

Department for Digital, Culture, Media and Sport

Future Telecoms Infrastructure Review: Call for Evidence

Response by ES-UK

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It is vital that the Future Telecoms Infrastructure adopts the appropriate direction for the future health and economic security of the UK.

- (a) In particular the emphasis should be on switching from wireless, with its established adverse health consequences, to full fibre optic cabling to, and throughout, all new and existing premises, both residential and work, and public places.
- (b) This switch from wireless to fibre optic cabling should be in parallel with a new approach, including a large-scale education campaign, to ensure safe and healthy connectivity and to avoid passive exposure to manmade wireless radiation.

As a national charity involved with people adversely affected by wireless energy, we are aware of the massive harm already done to people's health from the incredibly high levels of wireless radiation in the UK. We should like to see the UK begin to catch up with the established science in this area and start to adopt the best practice already in seen in some other countries.

1. Wireless radiation is an established 2B human cancer agent

All wireless, including 3G, 4G and 5G, is already categorised by the World Health Organization's International Agency for Research on Cancer as a 2B (possible) human carcinogen. Leading experts now state that recent human and animal evidence requires that it should be reclassified as either a 2A (probable) or 1 (certain) human carcinogen.

2. Wireless is an established cause of other adverse health effects

In addition to being a cancer agent, wireless at 5G frequencies causes or promotes many adverse health effects. These include changes in: gene expression, DNA, calcium dynamics, bacteria, resistance of antibiotics, cellular apoptosis and proliferation, inter-cellular communication, sleep, cognition, the fetus, oxidative stress, the eyes and skin.

3. Wireless deployment will weaken the UK economy

Downstream health effects from these adverse changes include long-term illnesses severely damaging to the UK economy. In addition to cancer, immune conditions and disturbed sleep and cognitive deterioration, wireless affects autism, ADHD, dementia and infertility. The many countries which have lower safety limits than the UK will flourish economically more than the UK. This is why President Putin has told his advisers that Russia has simply to wait for countries like the US and UK to develop widespread long-term ill health and consequent economic decline because of their absurdly high levels of radiation, obviating the need for any conflict to achieve economic superiority. This fits with the news that President Trump is apparently trying to play down the major NTP study due in Feb.2018 confirming all wireless radiation as a definite carcinogen.

4. The UK is receiving outdated advice from its DH and PHE on wireless radiation

The DH, like its agency the PHE, still follows the WHO's ICNIRP, a pro-wireless industry group spun out of the atomic weapons industry, which aims to maximise the use of all radiation. This private group is a small clique of like-minded members who follow Schwan's mistake of 1953 and still refuse to accept the established adverse non-thermal effects, even though the majority of scientists have long accepted them.

5. The UK lacks appropriate safety limits for wireless radiation

At present the UK still has limits for only short-term acute effects for 5G, such as heating based on 6 minutes' exposure. It does not yet use international biological limits for non-thermal effects. Levels for radiofrequency radiation, power density, in $\mu\text{W}/\text{m}^2$

(microWatts per metre squared):

Natural levels:	0.000001
Biological limits (long-term, Bioinitiative):	6.0
Limits in some countries (e.g. Italy, Russia):	100,000
Limits in UK (1.8 GHz, 6 minutes, heating):	9,200,000

Although the UK government still claims to follow ICNIRP, members of ICNIRP and the WHO have said that people should have a free choice on the appropriate safety limit, since their minority viewpoint is not in agreement with the majority of scientists who accept non-thermal and long-term dangers. This means that people in the UK should be enabled to adopt long-term biological safety limits like Bioinitiative at $6.0 \mu\text{W}/\text{m}^2$, instead of the ICNIRP's short-term 6-minute heating limits of $9,200,000 \mu\text{W}/\text{m}^2$. Biological limits are appropriate to sensitive sections of the general population like children, pregnant women, the elderly and the ill.

6. Wireless radiation destroys and harms wildlife

Wireless radiation destroys and harms wildlife as well as humans. Insects, trees and bird nests are especially vulnerable. Damage to chromosomal DNA can be passed on genetically. Complete sterility and failure to reproduce has been found after five generations of exposure to typical mobile phone mast radiation.

7. Dangers of 5G transmitters on lampposts and in residential areas

All experts agree that the key to preserving people's health amid manmade wireless radiation like 5G is to ensure as much reduction as possible in radiation exposure in sleeping quarters. This is because the body repairs damage from manmade daytime radiation exposure during sleep. Therefore, to locate 5G transmitters on lampposts typically outside bedrooms is disastrous for health. People living near phone masts have increased ill health, with 80% of studies showing cancer rates up to five times higher within 500 metres, along with other specific adverse symptoms and neurological effects.

