

Appendix 2: Worldwide Regulatory and Other Actions on Cell Phones, Wi-Fi and Wireless Radiation

Links and citations hereby incorporated by reference.

For more detailed information, please see www.ehtrust.org

National Radiofrequency Radiation Limits Stricter than U.S. or ICNIRP

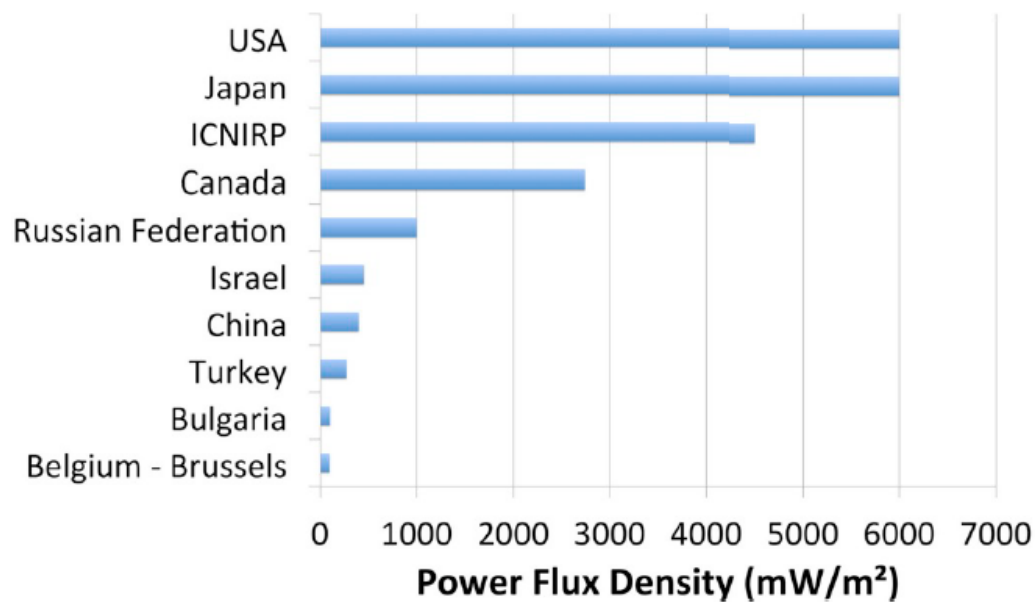


Figure 1: [Image from Clegg 2019](#) "International RFR power flux density exposure limits at 900 MHz"

Overview of limits for exposure of the general population to power frequency EMF in the EU.

Group 1 (purple): legal limits derived from EU recommendation, precautionary policy in some countries;
Group 2 (pink): no legal limits or limits less strict than in EU recommendations, precautionary policy in some countries;

Group 3 (yellow): stricter limits than in EU recommendation.

