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Dear Member

COUNCIL - THURSDAY, 24 OCTOBER 2019

I am now able to enclose, for consideration at the Thursday, 24 October 2019 meeting of the Council, the following reports that were unavailable when the agenda was printed.

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Yours sincerely

June Gurry
Clerk



24 October 2019




For the Attention of Torbay Council

Lady Mayor, Counsellors and other honourable members,

Thank you for allowing me to speak this evening.

I would like to draw your attention to the subject of 5G frequency emissions, and its potential adverse health effects on our community in which I've lived for 55 years.

5G technology, which uses the "pulsed millimetre frequency spectrum" has had no adequate or credible long term health testing on anything organic that has life force energy. This, of course, includes human beings, and I urge you to very seriously consider whether you will allow the installation and operation of 5G in our towns until there is further testing, and much more clarity and truth about its consequential health effects on human beings, especially children and the environment including trees, pollinators, animals, birds and insects. There is a massive worldwide resistance to the prospect of exposure to this unprecedented level of debilitating frequency emissions that has never had any finite health assurances from either the providers or from central government.

Other towns in the UK, Glastonbury and Frome, Shepton Mallet have invoked the "Precautionary Principle" and Totnes Council and Kingsbridge Council have opted to declare a "Moratorium". There are also many other UK towns and cities that are currently and imminently deliberating to "press the pause button" in order to first fully understand and comprehend the ramifications of 5G in order to make a  informed decision. It would be commendable, and correct for this  to be proactive by demonstrating a 'duty of environmental care' to your community by at least taking the precautionary route. The subject of 5G has been, and is still a current debate in the "parliamentary halls" due to lack of health assurances, more and more  MPs are expressing their concerns.

At some point in the near future, as a Council, you will be approached by government endorsed contractors to begin the process of 5G hardware and street furniture installation, (they no longer need planning consents or permissions for this work) I suggest and urge you to begin to formulate a policy and a stance for this eventuality, preferably, no to 5G is a good choice for health and wellbeing, especially for our current generations children who are certainly the most at risk from from the effects of this particular type of radiation.

In my own experience so far, the preliminary installation process will not be with indiscriminate and selective tree felling, as trees inhibit the 5G signal. Maybe a compulsory directive for you to upgrade your street lighting and street furniture in order to host 5G urban aerials every 100 metres. You may be asked to contribute to this cost of installation.

I was appalled to see the recent tree felling in Italy, of avenues of ancient trees in a semi-rural town reduced to stumps to make way for 5G. This is a typical and ongoing procedure worldwide, are you prepared to endorse this?

I would emphatically implore all of you here, who serve the community as their responsible representatives, to be proactive in this matter, and do please look at and read the information folders that I have left for each you.

Please do consult with the residents and listen to their wishes, fears and health concerns, because you as a council have the immediate responsibility for community health and wellbeing, and also the responsibility if you are negligent in not being proactive to address these concerns especially if there are then later consequences to be answered. A number of concerned individuals have collected over thousand signatures of Torbay residents who are very worried and who want to press the pause button.

I am concerned enough to put myself at your disposal to explain 5G further at your leisure, or to arrange a presentation with peer-reviewed evidence and/or expert witnesses on the subject (both medical and scientific) to help you to have a better overview and understanding of 5G in order to make an informed and balanced decision of what this council should do next.

Yours sincerely


Julie Harrison


Harmful effects of radio frequency radiation are already proven

Even before 5G was proposed, dozens of petitions and appeals[7] by international scientists, including the Freiburger Appeal signed by over 3,000 physicians, called for a halt to the expansion of wireless technology and a moratorium on new base stations.[8]

In 2015, 215 scientists from 41 countries communicated their alarm to the United Nations (UN) and World Health Organization (WHO).[9] They stated that "numerous recent scientific publications have shown that EMF [electromagnetic fields] affects living organisms at levels well below most international and national guidelines". **More than 10,000 peer-reviewed scientific studies demonstrate harm to human health from RF radiation.**[10] [11] **Effects include:**

Alteration of heart rhythm[12]
Altered gene expression[13]
Altered metabolism[14]
Altered stem cell development[15]
Cancers[16]
Cardiovascular disease[17]
Cognitive impairment[18]
DNA damage[19]
Impacts on general well-being[20]
Increased free radicals[21]
Learning and memory deficits[22]
Impaired sperm function and quality[23]
Miscarriage[24]
Neurological damage[25]
Obesity and diabetes[26]
Oxidative stress[27]
Effects in children include autism,[28] attention deficit hyperactivity disorder (ADHD)[29][30] and asthma.[31]

