

# THE BOTTOM RUNG

Noise: the challenges, trends, technologies, politics and opportunities

Looking forward; seeking solutions

Autumn 2020

## NUCLEAR FOR NET ZERO LAUNCHED



**Nuclear for Net Zero was launched in mid-September.** Appropriately, the launch took place on Sizewell Beach in Suffolk. In the background were Sizewell A (decommissioned) & Sizewell B nuclear power stations. Sizewell C is planned to be built nearby. A final decision is expected shortly. Overall numbers at the socially-distanced launch were of course limited by Covid guidelines. The UK Noise Association was there to lend its support. As regular readers will know, we are backing nuclear as a clean and effective; and the quietest source of renewable energy. The amount of land it uses is also small in comparison with wind farms or solar plants.

We have produced a noise audit of the key sources of renewable energy which you can read here:

[http://www.ukna.org.uk/uploads/4/1/4/5/41458009/noise\\_audit.pdf](http://www.ukna.org.uk/uploads/4/1/4/5/41458009/noise_audit.pdf)

**Check out our new blogsite** - <https://www.cutnoise2day.co.uk/>  
- which includes more on nuclear and much besides.

### Picnicking by a nuclear power station

As I sat on Sizewell Beach, I couldn't help but think of another scenario. What if it had been giant wind turbines in the background? Our picnic would have been dominated by the noise and strobing effects of their huge blades. Instead I was having a picnic beside nuclear power stations...and forgot they were there. The hardier members went for a swim in the sea: clean, clear, if a trifle cold! I know nuclear is not problem-free. There will be noise from the construction of Sizewell C and from the lorries transporting those construction materials. The construction conditions need to be watertight and the developer must be required to pay whatever it takes to

#### Nuclear can tackle climate change with minimal long- term noise impacts

minimize the noise. I know too some people continue to have very real concerns about the spent fuel. For most of my life I opposed nuclear but have, cautiously, changed my mind. I now believe the evidence shows the safety concerns can be dealt with. If that is the case we have a clean, effective, quiet source of renewable energy that can tackle climate change – indeed, is probably critical to tackling it – without having the adverse local, community and environmental impacts associated with other forms of renewable energy.

A case of the need for nuclear was made by the veteran broadcaster John Humphries:

<https://www.dailymail.co.uk/debate/article-8724255/JOHN-HUMPHRYS-need-nuclear-weapons-fight-greatest-war-all.html>

John Stewart  
Editor *The Bottom Rung*

# An historic chance to cut traffic noise

**Our generation – the Covid generation – has been given a truly unique opportunity to humanize our streets.....**

According to the World Health Organisation over 100 million people in Europe are exposed to potentially harmful levels of traffic noise. The majority of those will be on main roads. And a disproportionate number of them will be on low-incomes, households without a car; victims of other people's noise.



**Cycle lanes which would have taken years to be agreed have popped up overnight**

The pandemic is turning out to be the great disruptor of our streets. Cycle lanes which would have taken years to be agreed have popped up overnight. Cautious councils are acting like guerilla activists. Low-traffic neighbourhoods are being simply put in without endless rounds of consultation. Children are regaining the freedom of their local streets. People who haven't cycled for years are taking to bicycles. Pavements are being widened. And Glasgow – yes, Glasgow which built motorways through its very heart – is asking motorists not pedestrians to trigger the 'green man' at some of its crossings.

We are seeing a bit of a backlash. Some motorists need to take longer detours. There are serious jams on some roads (not helped by the reluctance of

people to go back onto public transport). A backlash is inevitable. When anybody has something taken from them they react. For decades motorists have been the kings and queens (but mainly the kings) of the road. Cyclists were squeezed, often literally, to the side. Pedestrians were expected to know their place...on the pavement, only allowed to step off if there was a car blocking it. Most drivers didn't give a thought to the noise, pollution or climate emissions they caused. Speeding was endemic. Deaths and serious injuries ran into thousands each year. Of course over the last few years there have been efforts to tame the traffic. The pandemic – the great disruptor – has sped those up to a degree none of us could have imagined last March.

