

What You Need To Know About 5G Wireless and “Small” Cells

“We recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry...RF-EMF has been proven to be harmful for humans and the environment.”

— 2017 5G Scientific Appeal (signed by more than 180 scientists and doctors from 35 countries)

Nationwide, communities are being told by wireless companies that it is necessary to build “small cell” wireless facilities in neighborhoods on streetlight and utility poles in order to offer 5G, a new technology that will connect the Internet of Things (IoT). At the local, state, and federal level, new legislation and new zoning aim to streamline the installation of these 5G “small cell” antennas in public rights-of-way.

The radiation from small cells is not small: Wireless antennas emit microwaves — non-ionizing radiofrequency radiation — and essentially function as cell towers. Radiation emitted from small cells is expected to typically travel from 10 meters up to several hundred meters.

Millions of small cells to be built in front yards: The Federal Communications Commission estimates that millions of these wireless transmitters will be built in our rights-of-way, directly in front of our homes.

5G will add to — not replace — our current wireless technology: 5G will add in another layer of wireless radiation to our environment. 5G will not only utilize wireless frequencies already in use but also add in higher frequencies — submillimeter and millimeter waves — in order to transmit data at superfast speeds.

Community authority is overruled: Communities are being stripped of their right to make decisions about this new technology. “Streamlining” means almost automatic approval. Public notice and public hearings are being eliminated. Even if every homeowner on the block opposes the antennas on their street, the opposition will be disregarded.

Scientists worldwide are calling for a halt to the 5G Roll-out: In 2017, over 180 scientists and doctors issued a declaration calling for a moratorium on the increase of 5G cell antennas citing human health effects and impacts to wildlife. In 2015, the International EMF Scientist Appeal, now signed by over 225 scientists from 41 nations, was submitted to the Secretary-General of the United Nations urging the development of more protective policy and guidelines, and calling for education of the public about health risks, particularly risks to children and fetal development.

Cumulative daily radiation exposure poses serious public health risks: Peer reviewed, published science indicates that exposures to wireless radiation can increase cancer risk and alter brain development and damage sperm. Most people are unaware that wireless technology was never tested for long-term safety, that children are more vulnerable and that the accumulated scientific evidence shows harm.

Decreased property values: Studies show property values drop up to 20% on homes near cell towers. Would you buy a home with a mini cell tower in the yard?

Microwave antennas in front yards present several worker and public safety issues: Unions have already filed comments that workers were injured, unaware they were working near transmitting antennas. How will HVAC workers, window washers, and tree cutters be protected? The heavy large equipment cabinets mounted on poles along our sidewalks also present new hazards. Cars run into utility poles, often, what then?

There is a safer alternative: Worldwide, many regions invest in safer and smarter fiber optic cabling all the way to each home, rather than antennas in front yards. Wired fiberoptic connections are safer, faster, more reliable, provide greater capacity, and are more cyber-secure.

KEY RESEARCH AND REPORTS

Study Finds 5G Frequencies Have A Biological Effect

A newly published study from distinguished Israeli physicists Yuri Feldman, Paul Ben-Ishai and colleagues found that the higher millimeter frequencies intended for use in 5G are preferentially absorbed in the sweat duct, a significant biological effect. Read the study "The Modeling of the Absorbance of the Sub-THz Radiation by Human Skin." and watch a lecture by Paul Ben-Ishai, PhD at 2017 IIAS Conference at EHTrust.org.

US National Toxicology Program (NTP) Study Found Wireless Caused Cancer and DNA Damage in Rodents

The National Institute of Environmental Health Sciences NTP long-term radiofrequency radiation (RFR) studies found male rats developed gliomas (brain cancer) and schwann cell tumors, the same types of tumors increased in long-term human cell phone users. In addition, DNA damage was found leading the scientists to conclude that, "exposure to RFR has the potential to induce measurable DNA damage under certain exposure conditions."

Cell Tower Radiation is Linked To Damage in Human Blood

A newly published study compared people living close and far from cell antennas and found a significant impact on people living closer to cellular antennas. Damage was found in their blood that predicts cancer development. Read the study "Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base station" (Zothansiana et al, 2017; published in *Electromagnetic Biology and Medicine*) at EHTrust.org.

Millimeter Waves Impact Bacteria Growth

New research finds that millimeter waves alter bacteria growth, and the combined action of these frequencies with antibiotics had even stronger effects. Read the study "Millimeter waves or extremely high frequency electromagnetic fields in the environment: what are their effects on bacteria?" (published in *Applied Microbiology and Biotechnology*) at EHTrust.org.

RESOURCES ON EHTRUST.ORG

A 5G Wireless Future: Will it give us a smart nation or contribute to an unhealthy one?" Santa Clara Medical Association Bulletin, Cindy Russell MD, 2017

Letters by Scientists in Opposition To 5G Research on Cell Tower Radiation, 2017
Research on Cell Tower Radiation

Biological Effects from Exposure to Electromagnetic Radiation Emitted by Cell Tower Base Stations and Other Antenna Arrays, Levitt and Lai, 2010

Radiofrequency radiation injures trees around mobile phone base stations, Waldmann-Selsam et al., 2016

Department of Interior Letter on the Impact of Cell Towers on Migratory Birds, Willie R. Taylor Director, Office of Environmental Policy and Compliance, 2014

Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation, Balmori, 2015

Briefing Memorandum On The Impacts from Thermal and Non-thermal Non-ionizing Radiation to Birds and Other Wildlife, Manville, 2016

Federal Legislation To Know

US States With Streamlining Bills

TAKE ACTION

Contact local, state and federal elected officials in person.

Share this information with your friends, family and community.

Ask for government policy that reduces RFR exposure to the public.

Citizens in all states must organize and take action to halt federal legislation which is moving forward right now.

5G Small Cell Antennas To Be Placed on:

- Street lights
- Trashcans
- Utility poles
- Bus stops
- Sides of buildings

5 Reasons Why Small Cells Are Not Small

- Increased radiation near homes
- Refrigerator-sized equipment cabinet
- Drop in property values
- Taller poles
- Fixtures weigh hundreds of pounds

Crown Castle's 2016 10-K Annual Report says:

"If radio frequency emissions from wireless handsets or equipment on our wireless infrastructure are demonstrated to cause negative health effects, potential future claims could adversely affect our operations, costs or revenues... We currently do not maintain any significant insurance with respect to these matters."

Read warnings from Crown Castle, Verizon and other wireless companies at EHTrust.org.

The American Academy of Pediatrics Healthy Child webpage says:

"An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing:

- Headaches
- Memory problems
- Dizziness
- Depression
- Sleep problems"

Letter from Lennart Hardell MD & Colleagues

"There is a substantial body of evidence that this technology is harmful to humans and the environment. The 5G millimeter wave is known to heat the eyes, skin and testes... Of particular concern are the most vulnerable among us — the unborn, children, the infirm, the elderly and the disabled. It is also expected that populations of bees and birds will drastically decline."

Read 2017 Scientific Letter on EHTrust.org

Peer Reviewed Research Studies on Radiofrequency Radiation Have Found:

- Headaches
- Sperm damage
- Altered brain development
- Depression
- Neurological symptoms
- Hormone changes
- Memory problems
- Sleep problems
- Cancer