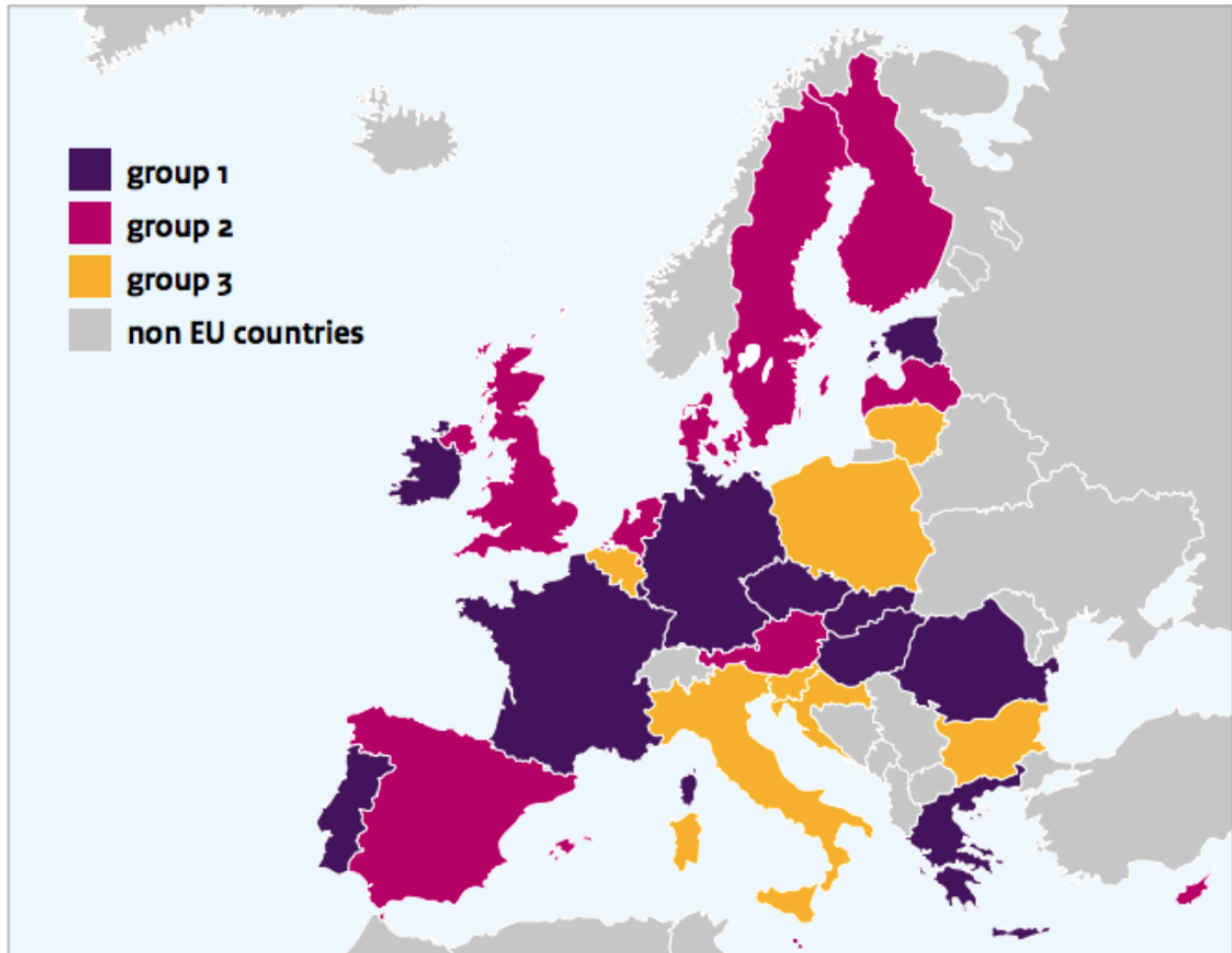


Figure 2: Image from [Comparison of international policies on electromagnetic fields \(power frequency and radiofrequency fields\)](#), Rianne Stam, Netherlands National Institute for Public Health and the Environment, January 2018.

References on the lower RF limits than ICNIRP regarding public exposure

- GHO | By category | [Exposure limits for radio-frequency fields \(public\) - Data by country](#). WHO.
- Redmayne M. [International policy and advisory response regarding children's exposure to radio frequency electromagnetic fields \(RF-EMF\)](#). *Electromagn Biol Med*. 2016;35(2):176-185. doi:10.3109/15368378.2015.1038832

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards
(ET Docket No. 19–226; FCC 19–126; FRS 16618)

- Demarczyk T. [Comparison of International Policies on Electromagnetic Fields](#). Rianne Stam, National Institute for Public Health and the Environment, January 2018
- WHO | [Map of Countries with EMF Legislation](#). WHO. 2018.
- GHO | By category | [Exposure limits for radio-frequency fields \(public\) - Data by country](#). WHO.
- WHO | [Participating countries & entities in EMF Project](#). WHO. 2016.
- Madjar HM. [Human radio frequency exposure limits: An update of reference levels in Europe, USA, Canada, China, Japan and Korea](#). In: *IEEE International Symposium on Electromagnetic Compatibility*. Vol 2016-November. Institute of Electrical and Electronics Engineers Inc.; 2016:467-473. doi:10.1109/EMCEurope.2016.7739164
- Repacholi M, Grigoriev Y, Buschmann J, Pioli C. [Scientific basis for the Soviet and Russian radiofrequency standards for the general public](#). *Bioelectromagnetics*. 2012;33(8):623-633. doi:10.1002/bem.21742
- ITU-D Study Group 2, R. for Question, [Question 7/2: Strategies and Policies Concerning Human Exposure to Electromagnetic Fields](#); 2014-2017. www.itu.int/pub/D-STG/. Accessed June 8, 2020.

