Ten reasons to be concerned about 5G

July 24, 2020 by [Annelie Fitzgerald](https://www.localfutures.org/author/annelie-fitzgerald/" \o "Posts by Annelie Fitzgerald) and [Tom Imber](https://www.localfutures.org/author/tom-imber/)

Inescapable net will have consequences on everything from the night sky down to the cells of our bodies. With two legal cases against 5G roll-out getting underway in the UK,[[1]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc" \l "_edn1) here are just ten of many reasons why 5G is such a bad idea – and not one of them has anything to do with Covid-19.

**1.  5G and existing wireless technologies use radio-frequency radiation (RFR) that has adverse effects on health.**

A copious body of scientific research has found that effects from RFR at currently permitted exposure levels include: increased cancer risk, increase in harmful free radicals, genetic damage, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being.[[2]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn2) In 2011, the International Agency for Research on Cancer (IARC) classified RFR as a ‘possible human carcinogen’ based on higher brain tumour rates (glioma and acoustic neuroma) in longer-term users of mobile phones[[3]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn3) In 2018, the US National Toxicology Program found ‘clear evidence’ of cancer in animals exposed to near-field RFR, and an independent study published by the Ramazzini Institute the same year also found heart tumours from far-field exposure.[[4]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn4) Experts are now calling for RFR to be reclassified as a ‘known human carcinogen’ alongside tobacco and asbestos [[5]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn5), for exposure levels to be reassessed,[[6]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn6) and for a moratorium on 5G roll-out.[[7]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn7)

**2.  5G has not been safety tested.**

No long-term safety testing of 5G frequencies under real-life conditions – i.e. interacting with other forms of anthropogenic RFR and other biological and chemical agents – has been carried out.[[8]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn8) The European Commission’s Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) recognises that the ‘lack of clear evidence to inform the development of exposure guidelines to 5G technology leaves open the possibility of unintended biological consequences.’[[9]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn9) Or, as US Senator Richard Blumenthal succinctly put it last year, ‘We’re kind of flying blind here, as far as health and safety is concerned’ (US Senate Commerce, Science and Transportation Committee, 2019).[[10]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn10)

A 2019 European Parliament analysis noted that it is currently “not possible to accurately simulate or measure 5G emissions in the real world”, also stating: “Increased exposure may result not only from the use of much higher frequencies in 5G but also from the potential for the aggregation of different signals, their dynamic nature, and the complex interference effects that may result, especially in dense urban areas. The 5G radio emission fields are quite different to those of previous generations because of their complex beamformed transmissions in both directions—from base station to handset and for the return.” [[11]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn11)

Some of the sparse research that does exist on mmWave frequencies includes a declassified CIA translation of Russian research into mmWave frequencies from 1977, summarised thus: “Morphological, functional and biochemical studies conducted in humans and animals manifested in structural alterations in the skin and internal organs, qualitative and quantitative changes of the blood and bone marrow composition and changes of the conditioned reflex activity, tissue respiration, activity of enzymes participating in the processes of tissue respiration and nucleic metabolism. The degree of unfavourable effect of millimeter waves depended on the duration of the radiation and individual characteristics of the organism.”[[12]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn12) Given that 5G will involve unavoidable and permanent exposure to such RFR for everyone—and that includes babies, children and vulnerable people— the prospect is downright grim.