Damage goes well beyond the human race, as there is abundant evidence of harm to diverse plant- and wildlife[32][33] and laboratory animals, including:

Ants[34]
Birds[35][36]
Forests[37]
Frogs[38]
Fruit flies[39]
Honey bees[40]
Insects[41]
Mammals[42]
Mice[43][44]
Plants[45]
Rats[46]
Trees[47]

Negative microbiological effects[48] have also been recorded.

The WHO's International Agency for Research on Cancer (IARC) concluded in 2011 that RF radiation of frequencies 30 kHz - 300 GHz are possibly carcinogenic to humans (Group 2B).[49] However, recent evidence, including the latest studies on cell phone use and brain cancer risks, indicate that **RF radiation is proven carcinogenic to humans[50] and should now be classified as a "Group 1 carcinogen" along with tobacco smoke and asbestos.**

Most contemporary wireless signals are pulse-modulated. Harm is caused by both the high-frequency carrier wave and the low-frequency pulsations.[51]

Information from <https://www.5gspaceappeal.org/the-appeal> and Alliance for Natural Health ANHC2019 aninternational.org

For full article and full references please see: <https://www.5gspaceappeal.org/the-appeal>

References

- [7] Governments and organizations that ban or warn against wireless technology. Cellular Phone Task Force website. <http://www.cellphonetaskforce.org/governments-and-organizations-that-ban-or-warn-against-wireless-technology/> Accessed June 10, 2018. Continually updated.
- [8] The International Doctors' Appeal (Freiburger Appeal). <http://freiburger-appeal-2012.info/en/home.php?lang=EN>. Published in 2012. Accessed June 10, 2018.
- [9] International appeal: scientists call for protection from non-ionizing electromagnetic field exposure. International EMF Scientist Appeal website. <https://emfscientist.org/index.php/emf-scientist-appeal>. Published May 11, 2015. Accessed June 10, 2018. As of March 2018, 237 EMF scientists from 41 nations had signed the Appeal.
- [10] Glaser Z. Cumulated index to the bibliography of reported biological phenomena (effects) and clinical manifestations attributed to microwave and radio-frequency radiation. report, supplements (no. 1-9). BEMS newsletter (8-1 through 8-64). 1971-1981. <http://www.cellphonetaskforce.org/wp-content/uploads/2018/06/Z-Glaser-index.pdf>. Accessed June 26, 2018. Report and 9 supplements issued by Naval Medical Research Institute, Bethesda, MD, Research Division, Bureau of Medicine & Surgery, Dept. of the Navy, Washington, DC; Electromagnetic Radiation Project Office, Naval Medical Research & Development Command, Bethesda, MD; Naval Surface Weapons Center, Dahlgren, VA; and National Institute for Occupational Safety and Health, Rockville, MD. Index by Julie Moore and Associates, Riverside, CA, 1984. Lt. Zorach Glaser, PhD, catalogued 5,083 studies, books and conference reports for the US Navy through 1981.
- [11] Sage C, Carpenter D, eds. *BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Radiation*. Sage Associates; 2012. www.bioinitiative.org. Accessed June 10, 2018. The 1,470-page *BioInitiative Report*, authored by an international group of 29 experts, has reviewed more than 1,800 new studies and is continually updated.
- [12] Gngoriev Y. Bioeffects of modulated electromagnetic fields in the acute experiments (results of Russian research). *Annu Russ Natl Comm Non-Ionising Radiat Protect*. 2004;16-73. <http://berni.org/publications/biological-effects-of-non-ionizing-radiation/78-gngoriev-bioeffects07file.html>. Accessed June 17, 2018.
- [13] Obajulawo AO, Akinyemi AJ, Afolabi OB, et al. Exposure to radio-frequency electromagnetic waves alters acetylcholinesterase gene expression, exploratory and motor coordination-linked behaviour in male rats. *Toxicol Rep*. 2017;4:530-534. <https://www.sciencedirect.com/science/article/pii/S2214750017300633>. Accessed June 17, 2018.
- [14] Volkow ND, Tomasi D, Wang G-I, et al. Effects of cell phone radiofrequency signal exposure on brain glucose metabolism. *JAMA*. 2012;305(8):808-813. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3184892>. Accessed June 17, 2018.
- [15] Eghlidospour M, Ghanbari A, Mortazavi S, Azari H. Effects of radiofrequency exposure emitted from a GSM mobile phone on proliferation, differentiation, and apoptosis of neural stem cells. *Anat Cell Biol*. 2017;50(2):115-123. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5509895>. Accessed June 17, 2018.
- [16] Hardell L, Carlberg C. Mobile phones, cordless phones and the risk for brain tumors. *Int J Oncol*. 2009;35(1):5-17. <https://www.spandidos-publications.com/ijv/35/1/5/download>. Accessed June 17, 2018.
