

NOISE

the people's pollutant

A pamphlet marking the 20th anniversary of the UK Noise Association

2000 - 2020

Noise impacts more people in the UK than any other pollutant. And yet it remains the forgotten pollutant. It is not the subject of international conferences attracting prime ministers and presidents. It has never really excited the green movement. It is too often dismissed as simply a local issue.

This pamphlet, though, aims to highlight not just problems but also sound solutions.

SOUND FACTS

11% of people are extremely disturbed by neighbour noise, with 54% bothered to some extent (1)

8% of people are extremely disturbed by traffic noise, with 55% bothered to some extent (1)

4% of people are extremely disturbed by aircraft noise, with 31% bothered to some extent (1)

17% of people say piped music is the thing they most detested about modern life (2)

In its latest guidelines the World Health Organisation found wind turbine noise can cause real annoyance (3)

Underwater noise has doubled each decade during the past 50 years (4)

Each year one in six people in the UK move house because of noise (5)



It is estimated that annoyance caused by traffic noise could be cut by 70%

SOUND SOLUTIONS

There are solutions to the vast majority of noise problems we face. It is the political will to implement them that has been missing.

Traffic Noise

Lower speeds

- Cutting the urban speed limit from 30mph to 20mph could reduce traffic noise by more than 50% (6).
- Cutting the motorway speed limit from 70mph to 60 mph could cut noise by more than 25% (6).

Quieter Road Surfaces

- The use of quieter road surfaces could halve the noise from traffic. Quieter road surfaces like porous asphalt cost more than traditional road surfaces but are 3-10 times more cost-effective than mitigation measures such as home insulation or the construction of noise barriers (7).

Noise Barriers

- These can be expensive but are essential at noise hot spots. At their best, they can cut noise by 75%.

Quieter Vehicles

- Greater use of electric and hybrid vehicles will cut noise. However, they come with two important noise caveats. Tyre noise will still be present; and it remains uncertain how much noise will be deliberately added to these vehicles so people can hear them coming. In economic terms they do have an important advantage over measures like quieter road surfaces, insulation and noise barriers, in that the cost falls on the manufacturers and the users rather than on the public purse.

Traffic Reduction

- Fewer vehicles on the roads would cut traffic noise as long as lower speed limits were introduced. It would also reduce air pollution, road danger and climate change emissions. And traffic reduction *is* possible. Half the journeys we make are under two miles long; 75% are less than 5 miles (8). A mix of investment in these non-car modes, lower fares on public transport plus some form of road pricing could both improve the quality of life in our towns and cities and make them better places in which to do business – for example, the annual cost of congestion to the London economy was put at \$8.5bn in 2013 and rising (9).

It is estimated that, with the right measures in place, annoyance caused by traffic noise could be cut by 70% (10).

Aircraft Noise

Quieter Planes

Coming on-stream, but over the next 30 years the industry is not expecting the same sort of step-change seen during the past 30 years.

Improved Operation Practices

Steeper descents and ascents; improved flying techniques - particularly, the introduction of periods of respite for residents under flight paths - will help reduce the impact of noise over communities.

Fewer Short-Haul Flights

The expected growth in air travel may off-set the noise improvements from quieter planes and improved operational practices. It may need to be limited. Since aircraft noise is only a problem when planes approach or leave airports it is more important to reduce the many short-haul flights rather than the smaller number of long-distance flights. An equitable tax, such as a Frequent Flyers Levy (11), would cut down short-haul flights without hurting the economy.

Wind Turbine Noise

Use accurate noise guidelines

The current guidelines underestimate noise from the largest turbines.

No turbine within a mile of properties

The distance recommended by the French Academy of Medicine. The terrain will influence how far the noise carries; if there is nothing to block it, the distance may need to be greater.

Close down disturbing turbines

People should not need to put up with disturbing noise for decades. Where this is happening the turbines should be closed down and the companies compensated.

Neighbour Noise

Crack down on noise offenders

- This has been made a lot simpler by the introduction Anti-Social Behavior legislation which allows noise offenders to be prosecuted more easily and quickly (12) than if the courts need to rely on the law of nuisance. The challenge is for the Police and *all* local authorities to find the resources and the will-power to make this happen. It's time to get consistently tough on noise offenders.

Give residents the right of appeal

- When local authorities fail to crack down on noise offenders, there is little redress for noise sufferers. They can go to court (usually too expensive) or the Ombudsman (whose remit is often too narrow to deal with many of these cases). An Independent Appeals Panel needs to be set up.

