

# How 5G Will Kill the Birds, Bees, and Your Loved Ones



I've read estimates of the percentage of the population with EHS as high as 10%, especially since it remains undiagnosed in a lot of people who aren't clear why they are suffering. The bill Ohio passed stripping local government authority to resist 5G antennas placement is being challenged by a lawsuit from approximately 80 cities and counties. It will be interesting to see how effective that challenge is.

You have a pretty comprehensive list of wireless health impacts and some of their causes, but you could perhaps expand that a little bit. A more specific study found RFR exposure activates voltage-gated calcium channels. This leads to increased calcium levels within cells, which leads to the production of peroxynitrite. Peroxynitrite is at the root of most inflammatory diseases, including neurodegenerative and cardiovascular diseases, migraines, and allergies.

[M. Pall, "Electromagnetic fields act via activation of voltage-gated calcium channels to produce beneficial or adverse effects," \*Journal of Cellular and Molecular Medicine\*, 6-26-2013.](#)

Studies also have found that RFR exposure can remove calcium ions (positively charged calcium ions) from cell membranes in the brain. Loss of calcium ions destabilizes the membrane and can have serious metabolic and neurological consequences. The brain may become hyperactive and overloaded, leading to loss of concentration, ADHD, damage to DNA (causing loss of fertility and increased risk of cancer), and digestive enzymes from lysosomes. Membrane leakage can also open the blood-brain barrier and other protective barriers, leading to Alzheimer's, dementia, asthma, allergies, and various autoimmune disorders.

See these relevant articles and studies:

[S. M. Bawin et al., "Effects of modulated VHF fields on the central nervous system," \*Academy of Science\*, 247 \(1975\): 74-81](#)

[N. D. Volkow et al., "Effects of Cell Phone Radio frequency Signal Exposure on Brain Glucose Metabolism," \*Journal of the American Medical Association\*, vol. 305 no. 8 \(2011\): 808-813](#)

[R.C. Beason and P. Semm, "Responses of neurons to an amplitude modulated microwave stimulus," \*Neuroscience Letters\*, vol. 333 \(2002\): 175-178](#)

[J.F. Krey and R.F. Dolmetsch, "Molecular mechanisms of autism: A possible role for Ca<sup>2+</sup> signaling," \*Current Opinion in Neurobiology\*, vol. 17 \(2007\): 12-119.](#)

Another important 2015 review of existing studies on RFR effects was published by the National Academy of Sciences in the Ukraine, Indiana University, and the University of Campinas in Brazil. Based on 93 out of 100 peer-reviewed studies, it concluded that low-intensity RFR is an oxidative agent for living cells with a high pathological potential. The oxidative stress induced by RFR exposure explains a range of RFR health impacts, both cancer and non-cancer illnesses. In addition to chronicling illnesses, this study provides at least 6 different biological mechanisms that explain these RFR effects in the body.

[Igor Yakymenko<sup>1</sup>, Olexandr Tsybulin<sup>2</sup>, Evgeniy Sidorik<sup>1</sup>, Diane Henshel<sup>3</sup>, Olga Kyrylenko<sup>4</sup> and Sergiy Kyrylenko "Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation," \*Electromagnetic Biology and Medicine\* \(July 2015\)](#)

Perhaps it should also be mentioned that WiFi exposure can cause interference with bodily medical devices including pacemakers, insulin pumps, Parkinsons deep brain implants, and hospital equipment.



There are also some disturbing studies on how electromagnetic radiation affects wildlife, for example birds through their feathers, which act as “antennas.”

Here is a sampling from something I wrote a couple of years ago of some more “wildlife” impact studies:

“All plants and animals, as well as humans, have adapted to the earth’s electromagnetic fields, which include a direct current (DC) magnetic field, a DC electrical field, and low-frequency Schumann Resonances (natural fields that are both electric and magnetic, caused by the geometry of the earth’s surface and the ionosphere near the top of the atmosphere).”

“To navigate in relation to these fields and to control their immune systems, birds and bees use magnetically sensitive substances called cryptochromes. These are protein pigments found in virtually all animals, plants, and many bacteria. Cryptochromes measure light to control and reset animals’ and plants’ biological clocks. Some animals also use cryptochromes to sense (or “see”)



the direction of the earth’s magnetic field.

Cryptochromes are badly impaired by human-made oscillating electro-magnetic fields, disrupting insects’ and animals’ solar and magnetic navigation abilities, likely leading to results such as bee colony collapse, loss of migratory birds and butterflies, and a weakening of the immune system.

