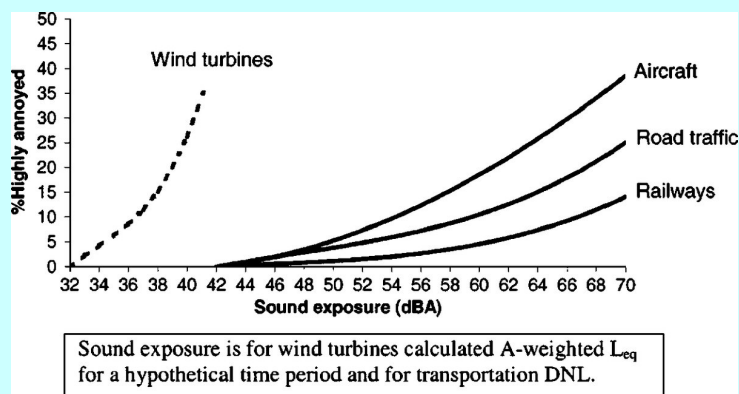
1. A Noise Audit of all Energy Sources

The UK Government has a target of reaching net zero by 2050. Many have doubts whether this is practical, achievable or even desirable. But the current reality is that it is in place and is driving energy policy. To ensure that this policy takes account of noise, a noise audit should be mandatory for all changes in energy use, whether it be at a national, local or household level.

2. Restrictions on Wind Turbines

The World Health Organisation in its latest report (3) has shown clearly wind turbines cause noise problems.

People start to get annoyed at lower levels by wind turbine noise than by any other noise.



While not conventionally 'loud', noise from wind turbines can be particularly disturbing due to the high-level of low-frequency contained in the noise. This, together with the flickering of the blades, can be destabilizing.

Where turbines are built onshore, we recommend:

- **Using accurate noise guidelines**

The current method of measuring wind turbine noise is called ETSU-R-97 (4) but it has been heavily criticized (5). Our view is that it should be revised or replaced.

- **No turbines within at least one mile of residential properties.** This is the distance recommended by the French Academy of Medicine. The terrain of course will influence how far the noise carries so, if there is nothing to block the noise, the distance should be greater.

- **Close down turbines which cause disturbance.** It is not acceptable to expect people to put up with destabilizing and disturbing noise for decades.

Off-shore turbines have less impact on people but can have a huge impact on mammals. Many mammals, such as whales, rely on sound for their survival. If the low-frequency coming from the turbines is on the same wavelength as that used by whales they will become disorientated.

3. Solar, but only with tough noise mitigation measures

Solar is not silent. Solar farms make a hum. The noise comes from the invertors and the transformer. A key study (6) found that the average noise at 10ft from the inverter face ranged from 48 decibels to 72 decibels but at 150ft typically the noise didn't exceed background levels. Generally, there was a reduction of 6 decibels with a doubling of distance. But the tone of the hum is problematic. Our recommendation is that solar farms are not installed close to residential properties and that, wherever they are installed, a noise barrier is put in around the noise-generating machinery.

4. Expansion of Nuclear

The UK Government has committed £20bn to fund the development of a network of small nuclear power stations (SMRs) with the aim of nuclear plants (small and large) providing 25% of UK energy by 2050. Nuclear is the quietest energy source. Leading American acoustician Robert Rand has said nuclear is 'a whole new magnitude' quieter and more productive than other energy sources. The noise from the cooling towers and pumps can be controlled. Only a water sound need remain which is not unpleasant.

5. A Moratorium on Heat Pumps

The Institute of Acoustics has said 'Air Source Heat Pumps (ASHP) and Ground Source Heat Pumps (GDHP) generate noise and can potentially cause significant adverse effects to people living nearby' (7). It is particularly the case for those in shared accommodation, flats and terraced housing. If improved technology comes on-stream, the problem may be eased. But any rushed move towards heat pumps will be problematic.

(1). <https://publications.parliament.uk/pa/ld5803/ldselect/ldsctech/232/23202.htm>

(2). <https://www.gov.wales/sites/default/files/publications/2019-04/noise-and-soundscape-action-plan.pdf>

(3). https://www.euro.who.int/_data/assets/pdf_file/0008/383921/noise-guidelines-eng.pdf

(4). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/49869/ETSU_Full_copy_Searchable.pdf

(5). <https://www.dickbowdler.co.uk/content/publications/ETSU-R-97 - The Alternative - Incl figures.pdf>

(6). <https://files.masscec.com/research/StudyAcousticEMFLevelsSolarPhotovoltaicProjects.pdf>

(7). [https://www.ioa.org.uk/news/heat-pumps-guidance-noise#:~:text=Air%20Source%20Heat%20Pumps%20\(ASHP, effects%20to%20people%20living%20nearby](https://www.ioa.org.uk/news/heat-pumps-guidance-noise#:~:text=Air%20Source%20Heat%20Pumps%20(ASHP, effects%20to%20people%20living%20nearby)