8. Wireless dangers for sensitive people: removal or shielding necessary

Some people are especially sensitive to wireless radiation, or become hyper-sensitive when a transmitter like a mobile phone mast, wireless smart meter, or 5G antenna is located close to their home. Such people have to seek sanctuary in wild areas, some camping or living in cars, or buy expensive shielding where shielding proves effective. Therefore, companies installing phone masts and 5G transmitters in residential areas should provide funds for people adversely affected to move to safer areas of the UK or to

purchase shielding where it proves effective. Since 2000 Sweden has provided shielding at public expense.

9. Legal personal responsibility for regulators, installers, operators and users of harmful physical agents like wireless radiation

Now that the World Health Organization classifies all wireless radiation as a 2B human carcinogen and this radiation has been shown to have other established specific physiological effects, it follows that regulators, installers, operators and users, including planning officers, councillors and government departments, should be personally liable for wilfully imposing such a physical agent on others, if they do so without their specific agreement, as under common assault, and sometimes actual bodily harm, and according to the Nuremberg Code. Therefore, there should be legally enforced provision for ensuring that those who wish should be shielded, where it is possible, from unwanted wireless radiation, or given some other legal remedy according to the principle that a citizen "is entitled to use reasonable force to protect himself, others for whom he is responsible and his property". In addition, as for vaccines in the USA, there should be compensation for those who will be harmed by indiscriminate wireless radiation, including their descendants, since wireless radiation is now established to be particularly dangerous for pregnant women and their offspring, with chromosomal changes likely to be inherited by all future generations.

10. Education needed on reducing wireless exposure

Governments around the world are increasingly advising people how to reduce their exposure to wireless radiation. The UK government should do likewise. In particular, the following six points are relevant for local planners and the general public in assessing any additional wireless radiation, especially from 5G.

- (a) Any 5G trials in areas where people are living or working should be assessed as to whether the radiation emitted from 5G transmitters combined with any other radiation present is above the international biological limits for this type of radiation.
- (b) People should be made aware of the nature of phased array as used for 5G and the consequent deep penetrative power of the re-radiated quasi-static Brillouin precursors with their effect on cell membranes.
- (c) Consideration should be given to people already exposed at home, work and in public places to radiation from their own Wifi system, mobile phone and existing phone masts, in addition to any new 5G radiation, since the health harm is cumulative and all radiation transmissions should be evaluated in aggregate.
- (d) If outdated 6-minute heating measurements, like SAR in W/kg, are still used, all portable devices including receivers and transmitters within the 5G network should be assessed following the current European movement towards measuring them as if used next to the body, rather than at, say, 10 or 30 mm away from the body.
- (e) The public should be informed that heating the body by one degree in 6 minutes is irrelevant to dangers from most wireless devices, since it is possible to do this by exercise but without the established risks of cancers and neurological effects.
- (f) People should be made aware that a more modern and accurate assessment of wireless dangers is needed, such as the extent of DNA damage, to replace Schwan's mistaken hypothesis of 1953 that only heating is relevant.

11. (a) Enhanced connectivity by fibre optic cables to and through every house and business in UK, and (b) reduction of wireless exposure in public places

- (a) To avoid the established health hazards of wireless, the UK government should be promoting by legislation fibre optic cable networks, a Fixed Wireless Access, to and throughout every house, business and public place in the UK. All residences, work premises and buildings with public access should have fibre optic cables built into each room or area with access points in each room, just as with electricity power cables and lighting. Other countries are moving towards this standard and banning wireless, especially for sensitive populations like children, the elderly, pregnant women and the ill.
- (b) For public places, both environmental and passive wireless exposures are significant health hazards, especially for the sensitive groups in the general population. The ICNIRP, which the UK government says it follows, in 2002 stated that governments should provide lower limits for such people who are affected by wireless radiation and that governments should introduce new safety limits below the ICNIRP 1998 heating limits. At present (January 2018) the UK government still not implemented this and still has only short-term 6-minute heating limits, not long-term biological limits.

It is important that any plans for wireless generally and 5G in particular comply with the evidence of the established health dangers and of the international biological safety limits.

For further information see: "[Selected Studies on ES and EHS](#)" available on the ES-UK website under Research.

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