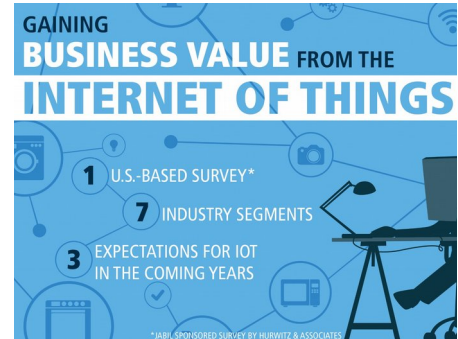


The FCC ignores safety & local control for “small cell” & other wireless technology.

What is 5G? 5G, a brand, includes:

1. Tens of thousands of wireless satellite launches & transmitting satellites
2. 100s of satellite earth terminals; a million satellite antennas on homes; a million small cells by homes
3. Powerful, **beamforming “phased array” antennas**
4. Football-field drones for the Hawaii sky (i)
5. New wireless frequencies, including 6+ GHz & millimeter waves (circa 30-80+ GHz)
6. Connections to all objects for **the Internet of Things**, artificial intelligence (AI), surveillance, drones, robots, & automation
7. **Electronic warfare**, including training on US land despite local and state opposition



What are small cell towers?

“Small cells” are *powerful* Distributed Antenna Systems, with antennas:



Small cell photo by Kriang Phromphin – Shutterstock

- To 6 cubic feet with equipment to 28 cubic feet that may have noisy fans and power equipment on pole and/or ground
- **Set <1/3 mile apart** or 100 feet in line of sight
- Set on utility poles, lampposts, street furniture, wires, etc.
- **Placed by homes**, plus or minus 10 feet, with overlapping installations
- **Can be enlarged without permit** to 10% or 30 feet (ii)
- When one exists, refusing more on the same structure is hard
- Use 4G and/or 5G technologies and likely to exceed FCC exposure limits.
- **Municipalities may regulate and assert zoning rights**, but ordinances must be in place first and are *not* retroactive.

Small Cells & 5G are Energy-Intensive

1. Wireless is ten times more energy intensive than wired infrastructure.
2. 5G may be 60+ times more energy intensive than wired infrastructure.
3. Small cells & 5G signal blockage mean axing street trees.
4. Wireless increases resource extraction, pollution during scarcity, and harms climate.





Cancer quadruples near a cell tower (Wolf et al 2004) & nausea, fatigue, irritation, headaches, etc., increase (Santini et al 2003)

Wireless & 5G Health Warnings

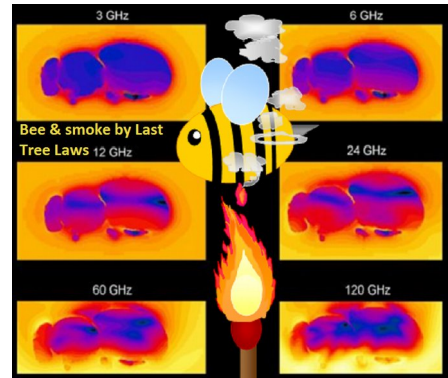
1. In 2011 wireless or “radiofrequency” was classed as a [class 2B “possible human carcinogen”](#) by 30 independent, eminent, independent experts in the field for the **WHO International Agency for Cancer (IARC)**. [Studies](#) since have confirmed tumor, reproductive, and other concerns.
2. The **original IARC experts ask for stronger reclassification or caution** ([Hardell](#), [Lesczynski](#), [Portier](#), Samet, Belyaev, [Miller](#), etc.).
3. In 2019, an **IARC advisory group requested risk [revaluation](#)** (iii)
4. **Experts recommend a halt for health** (iv v vi)
5. **Insurance companies [refuse to insure](#) 5G & or any other wireless exposure – telecommunications companies warn of [liability](#).** (vii)
6. Wireless **threatens [pollinators](#), [wildlife](#), and [food production](#)**; dielectric heating to small pollinators increases from 6 GHz (Thielens et al, 2018).
7. Experts charge the FCC & [ICNIRP](#) have **fail to account for actual exposures & current science**, and that 5G limits fail to [reflect science](#).
8. Wireless threatens [mental health](#), digital technology can be [harmful](#) to social development.

