

4G/5G Wireless Infrastructure Risks: “Small” Cells

The FCC has proposed rules to take away local control of **powerful** 5G “small” cells.

Wireless & 5G Warnings

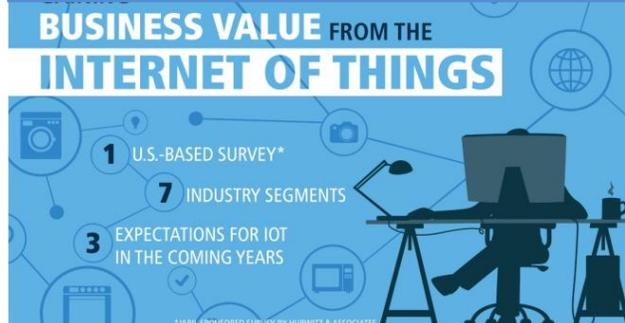


- In 2011 wireless was classed as a Group 2B “possible human carcinogen” by 30 independent scientists of the WHO International Agency for Cancer (IARC).
- Studies since have confirmed brain, cardiac, & glucose disruption, birth defects, etc., leading scientists from the IARC committee to ask for stronger classification.
- Concerned adding more & adding 5G frequencies is environmentally risky due to power, **scientists recommend a moratorium** [See 5Gappeal.eu; 5Gspaceappeal.org; EMFscientist.org]

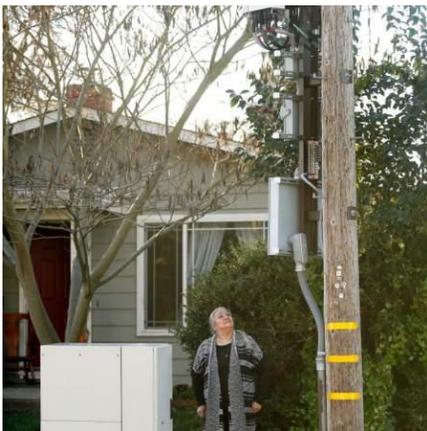
Opposed to Small Cell Rules Proposed by FCC:

- National Resources Defense Council
- US Conference of Mayors
- National Association of Counties
- Utilities Technology Council (doubts consumer benefits)
- Massachusetts Municipal Association
- National Conference of State Legislatures
- International 5G Appeal
- The 5G Appeal: Scientists and doctors warn of potential serious health effects of 5G

Are the profits of automation & mining our data why 5G is being pushed?



Significant Costs with Nothing Gained



4G Equipment (Antenna Missing)

- Only 1-10 mW/m² is needed for cell phones, but small cells (in millions) may lead to exposures near or at illegal levels
- Many have adequate wireless access, despite industry denial; hence FCC claims refusal amounts to “presumptive” denial of service is wrong
- Fee limits set by the FCC subsidize wireless at expense of copper, fiber optic, and cable competition, when wireless is the least secure and most expensive
- Incentives do not exist to provide rural areas with better access
- Wear and tear of town- or city-owned property, but extreme limits on fees
- Property devaluation: 79% of buyers refuse homes by cellular infrastructure according to *Realtor Magazine* (“Cell towers, antennas problematic for buyers” 2014 Jul 25)

Fact sheet courtesy of Last Tree Laws, which works for environmental health legislation.

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Lack of Safety Review or Monitoring



- Preventing local safety review by “batching” multiple applications as one application under a 60- or 90-day shot clock
- Lack of monitoring by the FCC to insure any compliance with (lax) FCC guidelines and a lack of qualified inspectors, especially at 5G frequencies
- Added risk for workers by small cells from exposures & heavy equipment
- Refusal by FCC to conduct an environmental review of small cell infrastructure or allow protections as required by the National Environmental Policy Act (NEPA)

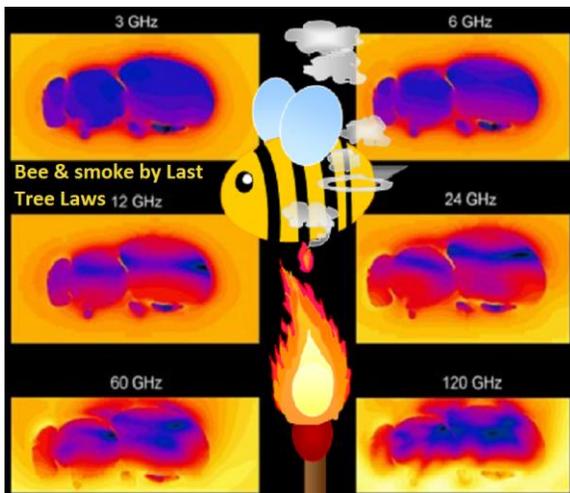
Appearance & Size

- 5G equipment placed either every 100 feet in line of sight or maximum 1/3 mile apart
- 4G/5G antennas can be placed as close as 10-20 feet from homes & be 6 cubic feet, with more added later
- Associated equipment may be refrigerator size & up to 28 cubic feet with potentially noisy fans
- Obstruction of paths
- Overlapping installations from multiple providers with competing small cells
- Addition of 4G/5G antennas to existing cell towers



*5G AirGig for Power Line
Wireless Emissions*

Serious Hazards



5G heat ups bees & small things through resonance & dielectric heating (Thielens et al, 2018)

- Wireless investment derails investment in secure fiber to home and maintenance of copper phone lines, which work best during power outages
- Wireless is substantially more energy intensive than wired infrastructure
- 5G includes 3.5 to 80 GHz, with untested millimeter frequencies never used for communications
- Millimeter frequencies require higher power to work than 3G and use phased arrays that concentrate power & increase exposure
- Small cells are an access barrier for electromagnetic sensitivity, a federally recognized disability
- Nickel cadmium batteries for 8-hour generators are a fire, explosion, falling & toxic hazard, & diesel is too.
- Potential design to prevent any damage may mean solidity to the point that a car hitting the equipment would be crushed and kill its occupants

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