- [17] Bandara P, Weller S. Cardiovascular disease: Time to identify emerging environmental risk factors. *Eur J Prev Cardiol*. 2017;24(7):1819-1823. <http://journals.sagepub.com/doi/10.1177/2047487317734898>. Accessed June 17, 2018.
- [18] Deshmukh P, et al. Cognitive impairment and neurogenotoxic effects in rats exposed to low-intensity microwave radiation. *Int J Toxicol*. 2015;34(3):284-290. doi: 10.1177/1091581815574348.
- [19] Zohtanslama, Zsanzsuzali M, Lajramdipui M, Jageta G. Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations. *Electromagn Biol Med*. 2017;36(3):295-305. doi: 10.1080/15368378.2017.1350584.
- [20] Zwamborn A, Vossen S, van Leersum B, Ouwers M, Mäkelä W. Effects of Global Communication system radiofrequency fields on Well Being and Cognitive Functions of human subjects with and without subjective complaints. *TNO Report FEL-03-C148*. The Hague: TNO Physics and Electronics Laboratory; 2003. http://www.mlieuegezontheed.be/dossiers/gsv/TNO_rapport_Nederland_sept_2003.pdf. Accessed June 16, 2018.
- [21] Havas M. When theory and observation collide: Can non-ionizing radiation cause cancer? *Environ Pollut*. 2017;221:501-505. doi: 10.1016/j.envpol.2016.10.018.
- [22] Narayanan SH, Kumar RS, Potu BK, Nayak S, Malankoti M. Spatial memory performance of Wistar rats exposed to mobile phone. *Clinics*. 2009;64(3):231-234. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2666459>. Accessed June 17, 2018.
- [23] Houston BJ, Nixon B, King BV, De Lúis GN, Arltén RU. The effects of radiofrequency electromagnetic radiation on sperm function. *Reproduction*. 2016;152(6):R263-R266. <http://www.reproduction-online.org/content/152/6/R263.long>. Accessed June 17, 2018.
- [24] Han J, Cao Z, Liu X, Zhang W, Zhang S. Effect of early pregnancy electromagnetic field exposure on embryo growth ceasing. *Wei Sheng Yan Jiu*. 2010;39(3):349-52 (in Chinese). <https://www.ncbi.nlm.nih.gov/pubmed/20568468>.
- [25] Salford LG, Brun AE, Eberhardt JL, Malmgren L, Persson BRR. Nerve cell damage in mammalian brain after exposure to microwaves from GSM mobile phones. *Environ Health Perspect*. 2003;111(7):881-883. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241519/pdf/ehp0111-000881.pdf>. Accessed June 17, 2018.
- [26] Mithani S. Evidence that dirty electricity is causing the worldwide epidemics of obesity and diabetes. *Electromagn Biol Med*. 2014;33(1):75-78. doi: 10.3109/15368378.2013.878385.
- [27] Yakymerku I, Tyubidin O, Sidoni E, Henshel D, Krylenko O, Krylenko S. Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation. *Electromagn Biol Med*. 2016;35(2):186-202. doi: 10.3109/15368378.2015.1043557.
- [28] Herbert M, Sage C. Findings in autism (ASD) consistent with electromagnetic fields (EMF) and radiofrequency radiation (RFR). In: Sage C, Carpenter D, eds. *BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Radiation*. Sec. 20. Sage Associates; 2012. http://www.bioinitiative.org/report/wp-content/uploads/pdfs/sec20_2012_findings_in_Autism.pdf. Accessed June 29, 2018.
- [29] Divan HA, Kheifets L, Obel C, Olsen J. Prenatal and postnatal exposure to cell phone use and behavioral problems in children. *Epidemiology* 2008;19: 523-529. http://www.wfninchools.com/uploads/3/0/4/2/304222/divan_08_prenatal_postnatal.pdf.
- [30] Divan HA, Kheifets L, Obel C, Olsen J. Cell phone use and behavioral problems in young children. *J Epidemiol Community Health*. 2010;64(6):524-529. doi: 10.1136/jech.2010.115402. Accessed July 16, 2018.
- [31] Li D-K, Chen H, Odouf R. Maternal exposure to magnetic fields during pregnancy in relation to the risk of asthma in offspring. *Arch Pediatr Adolesc Med*. 2011;165(10):945-950. <https://jamanetwork.com/journals/jamapectiatrics/fullarticle/1107612>. Accessed June 29, 2018.
- [32] Warnke U. Bees, Birds and Mankind: Destroying Nature by 'Electrosmog'. Competence Initiative for the Protection of Humanity, Environment and Democracy; 2009. www.naturalsciences.org/wp-content/uploads/2015/01/kompetenzinitiative-ev_study_bees-birds-and-mankind_04-08_english.pdf. Accessed June 10, 2018.
- [33] Balmori A. Electromagnetic pollution from phone masts. Effects on wildlife. *Pathophysiology*. 2009;16:191-199. doi:10.1016/j.pathophys.2009.01.007. Accessed June 10, 2018.
- [34] Cammaerts MC, Johansson O. Ants can be used as bio-indicators to reveal biological effects of electromagnetic waves from some wireless apparatus. *Electromagn Biol Med*. 2014;33(4):282-288. doi: 10.3109/15368378.2013.817336.