**3.  5G is being rolled out under obsolete exposure guidelines.**

Public Health England (PHE) and the other UK health agencies it advises adhere to exposure guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in 1998, updated this year. In determining its guidelines, ICNIRP only takes account of short-term effects that include heating, shock and nerve stimulation; it disregards abundantly documented non-thermal biological effects, i.e. effects where no measurable heating of tissue takes place, and effects that result from chronic and cumulative exposures. ICNIRP’s guidelines are therefore simply not protective of public health. (By the way, Eric van Rongen, the former chair of ICNIRP, has stated that 5G ‘is not set up as a public health experiment but of course you can consider it as such.’[[13]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn13)) Numerous concerns about conflicts of interest within ICNIRP, and the inaccurate assessments of the science they lead to, have been expressed over the years,[[14]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn14) the most recent coming from two MEPs in a report released just last week: *The International Commission on Non-Ionizing Radiation Protection: conflicts of interest, corporate capture and the push for 5G*.[[15]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn15) In 2012 the UK’s Advisory Group on Non-Ionizing Radiation (AGNIR)—three of whose members were also members of ICNIRP—published a report on RFR safety that has been criticised for being ‘inaccurate’, ‘biased’ and ‘misleading’.[[16]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn16) Although AGNIR has been disbanded, its inaccurate assessment of the science is used to this day to inform current policy in the UK.

**4.  5G may have adverse impacts on flora and fauna.**

5G was identified as an ‘emerging risk’ for biodiversity in 2018 by a team led by Professor William Sutherland of Cambridge University,[[17]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn17) but the UK Government admits that it has undertaken no assessment of the potential effects of 5G on pollinators and wildlife.[[18]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn18) Research already indicates that plants and wildlife are probably being adversely affected by existing RF pollution,[[19]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn19) while ICNIRP states that its exposure guidelines ‘provide protection for humans’—as if we are the sole species living on this planet![[20]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn20) The small size of insects means that they are likely to be particularly badly affected—owing to the ‘resonance effect’—if mmWave frequencies are deployed.[[21]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn21) As the ‘insect apocalypse’ already underway correlates with the widespread adoption of wireless technologies, introducing more RFR into the environment is beyond reckless. The focus should be on establishing whether, as many scientists suspect and as research suggests, anthropogenic RFR is a significant causal factor in ecological declines like insect collapse.[[22]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn22)

**5.  5G will increase energy consumption.**

Wireless connectivity is inherently less energy efficient than using wires.[[23]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn23) With 5G, according to the Shift Project, mobile operators will use 2.5 to 3 times more energy than now.[[24]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn24) Even cheerleading website 5g.co.uk acknowledges that 5G networks will require a ‘vast amount of energy’.[[25]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn25) Tackling the climate crisis necessitates reassessing our needs and living more soberly, yet 5G and the ‘internet of things’ take us in the opposite direction. Despite promises of increased energy-efficiency from industry, we know from experience with other technologies that efficiency gains tend to be cancelled out by the higher consumption that results from such gains—a mechanism known as the Jevons Paradox.[[26]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn26) And, as the Shift Project points out, ‘direct and indirect impacts (rebound effects) related to the growing use of digital are constantly underestimated’.[[27]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn27)

**6.  5G will usher in a regime of total surveillance.**

5G and the internet of things will allow Big Tech to harvest even more of our data and further monetize our private lives. It will help usher in and consolidate a ‘profoundly undemocratic’ era of ‘digital omniscience’, as brilliantly and alarmingly analysed by Shoshana Zuboff in *The Age of Surveillance Capitalism* (2019). As Zuboff points out, the term ‘smart’ attached to many RF-using technologies is used “to revile traditional alternatives for remaining ‘dumb’”, and is “a euphemism for rendition: intelligence that is designed to render some tiny corner of lived experience as behavioural data,” violating the “still-wild spaces we call ‘my reality’, ‘my home’, and ‘my body’”.[[28]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn28) For surveillance capitalists “it is no longer enough to automate information flows *about us*; the goal now is to *automate us*”,[[29]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn29) stripping us of our autonomy and self-determination through applications and technologies designed to modify behaviour. We are sadly all-too-familiar with the destruction inflicted on nature by the extractive practices associated with industrial capitalism, yet we still do not grasp that humanity itself is now the object of a new “extraction imperative” that will wreak havoc on “what has been held most precious in human nature”.[[30]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn30) All in the name of profit.