**The pandemic is turning out to be the great disruptor of our streets**

These changes will need to be defended against any backlash, particularly if it becomes concerted and organised. But it would be a surprise if the streets returned to their 'old normal'. Once a community becomes a low-traffic neighbourhood, it will want to stay that way – less noise and pollution; more freedom for the kids to play; and,

perhaps above all, higher house prices – and other communities will want to go the same way.

I can't see cycle lanes being removed wholesale, or pavements being narrowed again.



**People who haven't cycled for years are now on bikes**

Of course genuine concerns about this revolution – and it's nothing less than that – need to be addressed. Main roads must not – simply must not – become worse so that so-called 'residential' roads can become quieter and more liveable. Equally, traffic on main roads cannot be allowed to come to a halt. There are two solutions. One is to ensure that when low-traffic neighbourhoods are created,





Electric cars will help too. They cut engine noise but not tyre noise. At low speeds they will be very quiet

measures – such as cycle or bus lanes – are installed on the adjacent main roads at the same time so as to limit the space available for cars. And second, to introduce a system of road pricing accompanied by good, affordable public transport – maybe even free transport, as Luxembourg has introduced. That would complete the Covid revolution. It’s a revolution that will bring economic benefits as well as environmental ones. Less congestion speeds up business trips. Less noise, pollution and road danger reduces the burden on the health service. Less CO2 cuts the costs of climate change.

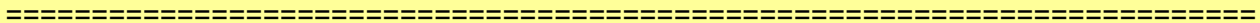
Other things are happening which will assist the revolution. Increasingly local authorities are making 20mph the default speed limit, certainly in built-up areas. Lower speeds mean safer and quieter streets. Electric cars will help too. They will cut engine noise but not tyre noise. Tyre-road interaction is the main source of noise above 25-35 mph for cars. Below that, it is engine noise. At very low speeds electric cars will be so quiet that both the EU and America are requiring artificial noise to be added to warn people of the approaching vehicle.



It would be a surprise if the streets returned to their 'old normal'. After all, streets are changing across the world – above Kampala, Uganda

Trotsky would have approved of the revolution! It is not confined to one country; rather people-friendly streets are appearing across the world. This is the pandemic of the internet age where great ideas and real solutions are easily shared.

Change is within our grasp. Change for which generations of people have campaigned. We may be the generation which has the privilege of delivering it.



## People-Friendly streets are good for the economy



The image is from Transport for London based on research it commissioned. It was re-enforced by startling news from Wandsworth Council in South London. A formerly car-congested road was so successful for business when it was pedestrianised just after lockdown ended, it led to 49 jobs being de-furloughed, and 29 new jobs for people. The fact it is easy to reach by public transport probably helped but it does give the lie to the knee-jerk reaction that people-friendly streets are bad for business. The evidence is pointing in the other direction.

# An ocean of noise

**Underwater noise has doubled each decade during the past 50 years (1).**

The natural sounds of the ocean are magnificent in their range, beautiful in their delivery and stunningly varied. But these sounds are in danger of being overwhelmed by human noises and vibrations as never before. It is whales and dolphins which can be especially badly affected. With limited sight and smell, sound is all-important for them. Since they often communicate over long distances, their chain of communication is particularly vulnerable to human-induced noise. A particular problem arises if mammals are communicating at the same low-frequencies as 'man-made' noise.



**Although sonar testing and pile driving cause noise problems, shipping is the main culprit**

Although sonar testing and pile driving cause real noise problems, the main culprit is shipping. Roughly 80% of international trade goods are transported by ships. Over 100,000 large commercial vessels are criss-crossing the world's oceans. The numbers continue to grow. They are clearly important for international trade which has contributed to the reduction in global poverty in recent decades. But they create a lot of noise.

What can be done to deal with the noise problem? There are two key factors generating the noise. One is the speed at which the ships are travelling. The second is the propellers. As the blades turn, they create thousands of tiny bubbles, a process known as 'cavitation'. It is the sound of these bubbles bursting that causes the noise. Ship engines are a distant secondary contributor.

**A 10% reduction in speed would cut global underwater noise from shipping by between 40% and 50% and CO<sub>2</sub> by 13%**

The shipping industry has been slow to act. It would be in its interest to do so since reducing cavitation noise will cut fuel costs. The industry is supportive of improved design standards for new ships being mandatory but is reluctant to retrofit existing ships.