For example, radio-frequency radiation (RFR) can blot out a bird’s perception of the earth’s field, causing the bird (or insect) to fly in the wrong direction, and also disrupt a bird’s internal

clock based on the sun's changing position. Birds often leave the areas for many hundreds of feet around cell towers and antennas.”

“Daily Circadian metabolic rhythms of numerous animals are also driven by cryptochrome-containing internal clocks, especially in relation to dawn and dusk. Circadian rhythms control the production of melatonin (a sleep hormone); at night, they divert metabolic resources to bodily repair and immune-system strengthening. In humans reduced melatonin production would result in tiredness during the day and poor sleep at night, among other effects. Because it is supported by melatonin, the immune system may never be able to summon the great energy sometimes required to overcome pathogens or destroy developing cancer cells before they get out of control, leading to various diseases.”

The following published research studies support the selection above with brief summary comments followed by documentation of verifying research studies:

## **Birds and the Earth's Magnetic Field**

Typical effects of radiation from cellular communication antennas on resident, breeding, and migratory birds: site abandonment, feather deformation, locomotion problems, weight loss, weakness, reduced survivorship and death. The U.S. Fish and Wildlife Service continues to suggest to the Federal Communications Commission (FCC) and to Congress the pressing need for studies based on cumulative negative effects of RFR exposure on migratory birds under the National Environmental Policy Act.

Manville, A.M., II. 2007a. Comments of the U.S. Fish and Wildlife Service submitted electronically to the FCC on 47 CFR Parts 1 and 17, WT Docket No. 03-187, FCC 06-164, Notice of Proposed Rulemaking, [“Effects of Communication Towers on Migratory Birds.”](#) February 2, 2007.

Manville, A.M., II. 2007b. U.S. Fish and Wildlife concerns over potential radiation impacts from cellular communication towers on migratory birds and other wildlife- research opportunities. Invited Presentation to “Congressional Staff Briefing on the Environmental and Human Health Effects of Radiofrequency (RF) Radiation,” House Capitol 5, Washington, DC. 16 page PowerPoint presentation. May 10, 2007.

Citing a variety of scientific research, the U.S. Department of the Interior in February of 2014 called on the National Telecommunications and Information Administration of the U.S. Department of Commerce to formulate or modify policies and procedures for cellular communications towers so that they are in conformity with Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds and do not threaten from the towers' emissions of RFR the 241 species of endangered or threatened U.S. birds.



In 2003 three conservation organizations filed a lawsuit against the Federal Communications Commission (FCC). The groups, Forest Conservation Council, American Bird Conservancy, and Friends of the Earth sought to enjoin the FCC from issuing any new licenses for the building of communication towers in the Gulf Coast region until their impact on migratory birds has been fully assessed and mitigated. The suit cited violations by the FCC of the Migratory Bird Treaty Act, National Environmental Policy Act (NEPA), and Endangered Species Act (ESA) in the deaths of thousands of migrating birds at towers along the Gulf Coast.

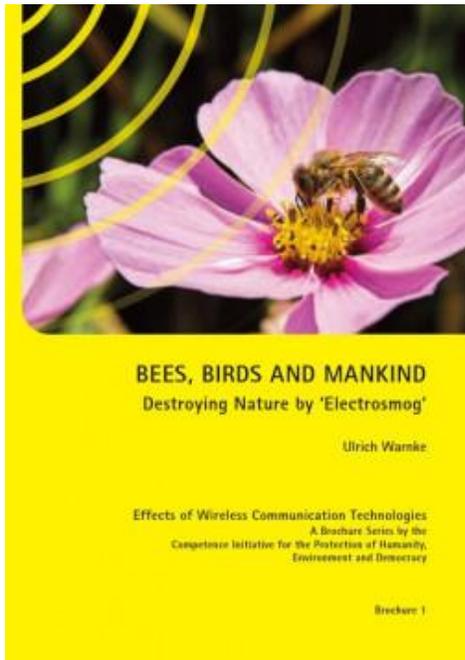
See: [Briefing Paper on the Need for Research into the Cumulative Impacts of Communication Towers on Migratory Birds and Other Wildlife in the United States](#)  
[Division of Migratory Bird Management](#) (DMBM), U.S. Fish & Wildlife Service

Robins can navigate in the earth's magnetic field if they receive light from wavelengths absorbed by cryptochromes. This study explored how the human-made frequencies between 01 and 10 MHz at field strengths as little as 0.085 mT (about 500 times weaker than the earth's magnetic field) made the birds unable to respond to the earth's magnetic field.