Improve insulation of properties

- Exact figures are hard to come by but research carried out some years ago by the UK Noise Association estimated that at least 2.5 million people live in homes with poor sound insulation (13). This has almost certainly increased in recent years with the growth of the private rented sector. A nationwide programme to properly insulate all the UK's homes would run into billions but doing nothing is not an option. A 10 year programme to install effective sound insulation in all homes is required.

Community Noise

Noisy Neighbourhoods

- use the available anti-social behaviour legislation to deal with unacceptable noisy behaviour on the streets, including a clampdown on 'boom' cars
- ban the playing of amplified music on streets where people work, shop or live
- restrict the number of music events allowed in any one park or open space in a year; impose and enforce tough noise conditions
- reject new developments that would cause unacceptable noise to the local community when they come before the relevant planning authority
- close down premises which continue to present a noise problem in a community
- Restrict fireworks to a limited number of public displays each year; promote the use of silent fireworks

Noisy Trains, Buses and Tubes

- cut the number of announcements to the barest minimum: those required by law to assist visually impaired people and those essential for safety and disruption; reduce the loudness of the announcements; get tough with people playing music on public transport.

Piped Music

Regulate piped music and televisions in hospitals and nursing homes

- No patient should unwillingly be subjected to piped music or televisions in hospitals or nursing homes. Separate television rooms and headphones for people who want to listen to television or music in wards should be the norm, and also for outpatients

Introduce legislation to protect workers rights

- Workers in shops, restaurants and elsewhere are often bombarded by piped music that is sometimes loud and almost always very repetitive. Such inescapable forced music is particularly stress-inducing. Legislation is needed to give workers the right not to have to listen to it in the same way that non-smokers have gained the right not to have to breathe others' smoke.

Provide tax-breaks for muzac-free shopping malls

- Shopping malls are in many ways like a public street. Particularly in many of the UK's smaller towns and cities, it is difficult to get what you want without visiting the mall.

The least well-off can suffer the most

Just 7% of people living in a detached house or bungalow are annoyed by noise from their neighbours. This rises to 23% of those living in a medium/high rise flat.

NEW CHALLENGES

New sources of energy and a move away from fossil fuels in transport are likely to present the biggest challenges

The Heat Pump Revolution

The UK Government has said that fossil fuel heating systems – oil and gas boilers – will be outlawed in new homes from 2025. Their main replacement is likely to be heat pumps. These are like air conditioners which pump out heat. And most of them are situated outside. There are significant noise concerns. A report by the European Heat Pump Association admitted that the fan noise is a key problem. Mike Stigwood, the director of the consultancy MAS Environmental told the journal *Noise Bulletin* that the tonal and low-frequency noise from noise pumps would be a problem. Where they are located is also important but in flats the choice of location could be very limited indeed. There is an expectation that the technology might improve as the mass market justifies and stimulates investment in quieter pumps but in our view we simply cannot risk installing heat pumps in properties until we are certain they will not cause noise problems.

Wind Turbines, Biomass, Solar, Electrification, Geothermal, Hydrogen.....

We've already outlined the impact of turbines built too close to people's homes. What about other energy sources? A new smaller nuclear power stations may come on-stream. They are unlikely to cause noise problems to the wider community but before any renewable source of energy is given the go-ahead its noise impact should be assessed.

Electric Planes

In less than 20 years electric planes could be using our airports. A new report from the CAA (Civil Aviation Authority) suggests some short-haul flights could be using electric aircraft by the early 2030s. However, the larger long-haul planes are not expected to be electrified until at least 2050. Electric aircraft would reduce the air pollution and climate emissions from each plane. But there is much more doubt about their noise benefits. The report says "There is still a clear need to undertake noise measurements of the full scale commercial electric planes once they are available to fully understand their noise characteristics" adding "it is still unknown whether the noise exposure from electric aircraft will be an improvement from conventional aircraft."

Drones

Over the past 200 years and more, new technology has formed the cornerstone of our rising prosperity. Drones are part of this generation's new technology and can be of huge benefit to humankind – for example they can quickly fly over areas of land to assist with mapping and environmental monitoring. They must not be ditched. Indeed, they won't be ditched. That is not what happens to effective new technologies. But their use has to be carefully controlled. The nightmare would be thousands of pizzas being delivered by buzzing drones every evening. That may never happen because communities could well revolt if it did. A more realistic scenario would be a less intensive use of drone for deliveries but one which still caused noise problems. Now is the time to lay down firm ground rules before these patterns of delivery become established.

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Noise Audit

Our energy sources are changing. It is inevitable that they must do given the concerns about climate change. But there is a real risk that, in the rush to cut carbon emissions, the noise from the new energy sources will be downplayed, even ignored. What is required is a noise audit of all energy sources. Unless this happens there is a real danger the move towards more carbon-friendly sources of energy will bring unacceptable noise problems.