

**Arthur Firstenberg on Electrosmog: “The Ability to Use a Mobile Device Everywhere on Earth Means That Every Square Meter of the Earth Must Be Irradiated at All Times.”**

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## [Electrosmog: A Policy Brief](#)

*Guidance to governments, legislators, environmental organizations, schools, and religious, political, and community leaders.*

by [Arthur Firstenberg](#), [Cellular Phone Task Force](#)

July 26, 2023

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*If your organization wishes to join in supporting this brief, please [email us](#).*

### Key Points

1. The study of electricity should be restored to biology and medicine.
2. Personal wireless communication must be phased out because the radiation that carries all the messages is destroying life on earth.
3. Mobile phones must be replaced with landline phones, WiFi with ethernet cables, and other wireless consumer devices with devices connected by wires and cables.
4. Mobile phone antennas and masts must be phased out and removed.
5. Wireless technology must be removed from vehicles.
6. Smart meters must be replaced with analog meters.
7. Smart highways, smart cities, and the Internet of Things must cease being developed and deployed.
8. Radar stations must be limited in number, location and power.
9. Radar (microwave) ovens should not be used for heating food.
10. An international treaty on electrosmog, addressing radiation on land, in the oceans, and in space, must be

drafted.

## **Introduction**

Electrosmog is the totality of the electric fields, magnetic fields, and electromagnetic radiation that bathes us 24/7 from all electrical and electronic devices, electric wires, power lines, and wireless devices and antennas. With wired communication, information is transmitted via the wires, and the electromagnetic fields (EMFs) and radiation are unintentional. Proper engineering can reduce these unwanted fields and radiation to a minimum.

By contrast, with wireless communication, the radiation is the product. Radiation substitutes for wires in transmitting information.

Wireless *means* radiation. The ability to use a mobile device everywhere on earth means that every square meter of the earth must be irradiated at all times. Mobile devices operate in the microwave spectrum, with the result that the entire planet is now swimming in a sea of microwave radiation that is millions to billions of times stronger than the radiation from the sun and stars with which life evolved (1).

Life is based not only on chemistry but more fundamentally on electricity (2, 3). The unimpeded flow of electrons is essential to the functioning of our nerves, heart, and metabolism (3). Interference with these electric currents causes neurological diseases, heart disease, metabolic diseases such as diabetes, and cancer (4). Organisms that have a very high metabolism, such as bees and other insects, are being wiped out (5, 6). Thousands of studies document the devastating effects of wireless radiation on mammals, birds, insects, amphibians, and forests (7).

Because EMFs are not a foreign substance to living beings, a toxicology model does not apply and there is not a dose response: reducing the power does not reduce the effect. Even

a signal that is almost immeasurably weak can interfere with normal biological functioning (8). "While the dose rate/SAR concept is adequate for description of acute thermal effects, it is not applicable for chronic exposures to N[on]T[hermal] M[icro]W[aves]." (9). Even at near-zero power levels, microwave radiation has been found to change the structure of DNA (10) and alter brain waves (11). Some studies have even found an *inverse* dose response. When the power of the radiation was reduced 1000-fold, damage to the blood-brain barrier *increased* (12). A review of 113 studies found that radiation with the *lowest* power tended to cause the *greatest* ecological damage (5). In another review of 108 experimental studies, a lower exposure level tended to have a *greater* biological effect, and the difference was highly significant ( $p < 0.001$ ) (13).

The damage done to our health and our world by wireless devices and their infrastructure is caused not only by the microwave carrier frequencies, but also by the low-frequency modulation and pulsations that carry the transmitted information. "Thus modulation can be considered as information content embedded in the higher frequency carrier wave that may have health consequences beyond any effect from the carrier wave directly" (14). No matter what the carrier wave, the modulation is the same because it has to carry the same information. Therefore using light as the carrier wave, as is being done over short distances with LiFi, or using sound as the carrier wave, as is being done in the oceans, does not reduce the harm.

The finding that only a single two-hour exposure to a mobile phone during their lifetime, even when the power of the phone was reduced 100-fold, caused permanent brain damage in young rats (15) makes it likely that we are raising, and perhaps have already raised, a generation of children with brain damage. There is no question but that this must cease, and that cell phones are not safe at any power level, at any

distance from the head, and for any duration.

## **Purpose of This Document**

This policy brief provides an overview of an immediate threat to life on earth—even more immediate than climate change—that has been allowed to get completely out of control because it has been completely ignored. The source of the threat is a technology to which everyone has become addicted, and which, during the past two and a half decades, has become firmly entrenched in every aspect of life. Although more scientific studies have been published on the health and environmental effects of EMFs than on almost any other pollutant except for mercury and tobacco smoke, the impact of all this research upon public policy to date has been zero. Average citizens still do not even know that a mobile device emits radiation. Much less do they suspect that it is causing them brain damage or threatening their life and their future on this planet. The purpose of this brief is to outline actions that are required to be taken by political leaders, religious leaders, environmental organizations, public schools, medical schools and doctors to educate the public and to begin to dismantle this existential threat to the earth.

