

1. 5G IS NOT JUST A STEP UP FROM 3G AND 4G: 5G is the next generation of wireless technology - however, it doesn't involve just 'turning up the dial' from 4G. 5G is something entirely different which has never been used in the public domain. It includes the use of extremely high frequency, millimeter wave radiation which will be emitted 24/7, blanketing entire communities - without the informed consent of residents.

2. COMING TO A LAMP POST NEAR YOU: The higher gigahertz 5G bandwidths employ much shorter wavelengths which don't travel far, so require small antennas every 100-200 metres. These will be mounted on residential as well as public buildings, lamp posts, and even under pavements. Research indicates cancer clusters around masts. This closer proximity needs proper risk assessment.

3. 5G EFFECTS ARE NOT INSURABLE: The insurance industry take their lead from Lloyds of London who do not insure against health effects from non-ionising radiation, including 5G.

4. 5G HAS NOT BEEN SAFETY TESTED: In February 2019, Senator Richard Blumenthal, on behalf of the US Senate Commerce, Science, and Transportation Committee, received confirmation from industry representatives that no health and safety testing of 5G technology had been conducted. What other product goes to market untested?

5. NON-IONISING RADIATION IS PROVEN TO BE HARMFUL: Thousands of Independent peer-reviewed scientific studies evidence the harmful biological effects of electro-magnetic radiation. In December 2018, The Lancet stated: "It has been widely claimed that radio-frequency electromagnetic radiation, being non-ionising radiation, does not possess enough photon energy to cause DNA damage. This has now been proven wrong. The DNA damage is apparently caused through oxidative stress". Further, non-ionising radiation is classified as a Class 2B carcinogen by the International Association for Research on Cancer, and there is now enough evidence for it to be upgraded to a Class 2A or Class 1 carcinogen. There is certainly enough peer-reviewed science to invoke the '**precautionary principle**', which states "when human activities may lead to morally unacceptable harm that is **scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm.**"

6. INADEQUATE GUIDELINES: The Public Health England safety guidelines for non-ionising radiation are inadequate. They follow the recommendations of the review body ICNIRP (the International Commission for Non-Ionising Radiation Protection), which are outdated and only take into account thermal (heating) effects, when non thermal effects have been proven harmful to health. ICNIRP has been accused of industry-bias and conflicts of interest. Note also that guideline levels are set for adults - **foetuses, babies, children are affected to a much greater extent** as their brains and neurological systems are still developing.

7. 5G IS HARMFUL TO HUMAN HEALTH: The artificial nature of the waves is what makes them biologically hazardous. They are pulsed, polarised and modulated, a bit like a very fast flickering light. The shorter mm waves penetrate the skin and are carried deeper into the body.

8. 5G CONTRAVENES EQUALITY ACT 2010 (section 149): 18% of the UK population suffers some degree of electro-sensitivity. Almost half a million are suffering so severely that they're restricted in their daily lives.

9. ENVIRONMENTAL IMPACTS:

a) **RISKS TO WILDLIFE** In 2018, the SCHEER Report (EU Scientific Committee on Health, Environmental and Emerging Risks) classed 5G as 'an **urgent, severe**, emerging issue for its potential effects on wildlife'.

b) **BEES AND BIRDS** Studies with 4g show harm to navigation and fertility, adverse effects are likely to be even more marked with 5G.

c) TREES DAMAGED AND FELLED Millimeter waves can't pass through foliage, especially when wet. There's a risk that trees may be cut down if they block the 'line of sight' between small cells and antennae. Trees may themselves be damaged by exposure to 5g radiation.

d) ENERGY CONSUMPTION. 5G and the Internet of Things will involve a colossal carbon footprint. Data centres worldwide already consume more energy than the whole of the UK per year. Add to this the energy used by 5G masts, the devices and their manufacture: it is certainly not "green"! The 20,000 satellites planned for 5G only have a 5 year lifespan. As well as polluting the ionosphere with electromagnetic radiation, they create space junk.

10. PROPERTY DEVALUATION: Property values could decrease by an estimated 20% if a mast is sited on, or very close to, the property.

11. COMMERCIALY DRIVEN: 5G wireless technology is needed for the 'Internet of Things' (smart appliances in homes, virtual reality gadgets, smart cities, driverless cars, robotics, etc). Innovation is important and exciting but we have to put safety before profit.

12 SECURITY: Wireless technology is more easily hacked. 5G has implications for security of data and potential uses of this data with the development of AI (Artificial Intelligence).