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Mr. Hans Karow

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Proposed 5G rollout, Penticton

I am happy to have this opportunity to express my opinion regarding the true adverse health impacts of electromagnetic radiation (EMR). I have been studying this subject for my entire scientific career, which includes 10 years in the power industry, consulting work for Nortel and Siemens, as well as 32 years with McGill University, where I am presently at the Faculty of Medicine, directing the Occupational Health program. I have given testimonies and evidence to many public committees and senate hearings and have been published and involved in over 45 studies or books. I was a member of various societies in this field, including the IEEE Standards Coordinating Committee 28 on Non-Ionizing Radiation, the Society of Toxicology of Canada, ICOH: Scientific Committee on Radiation & Work, and am a reviewer for several publications including International Journal of Radiation & Biology, the International Journal of Environmental Research and Public Health.

I have unique insight in how the telecom industry works, and therefore shall be straightforward with you.

Public health is already being harmed with 4G, Wi-Fi and cell towers. 5G would add to the present detrimental health effects of EMR. 5G is being pushed by industry simply to expand markets

for cell phones and streaming video. The true usefulness of cell phones in terms of allowing convenient communications is already satisfied with present systems, and 5G can only be justified within the confines of an industrial plant, and should not be allowed in the human environment.

I believe that proposed 5G rollouts will be one of the most serious matters you will have to vote on in your careers, both from the point of view of protecting public health and privacy.

Radiating masts should not be allowed to proliferate on every street, and radiation should be curbed within our homes.

I hope that you will study the advice from experts rather than relying on the conflicted message of salesmen, so that your children, friends and family will not suffer from the long-term consequences of allowing 5G infrastructure in our lives. I suspect that few of you had prior knowledge of this matter.

You have a unique opportunity to reject 5G and adopt the legal, established principle explicitly incorporated into various laws and regulations in the European Union and various international bodies:

"When an activity raises threats of harm to human health or the **environment**, **precautionary** measures should be taken even if some cause and effect relationships are not fully established scientifically."

The only reason why there is *apparent* doubt in the media about the negative impacts of EMR is the unrelenting publicity by industry in favor of new products. These products have been allowed on the market only because industry infiltrated government agencies, particularly the US FCC.

Tens of thousands of independent studies over decades do not lie about the health damage caused by wireless radiation.

Cells that we observe in our laboratories, and animals that we expose to EMR are not biased, and do not lie. Industry does. EMR inflicts health problems on an unsuspecting and trusting public.

In spite of the demands on your time, I suggest that you educate yourselves and the public on the health risks of living and working near masts, on how to safely use their devices, and ban Wi-Fi wherever possible, especially in schools, where children are very vulnerable. This is important, because once installed, these systems will harm humans and nature for a very long time.

Telecoms providers should not market devices like toys or even at all to children, but rather include warnings that these two-way microwave devices (as presently hidden in small print) should not be held near our bodies or heads to cause us harm.

Electro-hypersensitivity is real and countries like France recognise it as an occupational disease. Court cases found against employers around the world, proving this condition exists, and courts are taking this matter seriously: some people in your community are suffering from symptoms stemming from EMFs, like headaches, fatigue, concentration issues, nausea, dizziness, digestive problems. Italian courts have found against a telecom company for an executive suffering from a tumour. Litigation is real and mounting.

EMFs are known to target the nervous system and mental health, much beyond the smaller population of electro-hypersensitives.

Statements from industry originate from individuals who have never personally worked on the health impacts of EMR, but are relying on industry views, produced from chosen concepts that distort the true science on this subject.

Regrettably, industry has been active in undermining science on every possible occasion, in the name of protecting their products.

Many scientific careers were impaired or lost when their studies showed evidence of real harm to the public.

Since EMR is imperceptible to most of us, and since wireless has been widely deployed, it is easy to promote the idea that it has no negative impacts.

Statements that EMR is *non-ionizing* and below *thermal levels* are easy public relation tricks that divert attention from the scientific knowledge we have accumulated on this over the years in laboratory science, animal experiments, and epidemiology.

Enthusiastic acceptance by the public of the convenience of wireless, the alluring attractiveness and addictiveness of devices coupled with the unrelenting invasion of our privacy by communications software have given the telecoms industry inappropriate control of the public space, allowing them through publicity to overstate usefulness, and to hide the associated health impacts.

**1966 Health Standard on
Electromagnetic Radiation
developed by 15 people...**

10 from the Armed Services,
1 from the Petroleum Institute,
1 from Space Administration,
1 from General Dynamics,
1 from the US Treasury, and
1 from the US Public Health Service.

This has is maintained until today in the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the Federal Communications Commission (FCC).
An exposure appropriate for a fighter pilot is his F-16 acceptable for your daughter in school!

As background, human health was disregarded as an influence in the deployment of EMR because it was initially captured by the military, due to the importance of wireless in war, and swiftly passed into the hands of industry, which imagined enormous markets for wireless, that they wished to

expand much beyond rational needs. We should be very conscious of the dangers of becoming a society dominated by automated communication, rather than human communication. Do we really want our children and ourselves to be subservient to technology and allow real power to rest in the hands of the very few large

organizations (corporations and governments) who own networks, and the ability to digest massive amounts of information?