## **Essential Actions Required by National and International Leaders and Organizations**

### **I. An International Treaty or Convention on Electrosmog must be adopted by all nations**

The number of antennas and their distance from people and wildlife must be strictly regulated. The elements of an international treaty should include the following:

#### **A. Phasing out and eventual prohibition of personal wireless devices, including mobile devices and WiFi**

At present there are about 15 billion mobile devices and 6 million mobile phone masts; the earth cannot survive this. Private individuals should not have the right to irradiate

their neighbors. Businesses should not have the right to irradiate their patrons.

**B. Limiting antennas and devices that emit radiation to radio and television stations, emergency services such as police and fire departments, and radar for civil defense, aviation and shipping**

**C. Limiting the location, number, and power of civil defense radars**

The present situation of unlimited power has allowed 3-billion-watt radars such as PAVE PAWS, which has irradiated millions of people on both coasts of the United States for more than four decades (16).

A five-year investigation into the health and environmental effects of a civil defense radar in Latvia after the end of the Cold War resulted in the decommissioning and removal of that radar. School children in the area—even children who lived 20 kilometers away—had impaired motor function, memory and attention, reduced lung capacity, and elevated white blood cell counts. The entire local population suffered from headaches, sleep disturbances and elevated white blood cells. Human reproduction was affected: 25 percent fewer boys than girls were born during the years the radar operated. Chromosome damage was found in local cows. Nest-boxes near the radar were occupied by extremely low numbers of birds. The average growth rings of trees during the years of the radar's operation were only half as wide as before the radars were constructed, and study of pine cones revealed the trees were aging prematurely. Seedlings in the area grew into deformed plants with reduced reproductive capacity (17, 18, 19, 20, 21, 22, 23, 24).

**D. Phasing out weather radars, as they do more harm than good**

There are an estimated 1,500 of these extremely powerful installations scattered throughout the world. Each of the 160 NEXRAD radars in the United States has an EIRP (Effective Isotropic Radiated Power) of 32 gigawatts (32 billion watts) (25). These radars are heavily irradiating people and wildlife, and are neither reliable nor essential to weather forecasting (26).

#### **E. Prohibition of antennas inside national parks, wildlife preserves and protected nature areas**

A 2015 report to UNESCO detailed the devastating impact of communication antennas inside a World Heritage Site in Australia. When a telecommunication tower atop Mount Nardi began to convert its antennas from analog (2G) to digital (3G) in 2002, a steady increase in species diversity suddenly reversed and became a steady *decrease* in species diversity. In 2002 insect populations and diversity began to decline. In 2009, enhanced 3G was installed, along with an additional 150 pay television channels. 27 bird species promptly left the mountain, and insect volumes and species dropped dramatically. In late 2012 and early 2013 4G was installed, and 49 more bird species promptly left the mountain.

“From this time, all locally known bat species became scarce, 4 common species of cicada almost disappeared, as well as the once enormous, varied population of moths & butterfly species. Frogs and tadpole populations were drastically reduced; the massive volumes and diverse species of ant populations became uncommon to rare... [F]rom 70 to 90 % of the wildlife has become rare or has disappeared from the Nightcap National Park within a 2-3 km radius of the Mt. Nardi tower complex” (27).

#### **F. Prohibition of the manufacture of vehicles with wireless technology and radar**

WiFi, Bluetooth, wireless ignitions, wireless CarPlay, wireless tire pressure monitors, and radar are just a few of the in-car systems that have turned the small, reflective metallic bodies of vehicles into intensely microwaved chambers. To these are being added in-car 5G hotspots that are turning many new vehicles into autonomous mobile devices, using vehicle-to-vehicle, vehicle-to-pedestrian, vehicle-to-network, and vehicle-to-highway communication.

#### **G. Prohibition of smart meters, smart highways, smart cities, and the Internet of Things**

Smart meters are being placed on every home and business in the world, and are turning all the wiring inside the walls of every home and business into a radiating antenna.

Microchips and antennas are being placed in every machine, every appliance, and almost every consumer product in the world as part of the Internet of Things, and there are predictions of as many as one trillion antennas communicating wirelessly with one another in the near future. These all irradiate the entire population at close range, including inside their homes and businesses, without any choice and without possibility of escape.

#### **H. Halting the launch of satellites, and phasing out most private, public and military use of space**

The functioning of all living organisms is regulated by their electromagnetic environment, including the magnetic field of the earth, the vertical electric field between earth and ionosphere, the global electric circuit, the Schumann resonances, etc. If the electromagnetic environment of the earth is altered, life on earth will not long survive.

Both the number of satellites in orbit and the radiation they emit are completely out of control. Some satellites



already have an effective radiated power of 83 million watts. Some are capable of emitting 5,000 individual beams. More than 8,000 satellites are already in orbit, and thousands more are being sent into space by near-daily rocket launches. Not only are they exposing every square meter of land and oceans to their radiation, but they are polluting the global electric circuit, which includes our bodies, with all of their pulsations and modulation patterns.