- [35] Broomhall M. Report detailing the exodus of species from the Mt. Nardi area of the Nightcap National Park World Heritage Area during a 15-year period (2000-2015). Report for the United Nations Educational Scientific and Cultural Organization (UNESCO). <https://ehtrust.org/wp-content/uploads/Mt-Nardi-Wildlife-Report-to-UNESCO-FINAL.pdf>. Accessed June 17, 2018.
- [36] Kordas D. Birds and Trees of Northern Greece: Changes since the Advent of 4G Wireless. 2017. <https://emarfnydal.files.wordpress.com/2017/08/kordas-birds-and-trees-of-northern-greece-2017-final.pdf>. Accessed June 29, 2018.
- [37] Waldmann-Selsam C, Balmori-de la Puente A, Breung H, Balmori A. Radiofrequency radiation injures trees around mobile phone base stations. *Sci Total Environ*. 2016;572:554-569. doi: 10.1016/j.scitotenv.2016.08.045.
- [38] Balmori A. Mobile phone mast effects on common frog (*Rana temporaria*) tadpoles: The city turned into a laboratory. *Electromagn Biol Med*. 2010(1-2):31-35. doi: 10.3109/15368371003685363.
- [39] Margantis LH, Mantia AK, Kokkalis KD, et al. *Drosophila* oogenesis as a bio-marker responding to EMF sources. *Electromagn Biol Med*. 2014;33(3):165-189. doi: 10.3109/15368378.2013.800102.
- [40] Kumar NR, Sangwan S, Badotra P. Exposure to cell phone radiations produces biochemical changes in worker honey bees. *Toxicol Int J*. 2011;18(1):70-72. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052591>. Accessed June 17, 2018.
- [41] Balmori A. Efectos de las radiaciones electromagnéticas de la telefonía móvil sobre los insectos.Ecosistemas. 2006;15(1):87-95. <https://www.revistaecosistemas.net/index.php/revistaecosistemas/article/download/520/495>. Accessed June 17, 2018.
- [42] Balmori A. The incidence of electromagnetic pollution on wild mammals: A new "poison" with a sloweffect on nature? *Environmentalist*. 2010;30(1):90-97. doi: 10.1007/s10669-009-9248-y
- [43] Magras IN, Xenos TD. RF radiation-induced changes in the prenatal development of mice. *Bioelectromagnetics* 1997;18(6):455-461. http://collectiveactionquebec.com/uploads/0/0/9/7/00976394/eshb10r-g2_magras_mice_study.pdf. Accessed June 17, 2018.
- [44] Oritolovo AA, Osunkalu VO, Oduwale R, et al. Haematological effects of radiofrequency radiation from GSM base stations on four successive generations (F1 - F4) of albino mice, *Mus Musculus*. *J Environ Occup Sci*. 2012;1(1):17-22. <https://www.epmanager.com/minstemp/62/62-1332160631.pdf?w=1532966199>. Accessed July 30, 2018.
- [45] Maggione I. The effect of electromagnetic radiation from the Skrunra Radio Location Station on *Spodoptera polyrhiza* (L.) Schlieffen cultures. *Sci Total Environ*. 1996;180(1):75-80. doi: 0048-9699(95)04922-3.
- [46] Hittby H, Bruna A, Störöblad S, et al. Nonthermal GSM RF and ELF EMF effects upon rat BBB permeability. *Environmentalist*. 2011;31(2):140-148. doi: 10.1007/s10669-011-9307-z.
- [47] Haggerty K. Adverse influence of radio frequency background on trembling aspen seedlings: Preliminary observations. *International Journal of Forestry Research*. 2010. Article ID 836278. <http://downloads.hindawi.com/journals/ijfr/2010/836278.pdf>. Accessed June 17, 2018.
- [48] Taheri M, Mortazavi SM, Moradi M, et al. Evaluation of the effect of radiofrequency radiation emitted from Wi-Fi router and mobile phone simulator on the antibacterial susceptibility of pathogenic bacteria *Listeria monocytogenes* and *Escherichia coli*. *Dose Response*. 2017;15(1):1559325816688527. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5298474>. Accessed June 18, 2018.
- [49] International Agency for Research on Cancer. Non-ionizing radiation, part 2: radiofrequency electromagnetic fields. In: *IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans*. Vol 102. Lyon, France: WHO Press; 2013. <http://monographs.iarc.fr/NOG/Monographs/vol102/mno102.pdf>. Accessed July 2, 2018.
- [50] Carlberg M, Hardell L. Evaluation of mobile phone and cordless phone use and glioma risk using the Bradford Hill viewpoints from 1965 on association and causation. *Bioelectromagnetics*. 2017;38(1):1-12. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5276454>. Accessed June 17, 2018.
- [51] Balmori A. Evidence for disruption by the modulating signal. In: Sage C, Carpenter D, eds. *BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Radiation*. Sec. 15. Sage Associates; 2012. http://www.bioinitiative.org/report/wp-content/uploads/pdfs/sec15_2007_Modulation_BackPlan.pdf. Accessed June 19, 2018. <http://www.bioinitiative.org>. Accessed June 29, 2018.