The groups pushing for 5G such as Institute of Electrical and Electronics Engineers (IEEE) do so without knowledge or expertise on health effects. Buzzwords such as Internet of Things wildly exaggerate the positive impacts and importance of their innovations, while at the same time ignoring more powerful technical possibilities such as wired connections and optical fiber. In short, industry takes no account of the health damage they cause simply because, in the words of Louis Slesin, the editor of *Microwave News* in New York City, “they do not want to know”.

Technology has amazing benefits when we control it. It should be steered in directions that are of real benefit and minimize harm. There are many ways in which human exposures to EMR can be substantially reduced, and privacy protected, while allowing the most sophisticated technological developments: fibre optics.



Adam Smith
The Wealth Of Nations
(1776)
Book IV, Chapter VIII,
p. 145,
paragraphs c29-30.

To widen the market and to narrow the competition, is always the interest of the dealers...

The proposal of any new law or regulation of commerce which comes from this order, ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention.

It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.

SMITH WARNING US ABOUT LETTING THE MERCHANTS MAKE THE RULES

In many parts of the world the situation is already intolerable, as shown by the emergence of electro-hypersensitive populations, and “*unexplained*” increases in many chronic diseases. But such excesses were anticipated by Adam Smith in *The Wealth of Nations* in 1776 and will prevail unless discussion is promoted on a more rational ground.

Is it necessary to wait for risks to become so large that they cause scandals, bankruptcies and massive death and morbidity before action is taken?



Lead which was also listed as a possible carcinogen in the same way as wireless radiation, did not have to be used at all. The US industry decision to introduce tetraethyl lead instead of ethanol in gasoline, starting in 1921, led to mental health damage to millions of Americans which is why today we have unleaded fuel which eventually will be replaced by solar and other technology.

Please note that many insurers such as Swiss RE are warning loudly of the dangers ahead and some syndicates of Lloyd's of London refuse to underwrite risks associated with EMR wireless exposure. These exclusions can often be found in fine print in domestic insurance and in cell phone instructions, which none of us ever read.

5G is slanted to increase individual exposures to EMR substantially, while touting benefits of faster video downloads and much reduced network latency.

We argue that wireless phones have already provided the maximum benefits to society that they could, in the portability of important and short communications.

Is it good for our general wellbeing to be glued to our devices 12 hours per day and exposed 24/7 to wireless radiation? Please also remember that we are electric beings and EMFs disrupt our rhythm and human health in a way which we were never meant to endure.

What benefit is there to download a 3-hour film within a few minutes rather than 20 minutes? What are the cost implications to the consumer with using our monthly allowances quicker? 5G should not be allowed to pollute the general environment.

The evidence for the negative health effects of EMR is clear in cancer studies (physiological, animal and humans) and in epidemiology. What this evidence shows most glaringly is that the recommendations of International Commission on Non-Ionizing Radiation Protection, a self-appointed body

A STRONG TELECOMMUNICATIONS SYSTEM THAT MINIMIZES HUMAN EXPOSURES TO ELECTROMAGNETIC RADIATION

- Re-Design Cell Phone hardware
- Improve Cell Phone use habits and accessories
- Use Cellular Phones as intended, rather than as mobile entertainment centers
- Heavily favor Optical Fiber to the home (10 MGB/s)
- Use LiFi

You are free to use WiFi in your home, if you wish, in the same way that you can smoke if you want. But you should not impose the exposure on others, many of which cannot tolerate it, and would need to escape society to survive.

dominated by industry, gives a new meaning to the word “protection” which does not at all protect the public because the levels set are so high.

Canada follows ICNIRP’s highest ‘thermal’ allowable radiation levels in the world (unaltered since 1998) in spite of all the latest scientific evidence. Other countries do not follow ICNIRP as you will see, and I urge you to make your own prudent policies in full knowledge of the unintended consequences of EMR health effects. NGOs and other bodies such as ICNIRP or even OFCOM will not indemnify you when members of the public becomes ill, and later make claims, and finds out that all this information was at your fingertips.

I would therefore urge you to reject 5G and instead take proper advice from bodies like Environmental Health Trust, consider the superior route to go fully fibre optic, and show the world that you put public health first. You would be joining Brussels, Rome and others in stopping 5G. If I can be of any assistance, please let me know.

CANCER

Using laboratory experiments on cells, it has been obvious for years that the FCC limits do not protect us.

Now, we have a succession of experiments on animals (rats and mice) that is entirely convincing.

Chou (1992)
Repacholi (1997)
Lerchl (2015)
NTP (2019)
Ramazzini (2019)

Experimenting on animals is the best method we have of predicting impacts on human populations.

Take advice from 4,288 rats and 2,180 mice...or are they biased?

Not only is there overwhelming cell and animal evidence, but there is also human evidence from epidemiology.

In the meantime, I also enclose a link to my papers on the [Health Effects of Electromagnetism](#) which I hope will be of interest.

<http://www.tandfonline.com/doi/full/10.3109/15368378.2013.817334>

<https://www.mdpi.com/2076-3417/9/24/5318/pdf>

Sincerely,

A handwritten signature in black ink, appearing to be 'PH', written in a cursive style.

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