[T. Ritz at al. "Resonance effects indicate radical pair mechanism for avian magnetic compass," \*Nature\*, vol. 429 \(5/13/2004\): 177-180.](#)

## **Insects and RFR Exposure**

In a May 2009 report the U.S. Fish and Wildlife Service urged Congress to investigate the potential relationship between wireless devices and honeybee colony collapse. Bees are positively charged, flowers negatively charged. RFR exposure disturbs the natural orientation and navigation mechanisms of bees and other insects, who use the earth's magnetic field and light energy to orient and navigate. It makes them restless, develop an urge to swarm, increasingly aggressive, and colony collapse in 62.5% of apiaries.



[Ulrich Warnke, Bees, Birds and Mankind: Effects of Wireless Communication Technologies](#)” (Kentum, 2009) ; and F. Ruzicka, “Schäden durch elektrosmog,” *Bienenwelt* 10 (2003): 34-35; and 2 additional published studies. Studies performed in Europe have documented navigational disorientation, lower honey production, and decreased bee survivorship in honeybees due to exposure to RFR from a cell tower within 500 meters (1,635 ft) and 800 meters (2,616 feet).

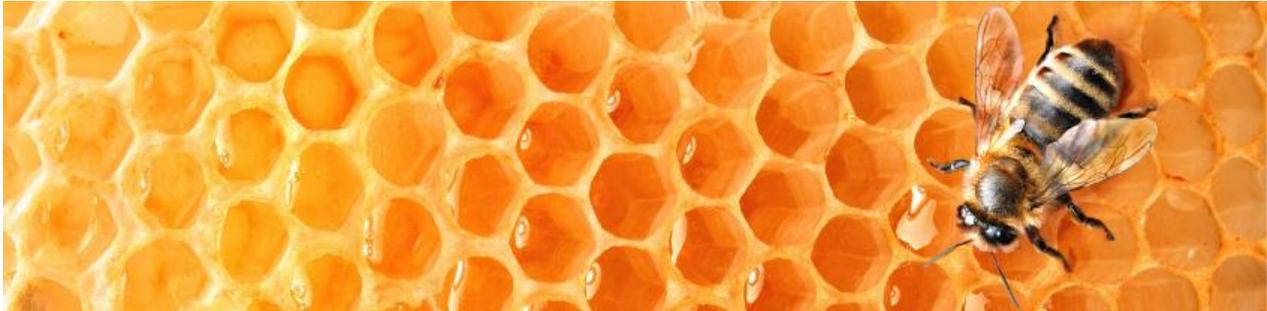
Harst, W., J. Kuhn, and H. Stever. “[Can electromagnetic exposure cause a change in behaviour?](#)” Studying possible non-thermal influences on honey bees – an approach within the framework of educational informatics,” *Acta Systemica-IIAS International Journal* vol. 6, no. 1 (2006):1-61

U. Warnke, “[Effects of Electric Charges on Honeybees,](#)” *Bee World*vol. 57, no. 2 (1976): 50-56

Kimmel, S., J. Kuhn, W. Harst, and H. Stever, “[Electromagnetic radiation: influences on honeybees \(Apis mellifera\),](#)” *Institute Environmental Sciences, Institute Science and Science Education, and Institute Educational Informatics*, Univ. Koblenz-Landau/Campus Landau, Germany (2006)

Exposure to electromagnetic radiation from DECT phone towers (similar to cell phone towers) had deleterious effects on the rate of honeybee egg laying, return to hive, and honey production. Harst, Wolfgang, et al., “Can Electromagnetic Exposure Cause a Change in Behaviour? Studying

possible non-thermal influences on honey bees.” Institute of Science and Science Education (ISSE), Department of Physics, University of Koblenz-Landau/Campus, Landau, Germany. *ACTA SYSTEMICA – IAS International Journal* (2006) 6(1): 1-6.



Another important article about Radio-Frequency Radiation and “Dirty Electricity” is by Dr. Mercola. I think our readers at the [American Intelligence Media](#) will find this very interesting and helpful.