Speed is the other issue to be tackled. It is estimated a 10% reduction in speed would cut global underwater noise from shipping by between 40% and 50% (2). It would also tackle CO<sub>2</sub> from shipping – which is a real problem – by around 13%. The International Maritime Organization (IMO) in April 2018 committed to reduce the total annual greenhouse gas emissions by at least 50% by 2050 compared to 2008, with the aim of phasing them out entirely. One element of the strategy is to “consider and analyze the use of speed optimization and speed reduction as a measure, taking into account safety issues, distance traveled, distortion of the market or to trade and that such measure does not impact on shipping's capability to serve remote geographic areas”

The industry is doing a lot more to tackle noise than it was but hasn't committed the same sort of clear target it has done with climate emissions. It will undoubtedly weigh up the economic impacts of the different measures to cut noise and climate emissions but it has become clear in recent years it is now beginning to sail in a different direction.

## References:

- (1). *Why Noise Matters*, Stewart et al (Earthscan 2011)
- (2). Russell Leaper: <https://doi.org/10.3389/fmars.2019.00505>

• For more information on the topic of underwater noise check out the Jonas Project: <http://www.jonasproject.eu/oceannoise/>

# We shouldn't have to wear ear defenders when eating out

By Doug Marr

Some restaurateurs have been bellyaching about the embargo on “background” music. [It hasn't been permitted in Scotland since the end of lockdown]. Their fine words that music creates a “positive atmosphere” butter no parsnips with me. One restaurateur was having a laugh when claiming music “creates harmony”. If a restaurant relies on muzak for harmony and ambience, it's doing something wrong. Indeed, the only good side-effect of the Covid virus has been the banishment of intrusive music from pubs and restaurants.



The trouble is ubiquitous background music rarely remains there. It's invariably aggressive and an assault on the senses. One person's acceptable volume is another's incipient migraine. I have the unhappy knack of regularly being seated near speakers with a decibel output of the local heliport. Furthermore, music is a personal taste and it's arrogant of managers to impose their preferences on diners. George Bernard Shaw spoke for us all when asked what he would like the restaurant orchestra to play: “Dominoes”.

*'In some eateries, ear defenders should accompany the menus.....'*

In some eateries, ear defenders should accompany the menus. Alternatively, the principle of the silent disco could be extended. Those preferring cacophony to conversation could request headphones and listen to food themed playlists. Meatloaf, Cream and the Cranberries could be on the menu, while American Pie and Blueberry Hill would go down a treat with the pudding course.

Modern design also strikes the wrong note. Open plan dining and hard surfaces that reverberate to a repetitive beat create stress for those with hearing problems and conditions such as autism. There's evidence that noise-related stress suppresses the sense of taste and enjoyment of food.

*.....American Pie and Blueberry Hill would go down a treat with the pudding course'.*

The current ban might be seen as the nanny state intruding again into everyday life. But that ignores further strong evidence that aerosol emissions increase when we have to raise our voices to make ourselves heard. It doesn't have to be like this. The Wetherspoon chain did away with background music 14 years ago and doesn't appear to have come to any harm. It's time to fight back. Fellow diners will admire you for speaking up. Restaurateurs are avid readers of online reviews and numerous complaints about over-loud music won't fall on deaf ears. Let's hope there can be a post-Covid peace dividend, with the din removed from dinner and noise finally off the menu.

*This is an abridged version of an article which first appeared in the Glasgow Herald.*

- Check out Pipedown, the campaign for freedom from piped music: <https://pipedown.org.uk/> and its sister organisation in Scotland: [www.quietscotland.org.uk](http://www.quietscotland.org.uk)
- Gregory Scott has produced an app which enables people to rate the noise in a venue, share it with others and so allow a wider picture to be built up. For information email [greg@soundprint.co](mailto:greg@soundprint.co).