**7.  5G will create an insatiable need for rare earth elements, and generate more toxic e-waste.**

A smartphone contains at least 40 metals, some of them derived from conflict minerals such as coltan, cobalt and lithium.[[31]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn31) Mining for such resources takes place in what are sometimes atrocious working and environmental conditions in places such as China, Argentina and Central Africa, where human rights abuses are widespread – including the use of children as miners.[[32]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn32) At the end of its life, much of our electronic equipment is then shipped to parts of the world with less stringent environmental regulations, where it is processed in unsafe conditions, with only 16% being properly recycled, according to some studies.[[33]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn33) The built-in obsolescence of electronics will doubtless continue with 5G, while quantities of e-waste will surely escalate given the colossal number of gadgets that 5G promises to connect—41.6 billion by 2025 according to one estimate.[[34]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn34) Last year, 50 million tonnes of e-waste were generated globally.[[35]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn35)

**8.  5G from space is a tragedy of the cosmic commons.**

Another aspect of the umbrella 5G project is internet access from space. With no global governing body providing oversight of space, Elon Musk’s Starlink project is currently launching 5G satellites—12,000 are planned—into orbit around Earth. Their light pollution has been ruining views of space, and many astronomers, including Dr Michele Bannister from the University of Canterbury in New Zealand, have protested: ‘As a global community we need to have a conversation about how the night sky should look—this is an urgent public issue. The sky is just starting to become filled with these very optically bright satellites. When you look into the night sky, do you want to see nature or do you want to see artificial constructions? Because this is what it comes down to.’[[36]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn36) Musk, and the American federal agencies that gave him the green light, ignored warnings from astronomers prior to the launches, while other companies have similar goals—including OneWeb’s plan for 48,000 satellites.[[37]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn37)

Is anyone thinking about what the long-term impact of bathing the planet in man-made RFR from space could be? As the authors of a recent *Lancet* piece point out, there is little research into the effects of anthropogenic RFR on Earth’s natural Schumann resonance, on the ionosphere, and on natural and man-made components of the atmosphere.[[38]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn38) Surely it would be wise to look into this *in depth* before going any further.

**9.  5G is being imposed on us without public debate or informed consent.**

Governments and decision makers, like Big Tech and Big Wireless, all appear to believe that there is no need for any informed public debate about 5G roll-out. Instead, it is presented using what Shoshana Zuboff calls ‘inevitability rhetoric’, as if technology exists in a separate realm beyond our control or understanding.[[39]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn39) They also appear to be ‘technological fundamentalists’ who believe that ‘the increasing use of ever more sophisticated high-energy, advanced technology is always a good thing and that any problems caused by the unintended consequences of such technology eventually can be remedied by more technology”.[[40]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn40)

The UK government is rushing ahead with 5G partly because it has already sold certain frequencies to mobile operators for close to £1.4 billion,[[41]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn41) and the operators want a return on their investment. Local governments have been deprived of the power to make their own decisions on 5G roll-out: “Local planning authorities must determine applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure”.[[42]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn42) So much for giving people more control over what happens in their lives.

In an investigation for the *The Nation* in 2018, Mark Hertsgaard and Mark Dowie summed up how we have arrived at the hazardous situation we now find ourselves in: “the wireless industry has obstructed a full and fair understanding of the current science, aided by government agencies that have prioritized commercial interests over human health and news organisations that have failed to inform the public about what the scientific community really thinks. In other words, this public-health experiment has been conducted without the informed consent of its subjects”.[[43]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn43)

**10.  We don’t need 5G.**

With the world besieged by an ever-growing number of crises, directing resources at the supposed ‘benefits’ of 5G seems a crass indulgence.[[44]](https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/?fbclid=IwAR3_TrQn4h8x0rnAlPsk-5KpdwSdCb5G1wo9hG6KDugY3k_G-HDm4sOs8gc#_edn44) What we really need is to learn some ethics and exhibit some humility.

<https://www.localfutures.org/ten-reasons-to-be-concerned-about-5g/>