### **[Dirty Electricity — Stealth Trigger of Disease Epidemics and Lowered Life Expectancy, by Dr. Mercola, May 28, 2017](#)**

Many diseases of civilization, especially cancer, are related to an artifact of electricity: electromagnetic interference (EMI) or “dirty electricity.” Historical data also suggests electrification has lowered life expectancy. EMI is biologically active and affects mitochondrial function, which we’ve now come to appreciate is at the heart of virtually all chronic disease. Cancers appear to be frequency-specific, meaning certain frequencies cause specific cancers.

Did you know that a significant percentage of the diseases we now face is related to an artifact of electricity? In this interview, Dr. Sam Milham, author of “Dirty Electricity: Electrification and the Diseases of Civilization,” explains the health hazards of dirty electricity or electromagnetic interference (EMI).

Milham is a physician and an epidemiologist, and has spent decades (he’s now 85 years old) doing pioneering research in this field. In his book, he details the extensive journey he took to uncover the link between dirty electricity and human disease. In a nutshell, dirty electricity, or more accurately stated, EMI, impacts your biology, specifically your mitochondrial function, which we’ve now come to appreciate is at the heart of virtually all chronic disease.

## **What Is Dirty Electricity?**

Sunlight is a natural or native form of electromagnetic frequency (EMF). There are also four basic non-native or artificial EMF exposures: magnetic, artificial light, electrical and microwave (which includes not only your microwave oven but also cellphones, routers and portable phones).

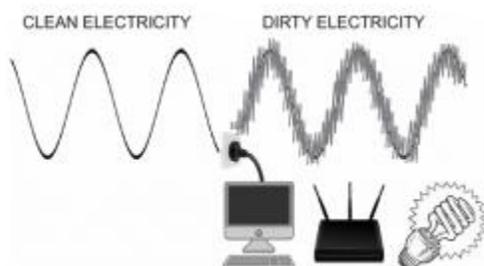
Dirty electricity refers to the electrical component of this EMF spectrum. A more precise term is electromagnetic interference or EMI. “Dirty” is more of a descriptive layman’s term. But what exactly is EMI and how is it generated?

Milham explains:

“The electric grid began with Edison in 1892 at the Pearl Street Generating Station. It turns out that from the very second he started generating electricity, he was making dirty electricity. The way I know that is because if you read his publications, he had a big problem with his original generators ... They had brush arcing. The way they made electricity was by spinning magnets that had brushes to pick up their contact points. All electric motors have brushes. Generators have them. They’re made out of graphite ... Arcing and sparking makes dirty electricity, which are really high- frequency electric transients. They come and go. They’re spikey. They have very short latency times. “From the outset of the grid, we’ve been exposed to this. It’s not the 60-cycle stuff. We’re talking about frequencies up in the kilohertz and higher; thousands of cycles per second.”

## EMI Microwaves Travel Far and Wide

There are also microwaves, and this is not just your microwave oven, but your portable phone, cellphone and cellphone towers. All transmitters, AM, frequency modulation (FM) and especially cell towers [produce microwaves]. Your cellphone works because there’s a transmitter out there that transmits to you. They all run on DC. Every cell tower in the world has a huge inverter in it to make the DC to run the transmitter, and also to charge the backup batteries. They make dirty electricity by the ton. Lots of schools have cell towers on campus. What they’re doing is they’re bathing the kids [with EMI]. It gets back into the wires; the ground (lot)wires and power wires that service it.



The grid becomes an antenna for all this dirty electricity. It extends miles downstream ... [A Brazilian study] looked at deaths from cancer [and] distance of residence from the base of the cell tower. They got effects out to 500 meters. That’s 1,500 feet. I’ll tell you, the cell tower can’t talk that far. It’s the dirty electricity — the EMI in the grid, in the wires running into your house, through the ground and through your power cords — that’s doing it.

## Dirty Electricity Is Biologically Active

Over the 50 years I've been doing this, it's become super clear that EMI or dirty electricity is very biologically active. This is the major cause of all the so-called diseases of civilization. I myself am becoming quite passionate about this issue. I've known about dirty electricity or EMI for nearly two decades, but I never fully appreciated the impact it has until I read Milham's book. Then, the connections suddenly became apparent to me.

For the last year, I've been diving deep into the scientific literature of mitochondrial function, and it appears this is how EMI affects your health. In other words, it likely increases mitochondrial free radical damage and contributes to mitochondrial dysfunction. Certainly, other variables contribute to disease as well, such as the processing of food, unbalanced nutrient ratios, pesticide contamination and so on. Still, the impact of EMI may be foolhardy to overlook.