This is degrading all of life and causing pandemics, extinctions, and forest die-off, which cannot be successfully addressed without halting the radiation in and from space (4).

### **I. Prohibition of underwater wireless communication in the oceans**

Along with national parks and nature preserves, the oceans should be absolutely protected from radiation.

Governmental, commercial and military interests have been collaborating to create Smart Oceans and build the Internet of Underwater Things. To do this they are building cell towers on the ocean floor, putting relay antennas in the depths of the ocean, and deploying smart ships, smart submarines, and underwater robots. The goal is to enable broadband wireless communication from any point on or in the oceans to anywhere else on the planet, up to and including "real-time video streaming from underwater" everywhere in every ocean (28).

RF radiation is being used in the oceans for short- to medium-range communication, and is destroying ocean life the same way it is destroying land-based life. Acoustic waves are being used for long-range communication, and are deafening fish and ocean mammals with sound as loud as 202 decibels.

The fishing industry is also using underwater radar to locate and capture fish with a precision and on a scale that is devastating to ocean life (29).

All underwater wireless communication and radar must be halted.

## **II. Churches and other religious buildings should remove antennas and WiFi networks from their premises**

Churches have become a prime target by telecommunications companies for the installation of antennas, often hidden inside false chimneys or fake bell towers. These antennas earn a lot of money for churches but turn them into hazardous environments for their worshippers and visitors.

## **III. Schools must remove mobile phone masts and WiFi routers and prohibit mobile phones**

Schools are among the most intensely irradiated environments in society today, consequently the worst and unhealthiest places for our children to spend their growing years. Every classroom has one or more WiFi routers in it, together with dozens of children sitting in close proximity to one another every day all day, all of them with cell phones and wireless computers, irradiating one another at all times. Like churches, schools are earning money renting their properties to telecommunications companies for the installation of mobile phone masts.

All masts and all WiFi antennas must be removed from all school properties, and children must be prohibited from bringing cell phones to school.

## **IV. Religious, political and community leaders should encourage congregations and constituencies to get rid of their cell phones and other wireless devices**

Nothing is more important today in the stewardship of our

planet.

**V. Medical schools should incorporate education on EMFs into curriculums, and classes in electromagnetic health should be required for continuing education**

The books and studies are there by the tens of thousands. They sit on the shelves of medical school libraries gathering dust and being ignored. All that is required is to organize them into the curriculum and the base of knowledge required of every physician in order to earn a medical degree.

**VI. Environmental organizations must form chapters on electrosmog, and must cease using wireless technology as a tool for monitoring and research**

The rapid declines in biodiversity and species populations cannot be successfully addressed without reducing electromagnetic pollution which is causing half or more of the observed declines. As long as electrosmog is not addressed head-on, all of these problems will continue to be blamed on other things: climate change, land use, deforestation, pesticides, etc. Some of the means now being used to combat climate change, for example solar and wind energy, are worsening electrosmog and further decimating species. Some of the means to study these problems, for example GPS and radio tracking of wildlife, are diminishing wildlife instead.

All antennas must be removed from protected nature areas, wildlife preserves, and oceans. Radio tracking devices are deadly (30, 31, 32, 33, 34, 35, 36, 37). They must be removed from all wildlife and not put on any more animals, birds, insects, or fish.

**VII. Non-ionising radiation must be regulated by national environmental agencies with no conflicts of interest**

In many countries, radio frequency (RF) radiation from telecommunications facilities and devices is regulated by the

same agency that is charged with promoting those facilities and devices. This is an obvious conflict of interest.

Most governments defer to guidance from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) or the World Health Organization, which also defers to the ICNIRP. The ICNIRP is not an environmental agency. It is a self-appointed private organization with 14 members answerable to no one (38). Its exposure guidelines are based on heating only, as though there were no other effects. In the United States, the agency that both regulates and promotes the telecommunications industry is the Federal Communications Commission (FCC). Like the ICNIRP, the FCC bases its exposure guidelines for humans on heating effects only, and completely ignores the effects on the environment.

RF radiation should be regulated transparently within each nation by their own environmental agencies based on the totality of science. It should be addressed within the UN not by the World Health Organization, but by the United Nations Environment Programme, which presently does not address it at all. And it should be subject to an international treaty and a convention on Electrosmog, as per point 1.

## **Conclusions**

The policy considerations presented in this brief have their basis in science, and in the protection of human rights, human health and the environment. They were developed in response to an emergency situation in which the irradiation of the earth is accelerating at such a rapid rate that it has become the single most urgent threat to life on earth today. The recommended actions by political leaders, religious leaders, organizations, schools, and government agencies provide a path to health and survival.

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## **Acknowledgments**

The following individuals contributed to the drafting of this Policy Brief:

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