**Headaches or Migraines? Brain Fog? ADHD?
Memory Loss? Poor Concentration? Dizziness?
Skin Problems? Muscle Aches and Pains?
Depression? Anxiety? Numbness? Tingling?
Tinnitus? Muscle Aches and Pains? Insomnia?
Digestive Issues? Infertility? Asthma?
Heart Palpitations? Light Sensitivity?
Chronic Fatigue? Cancers?
Or other symptoms from unexplained causes?**

**If you or any family member are affected,
be aware that Electro-Magnetic Frequencies
(EMFs) might be to blame.**

- There are medical links between EMF pollution and 'unexplainable' chronic symptoms.
- Over-stimulation by technology, modern processed diets and a sedentary lifestyle are causing adolescents to show dementia-like symptoms.
- Find out the different types of EMF and why you should avoid them.
- People are ignoring this threat - you need to act to halt the roll-out of 5G until independent safety studies conclude safety to all life.

The roll-out of 5G, the fifth generation of telecommunication technology will substantially increase exposure to radiofrequency radiation. Thus, in addition to the urgent need for new guidelines on current exposure, a moratorium on the roll-out of 5G should be implemented.

Dr. Lennart Hardell,
Swedish oncologist with long-term research in this area.

Find out more: Youtube - 5gawareness info@5gawareness.com

5GAwareness.com

5G 5 FACTS
IS 5G SAFE?

1. **RF can cause serious biological effects: cancer, nervous system disruption, reproductive impairment** and many more serious biological effects have been demonstrated from Radiofrequency (RF) Radiation in peer-reviewed publications, below present safety levels
2. **Children are more vulnerable**, as are the elderly, pregnant, infirm and hypersensitive
3. **Animals and plants** can also be affected by RF induced biological damage
4. **No informed consent** to irradiation with RF has been generally given by the public
5. **No Safety Limits** are being used to protect against non-thermal effects in the UK.