## **All Solar Panels Generate Dirty Electricity**

On a side note, many who use solar panels (photovoltaic panels) are completely unaware of the fact that they are a source of dirty electricity. I've had 15 kilowatt solar panels on my home for the last five years. Photovoltaic panels generate direct current (DC), which is essentially unusable in most homes. In order to use the DC current the solar panels generate, you need to use an inverter that converts it to alternating current (AC). The problem is, the inverter used to generate AC is a phenomenal source of dirty electricity. I remediated mine and radically decreased the EMI generated when the inverters are on during the day.

Large, commercial solar arrays have a similar problem. They use inverters —sometimes thousands of them if they're really big arrays — and they all generate EMI or dirty electricity.

If your utility has an appreciable wind or solar component, it is, by definition, giving you dirty electricity. When I first discovered this business, I went online; I studied commercial sources of photovoltaic inverters ... I found this statement which said that all photovoltaic inverters create amplitude modulation (AM) radio interference. What does that tell you? It says it's all dirty.

EMI connects or affects your biology when it's on a circuit or in the earth. For example, if you have a solar panel in your house, not all circuits in your house will be hooked up to it. The only circuits affected by EMI will be the ones hooked up to the solar panel inverter. The EMI gets into the ground and can also affect your neighbors.

## **Chronic EMI Exposure Raises Your Cancer Risk**

Once EMI is generated, how far away must you be from the wire in question in order to avoid biological interference? According to Milham, the distance can be quite significant. In many cases, entire areas of ground can be a source of EMI, raising the current in your body.

About three years ago, Martin H. Graham and Dave Stetzer, who pioneered and studied this field and trained me ... sent me an off-the-shelf fluke multimeter, which measures volts, amps and ohms. He showed me how to use it to measure current in my body. That's been a mindblower ... I put an electrocardiogram (EKG) patch on my chest for one lead ... and the other goes to an

electrical outlet ground ... It then measures the current in my body ... The meter comes with everything you need. All you've got to do is take a 12-gauge wire and put a three-prong plug on it, where you only contact the round plug. That's attached to your black electrode. That's for the ground. The red one goes to your EKG patch on your chest (or to your mouth).

I find that just walking on the pavement in an area, I could get very, very high, probably carcinogenic fields of current in my body. We're talking millivolts [and] microamps...

The National Institutes of Environmental Health Sciences (NIEHS) studied this years ago. They concluded that 18 microamps is sufficient to put enough voltage in your body to give you cancer with chronic exposure. You want to keep [your body current] under 18 microamps. The higher it is, the worse it is ... I find 200 to 300 microamps in lots of places, just standing on the floor ... One of my favorite places is a local farmers market here. Last year, I was horrified to find out that just walking or standing in that place, I was putting 200 microamps of current into my body 2 ...

I was sitting at a Hewlett-Packard laptop and was measuring myself. I just touched the case of the laptop and found it was putting 80 microamps into my body. I finally got rid of it by putting a USB to an outlet ground. That fixes it.

## **Beware of Fluorescent and LED Lights**

Milham also discovered that almost all non-incandescent lighting puts high current into your body, directly from the light. This includes fluorescents, compact fluorescent lights (CFLs) and light emitting diodes (LED) light bulbs. Dr. Alexander Wunsch, a world class expert on photobiology, details many of the health hazards associated with LED lights, but the dirty electricity component is yet another reason to avoid these types of light bulbs in your home and office space.

As noted by Milham: "This explains a lot. I started doing occupational mortality [investigations] 30 years ago ... I was puzzled as to why the highest cancer rates [occur in] teachers, professors and office workers. Why is melanoma more common in people who work indoors than outdoors? Why is it more common in teachers and professors than in lifeguards or farmers? Why do you get it on parts of your body that never see the sun? It's due to [nonnative artificial] EMF, as I've been measuring in schools and colleges. There's just no place to hide."

In the 1950s, photobiologist John Ott studied children in a Florida school who had attention deficit hyperactivity disorder. He believed these kinds of behavioral problems were associated with the fluorescent lighting, and was able to improve the children's condition by placing an EMF-blocking wire mesh screen in front of the lights that was then grounded. This and other findings are discussed in Ott's book, "[Health and Light: The Effects of Natural and Artificial Light on Man and Other Living Things.](#)"

## **Male Breast Cancer — A Sentinel for EMI Exposure**

Interestingly, Milham's work suggests cancers are frequency-specific, meaning certain frequencies cause specific cancers. He also notes that male breast cancer is a sentinel for EMI exposure, just like mesothelioma is a sentinel for asbestos exposure. Unfortunately, few are willing to take the issue seriously.