Incredible Range of Wireless Opposition

1. *The FCC’s questionable diplomacy and expertise has raised the ire of **NASA**, the NOAA, [utilities](#), security experts, [astronomers](#), the **Department of Defense**, [aviation and aerospace industries](#), etc., who **warn of 5G interference with communications**, [weather forecasting](#), [GPS](#), critical astronomy, transport, and [cybersecurity](#).*
2. **Opposition to small cells ranges wide:** Utilities Technology Council [doubts consumer benefits]; US Conference of Mayors; Natural Resources Defense Council; **2 dozen+ cities [suing FCC since 2019](#)** [public safety, visuals, and fair rent], National Association of Counties, *etc.*
3. **Admits ill health or sensitivity from wireless:** [European Parliament](#), U.S. Access Board, American Academy of Environmental Medicine, [Boston](#), [Canadian Human Rights Commission](#), [U.S. Job Accommodations Network](#), *etc.*
4. **Citizen opposition** – In Massachusetts alone, antenna resistance includes [Burlington](#) (Bedford, Lincoln, Southborough, etc., also enacted ordinance changes) [Worcester](#), [Centerville](#), [Needham](#), [North Andover](#), [Franklin](#), [Leominster](#), [Concord](#), [Shelburne Falls](#), [Dover-Sherborn Regional School](#), [Pittsfield](#), [Mashpee](#), [Monterey](#), [Chappaquiddick/ Edgartown](#) (before AGO)
5. **State- or country-led 5G investigations** in Vermont, Oregon, New Hampshire, Switzerland, France, etc., & plus numerous U.S. [lawsuits](#)
6. **Bans** in [Mar-A-Lago](#), Palm Beach [Trump’s Resort], Californian coastal communities, Easton (CT), overseas in Brussels, Swiss states, etc. – a Hawaii county resolution to halt 5G; temporary bans in Sandy Springs, GA and Keene, NH; and [ordinance restrictions](#) from Mill Valley, CA, to Burlington, MA. (viii)

Lack of Safety Review or Monitoring

1. The FCC **fails to monitor facilities** to insure compliance with (lax) FCC guidelines, require public contact information – inspection is costly and qualified independent inspectors are rare.
2. 5G measurements **miss peak exposures** by a **wide margin** (see p.11) – 5g phones may cause **burns**.
3. At 11 feet from a small cell tower, **small cells exceed FCC limits** – **like cell phones do** in close contact (xi)
4. After 6+ years, the FCC closed a docket about wireless exposures and chose to ignore the concerns of the **American Academy of Pediatrics** and other noteworthy organizations and experts, many providing evidence of a need for **reassessment of testing, actual exposures, and alignment with current science**, opening the door to a key **lawsuit**. (x)
5. The FCC continues to enact rules **exempting from permit controls or review** many facilities and additions – triggering **new lawsuits**.