# Bang goes the firework display!

'Quiet' fireworks and laser displays may become norm



Quiet fireworks or laser displays could be used on Bonfire Night to avoid distressing pets and people suffering from post-traumatic stress disorder. Several councils are looking at banning traditional fireworks displays due to concerns about the health impact of the noise they create. Conservative-led Rushcliffe Borough Council in Nottinghamshire is one of the local authorities considering a ban of traditional displays. West Bridgford, also in Nottinghamshire, has obtained a quotation for a laser or light show instead of fireworks at its Christmas Lights switch on event. Last year over half a million people signed a national petition for fireworks to be banned.

Last year over half a million people signed a national petition for fireworks to be banned.

Anybody who has a dog is aware of their terrified reaction to fireworks. Dogs are able to hear up to 60,000hz, while humans can't hear anything above 20,000hz, This auditory acuity of dogs is one of the reasons the sound of fireworks can be so harmful to them. They show signs of overwhelming anxiety as they are unable to escape from the sound. Dogs, like many other animals, also suffer from other phenomena that produce loud sounds, such as storms. However, in the case of

storms, the noises are accompanied by previous warning signs, so that animals can perceive them in advance. This can cause them anguish in anticipation, but it does not cause them the unexpected fright caused by fireworks, which are sudden and not identifiable.

The effects of fireworks on cats are less obvious, but their responses are similar to those of dogs, such as trying to hide or escape. Horses can easily feel threatened by fireworks due to their hyper-vigilance since they are constantly on high alert due to possible predators. They act quite similarly to dogs and cats, showing signs of stress and fear, and trying to flee or escape. It is estimated that 79% of horses experience anxiety because of firecrackers. There are clear signs that zoo animals and birds also react badly to fireworks.

The sounds of fireworks can be a concern for some people with certain health conditions such as autism and dementia.

For more information on the impact on animals, check out:  
<https://www.animal-ethics.org/how-fireworks-harm-nonhuman-animals/>

## No reason not to act

Some noise problems are not easy to tackle. There are real technological or economic issues to be dealt with. This is not the case with fireworks. The technology exists: silent fireworks and laser shows are a reality. The fireworks industry can switch to cater for this new market. People are not being denied an enjoyable leisure activity. There is enough public support for councils and national Government to introduce legislation. Why continue with the cruelty when it can be avoided?

# Listen Out!

Our regular slot that gives you the chance sound off!

## Rock music in hospitals: our worst nightmare



**Julia Jones, aka 'Dr Rock'**(pictured), has now taken her noise-mongering to a new level. She is calling for 'an annual blanket music license for the NHS... to encourage the Department for Health and Social Care and the music industry to speed up the process of creating two new licences enabling the NHS and health and fitness professionals to use hit songs in their work'. By easing the licensing she hopes to have 'chart-topping tracks' (rock music obviously) played throughout hospitals, both in the wards and Outpatients.

**She also wants it played in schools. This will, she declares, boost the nation's wellbeing both physically and mentally.** She purports to have some doctors lined up to support her bizarre claim. Astonishingly, she has actually got two LibDem peers to support her initiative, Lords Howarth and Clement-Jones. Their support is worrying as it lends a veneer of respectability to her claims. They have said that such music will only be used appropriately under 'clinical care' but music has long been used like this and to undoubted benefit. Hospitals seldom need to pay fees for

playing music to the PRS anyway, so exposing the falsehoods of Jones's claims. She quotes no studies or research papers to support her ideas. All reputable doctors quote such research.

**Whether or not Jones is mad or simply has an obsession – and a financial interest – her proposal is potentially very dangerous to the welfare of hospital patients and school pupils.** Pipedown has for years argued that the one area where a blanket ban on piped music is needed is in hospitals, because people immobilised in bed or on stretchers cannot escape if bombarded with music or television. People waiting as outpatients or in medical centres are hardly freer. We have long been trying to get a bill through Parliament to ban television and music in hospitals, twice nearly succeeding. But we never suspected a nightmarish threat like this. *by Pipedown - <https://pipedown.org.uk/>*



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Twitter: @cutnoise

### Help! I've got a noise problem!

You can contact:

**The Noise Abatement Society**

<http://noiseabatementociety.com/>

Helpline on 01273 823 850;

email [info@noise-abatement.org](mailto:info@noise-abatement.org)

The Noise Abatement Society also carries out a range of activities including research and lobbying

Or contact **Noise Nuisance**

<https://noisenuisance.org/>