Milham was also involved in an investigation at La Quinta Middle School in Palm Springs. Teachers were convinced an environmental problem was at fault for an epidemic of cancer among the staff. In all, 18 teachers at the school had developed cancer. Other schools in the system had at most two or three cases. The superintendent of the school hired an expert from the local tumor registry (cancer institute), who informed the teachers that their cancers were due to sun exposure.

Milham initially spent months trying to contact the school, to no avail. The superintendent told him they were satisfied with the answers they'd received. Eventually, at the request of the teachers, he was allowed into the school for two nights to investigate, yet shortly thereafter, he was accused of criminal trespassing by the school district. They simply did not want him to get involved. The state teacher's association stonewalled him as well.

## **Historical Data Reveal Public Health Impact of Electrification**

Clearly, there's a strong negative incentive against this type of information. What intrigued me is that when Milham did his initial analysis and historical review, he found a strong correlation between electrification and mortality from cancer, including female breast cancer and childhood leukemia — and this data dates back to 1900!

By the turn of the century, most big cities in the world had electricity, while rural areas didn't catch up until the mid-'50s. So, for half a century there were two large United States populations covered by a good vital record system of deaths and births. One population group was exposed to electricity and the other wasn't. When you compare these two groups, you discover some truly amazing differences in vital statistics. "At the turn of the century, if you lived in New York City or most of the other cities in the country, your average life expectancy was low-50s. If you were Amish and didn't use electricity or if you lived in rural Mississippi or rural New York State, your longevity was in the 70s.

Fast forward to the 1930s ... the urban cancer [mortality] was 50 to 80 percent higher than the rural cancer mortality. That's enough to blow your mind. It's internally consistent. Today, the risks are greater than ever before, thanks to ground currents. The electric grid in the U.S. is called a grounded Wye grid, designed for protection against lightning. The neutral center taps of their transformers are connected to the earth by a wire. In the U.S. about 80 percent of the current delivered to loads like motors and lights returns to the substation via the earth. Dairy farmers were among the first to sound the alarm that something was wrong. In the 1970s, they noticed cows were dying, weren't producing milk and had trouble reproducing.

Stetzer, Graham and others did a study in which they identified the parts of the EMF spectrum that impact milk production in cows. Interestingly, their findings reveal milk production is affected by certain harmonics at multiples of 60 Hz. At these intervals, frequencies have a harmful effect on the cows. Chances are, the same applies to human beings.

## **Biological Mechanisms of EMI**

As mentioned, dirty electricity or EMI are high-frequency electric transients and harmonics that come and go. These aberrant peaks in frequency are emitted quite a distance, typically greater than 10 feet. This means that if you're within range, these frequencies can resonate with your body, causing some biological effect. One suggested mechanism of harm is related to the production of a reactive nitrogen species (RNS) called peroxynitrate. Evidence also suggests it can affect mitochondrial function, which I believe is a major mechanism of harm. More generally speaking, EMI acts as a biological stressor. In one of Milham's studies, he showed that by cleaning up the electrical environment, they were able to reduce the production of stress hormones. He's also shown that by filtering dirty electricity from a library, the levels of neurotransmitters in people spending time in the library were beneficially altered.

Milham also cites a study by two German researchers, who were able to demonstrate that the installation of a cellphone tower in a previously pristine valley produced long-term changes in a wide variety of measurable hormones, including stress hormones.

## **More Information**

If you're intrigued by this information and want to learn more, be sure to pick up a copy of "Dirty Electricity: Electrification and the Diseases of Civilization." You can also find more information, including copies of Milham's research papers and scientific reports on his website, SamMilham.com.

I've also provided a number of those papers as supporting references throughout this article.

From my perspective, there's no doubt dirty electricity is triggering and/or exacerbating chronic disease, and if you care about your health and longevity, I urge you to face this information head on, disturbing and discouraging as it may be. While it may be impossible to avoid all EMI exposure, there are ways to limit and minimize your exposure inside your home and, potentially, at work. Doing so may go a long way toward protecting your and your family's health over the long term.



For readers who want to know what they can do to protect themselves and their families from the harmful effects of EMFs and 5G, please see the link below. But NOTHING, absolutely nothing, is more important than citizens to demand that all further progress on rolling out 5G must stop IMMEDIATELY. We have a lot of research that needs to be done before killing the birds, bees, and humanity.