Small Cells & 5G Have Significant Costs with Little Gain

1. **Service problems are often due to monopoly and lack of investment** in technology and maintenance of infrastructure – as in [New Jersey](#), [New York](#), [Pennsylvania](#), [Minnesota](#) – denials to avoid federally-mandated **upkeep & push costly wireless**.
2. The intense **heat from circuitry** for 5G is expected to **reduce the life of any nearby equipment**, including 5G cellphones, which can **overheat**.
3. Macro or large cell towers provide adequately for wireless communications – only 1 to 10 milliwatts per square meter (mW/m²) is needed for cell phones, but small cells provide millions of mW/m².
4. 911 calls can be **prioritized** instead adding more antennas.
5. **79% or more of buyers refuse to buy** by cellular infrastructure. (ix)
6. Extreme FCC limits on fees, despite wear and tear of town- or city-owned property, **2 billion subsidy** for **dangerously hackable** 5G.
7. Workers and residents near small cells or macro towers face risks of **high exposures, fires, electrical shock, falling heavy equipment, and explosions or toxin leaks** from nickel-cadmium batteries (xii)
8. Small cells are an access barrier for electromagnetic sensitivity, a disability recognized by federal agencies and internationally (xiii xiv xv xvi) – *also see discussion on current [disability case against FCC](#) circa 22:17 & public health at 28:43.*
9. 5G, subsidized by our taxes, represents **enormous job losses**, due to automation and **AI**, and concentration of wealth – including in the military and medical fields.



References

Please see LastTreeLaws.com for links. Some references are listed below.

- i** No 4G/5G drones in Maui skies! Updated January 28, 2020. Available at <https://keepyourpower.org/drone/>
- ii** See FCC docket 19-250 and comments filed by cities such as Boston, San Diego, etc.
- iii** IARC Monographs Priorities Group (2019 Apr 17) Advisory Group recommendations on priorities for the IARC Monographs. *Lancet Oncology*. DOI:[https://doi.org/10.1016/S1470-2045\(19\)30246-3](https://doi.org/10.1016/S1470-2045(19)30246-3)
- iv** The 5G Appeal: Scientists and doctors warn of potential serious health effects of 5G. <http://www.5gappeal.eu>
- v** International Appeal: Stop 5G on Earth and in Space. <https://www.5gspaceappeal.org/the-appeal/>
- vi** International EMF Scientist Appeal. <https://www.emfscientist.org/>
- vii** Electromagnetic Field Insurance Policy Exclusions are the Standard. Environmental Health Trust. Available 2020 July 28 at <https://ehtrust.org/key-issues/electromagnetic-field-insurance-policyexclusions/>
- viii** International Actions to Halt and Delay 5G (2019 Apr 13) Environmental Health Trust. <https://ehtrust.org/international-actions-to-halt-and-delay-5g/>
- ix** Cell Towers, Antennas Problematic for Buyers. (2014, Jul 25) Realtor Magazine.
- x** The Environmental Health Trust, supported by the National Resources Defense Council, and the Children's Health Defense are in the U.S. Court of Appeals for the District of Columbia to review and reject as unlawful the Federal Communications Commission's Resolution of Notice of Inquiry, Second Report and Order, Notice of Proposed Rulemaking, and Memorandum Opinion and Order, ET Docket Nos. 03-137, 13-84, and 19-226, FCC 19-126, released on December 4, 2019.
- xi** Afflerbach, A., CTC Technology & Energy. (2017 Nov 10). Comparison of RF exposure and distance from a small cell site. Study contracted for Montgomery County, Maryland. Columbia Telecommunications Corporation.
- xii** Senator Blumenthal Press Release. (2015, Sept 17). Senator Blumenthal, Representative Eshoo Urge FCC to Enforce Exposure Limits for Those Who Work Near Wireless Towers.
- xiii** Accommodations for People with Electromagnetic Sensitivity. JAN Job Accommodations Network. US Department of Labor's Office of Employment and Disability.
- xiv** IEQ Indoor Environmental Quality Project. US Access Board. <http://www.access-board.gov/guidelines>
- xv** Editors Kjell Hansson Mild Mike Repacholi Emilie van Deventer Paolo Ravazzani. (2004, Oct 25-27). Proceedings International Workshop on EMF Hypersensitivity. Prague, Czech Republic. http://www.who.int/peh-emf/publications/reports/EHS_Proceedings_June2006.pdf
- xvi** Johansson, O (2006). Electrohypersensitivity: State-of-the-Art of a Functional Impairment. *Electromagnetic Biology and Medicine*. 24:245-258