1. Cancer: RF was classified as a Group 2B Possible Human Carcinogen (IARC/WHO) in 2011. This was based on higher brain tumour rates (glioma and acoustic neuroma - a type of Schwannoma) found in longer term mobile phone users. Since then, the evidence for cancer from RF has elevated.



The US National Toxicology Program (2018) found 'Clear Evidence' for heart Schwannoma in animals exposed to RF and 'some evidence' of several other cancers including glioma. Compounding this, the Ramazzini Institute found Schwannomas again even though they used lower intensity far-field radiation like that produced by base stations. Together these multiple forms of evidence elevate the carcinogenic status of RF but IARC have not yet reconvened to reclassify it. Experts are calling for it now to be a Group 1 Known Human Carcinogen like tobacco, asbestos or x-rays

2. Children: suffer higher exposures and are more vulnerable to negative effects due to their smaller size, developing systems, higher number of stem cells and longer time ahead for latent disease.



3. Animals and Plants: can be affected by the same processes via the same mechanisms as implicated in human disease. Many of the research findings were determined first using these groups. This adds further damage to the already deeply concerning impact of climate change on the environment.



4. No informed consent: is a breach of human rights and the Nuremberg Code (see 5GAppeal.eu from over 200 medical doctors and scientists). The UK population has never been informed of the 1000s of peer-reviewed published scientific papers demonstrating biological damage at non-thermal levels. Perhaps this is because advisory groups tasked specifically to inform the public have conflicts of interest and their published information is usually substantially out of date.



5. No safety limits: Current safety limits used in the UK (ICNIRP) are set a million times too high for biological protection. They were set in the 90s to protect only from thermal heating effects and fail to protect from copiously documented, non-thermal effects. Other countries have safety limits orders of magnitude below ours in the UK. Cities in the US, Switzerland, Belgium and Italy are slowing, halting and/or issuing resolutions to halt 5G and wireless towers near homes.



What can I do?

1. **Educate** yourself with factual independent resources (see opposite). Use this info to:
2. **Raise awareness** in your local community and join PHIRE
3. **If you think you may have symptoms related to RF exposures**, discuss these with your medical doctor. Offer independent resources to educate as it is unlikely they've been trained in this area of health. PHIRE offers free factual, evidence-based advice to medical doctors. Lower your personal exposures (hardwiring of devices and flight mode will help).
4. **Write to your MP** making clear that you do not consent to further involuntary RF radiation polluting your environment.
5. **Get legal advice (if you can):** PHIRE have experts able to give legal testimony .

What is different about 5G?

RF in our environment has been rising exponentially since the 70s despite credible scientific evidence of harm that precedes this time. This is due to the unprecedented industrial demand for this technology. Existing RF exposures are already damaging health, but the voices of global experts in this field have not been heard (see emfscientist.org Appeal). For many years these experts have demanded lower safety limits to protect health but this has not been granted in the UK. In order to support faster data transfer of larger volume, 5G uses higher RF frequencies and different modulation, with higher amplitude, rapid data bursts which are expected to cause even greater cellular damage than noted with previous emissions.

A Note on Millimetre Waves:

It is currently denied that very high frequency mm waves (30-300GHz) will be used in the UK, however much online literature refers to potential future UK auctions of this part of the spectrum (and 28GHz is sold), so the position is not clear and the public have not been consulted. There is very little literature regarding effects on health of mm waves, but there is evidence of relevant biological harm to humans, animals and plants. This wavelength is especially damaging to insects including

pollinators. Effects on human skin, eyes and testes are of particular concern as mm waves are maximally absorbed superficially. Due to the easy absorption, they cannot penetrate the environment very efficiently, so high intensity emissions will be necessary and a denser network of antennae potentially every few metres to achieve coverage. Trees may also need to be felled to allow better coverage



INDEPENDENT SCIENTIFIC RESOURCES

appel-de-paris.com
5gappeal.eu
bioinitiative.org
ehtrust.org
emfcall.org
emfscientist.org
mdsafetech.org
orsaa.org
phiremedical.org
radiationresearch.org
saferemr.com
wirelessriskassessment.org

Thank you for your attention, please take action to protect your health and environment – Physicians' Health Initiative for Radiation and Environment (PHIRE): PHIREmedical.org See website events for 5G medical conference 27th - 28th Sept 2019