Government tests and monitors cell phone radiation

France

Countries that advise reducing cell phone radiation

France, Belgium, Switzerland, French Polynesia, Finland, Ireland, Germany, Greece, Israel, Turkey, Singapore, United Kingdom, Russia, Denmark, India, Australia, Austria, Cyprus, Canada, Italy, Korea, Sri Lanka, Croatia, Krakow Poland.

Ban on mobile phone ads to children

- France, Belgium, French Polynesia, Russia, Turkey

Ban on sale of phones designed for young children

- Belgium, France, French Polynesia

Cell phone SAR cell phone radiation labeling on device, packaging and or at point of sale

- France, Israel, India, Belgium, Russia, Korea

Wi-Fi ban in nurseries & kindergartens

- France, Israel, Ghent Belgium, French Polynesia, Cyprus, Hospitalet Spain

Wi-Fi Off and or minimized in elementary schools

- France, Israel, Cyprus, along with a growing list of schools/districts worldwide.

Government measures radiation levels and makes them publicly available.

- France, Greece, Turkey, India, Israel, French Polynesia, Croatia, Bulgaria, Tunisia, Switzerland, Bahrain

In 2011, the European Parliament passed - Resolution 1815 [“The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment](#) calling on their member governments to:

- “take all reasonable measures” to reduce exposure to electromagnetic fields “particularly the exposure to children and young people who seem to be most at risk from head tumours.”
- to implement “information campaigns about the risk of biological effects on the environment and human health, especially targeting children and young people of reproductive age”
- to reduce exposure and “for children in general, and particularly in schools and classrooms, give preference to wired Internet connections, and strictly regulate the use of mobile phones by school children on school premises.”
- to adopt the principle of As Low As Reasonably Achievable (ALARA) for non-ionizing radiation exposures from wireless devices

2011-2020 Municipalities In Europe have requested the implementation of [Resolution 1815](#)

- In Spain municipalities which have requested the implementation of the recommendations of PACE Resolution 1815 include [Barakaldo](#), [Errentería](#), [Espartinas](#), [Hospitalet](#), [Jerez de la Frontera](#), [San Sebastián](#), [Vitoria](#), [Villa de Plentzia](#), [Cornellá de Llobregat](#), [Torrox](#), [Mula](#), [Villa de Buenavista del Norte](#), [Poio](#), [Arganda del Rey](#), [Cenizate](#), [Hospitalet](#), [Juntas generales de Guipúzcoa](#), [Villava](#), [Vitoria-Gasteiz](#) and the [Basque](#) and [Navarre](#) Parliaments.
- In Italy, municipalities which have requested the implementation of the recommendations of PACE Resolution 1815 include the [Piemonte Region Council resolution to limit EMF exposure in schools](#), the [State Parliament of South Tyrol resolution on WLAN, mobile radio, radiation exposure](#), the [Bologna City Council Resolution to launch a public information campaign](#). In addition, over [500 municipalities in Italy](#) have passed resolutions to halt 5g until safety research has been done to ensure safety.

In the United States, health authorities recommend reducing cell phone and wireless radiation to children. Examples include the American Academy of Pediatrics, the Connecticut Department of Health, the California Department of Health, the Cleveland Clinic and the Maryland State Children’s Environmental Health And Protection Advisory Council,

Halting 5G to investigate health and safety issues

A rapidly growing list of governments are acting to investigate the health effects of 5G. Many are suspending deployment while the issue is examined.

- Examples of countries that have signaled a review is needed before moving forward with 5G include Switzerland, [Slovenia](#), [Nigeria](#), [PaPau New Guinea](#), [Belgium](#), [Netherlands](#), and [Australia](#).
- Over [500 cities/municipalities in Italy](#), several [Cantons in Switzerland](#), [Hvar Croatia](#), and several municipalities in the [United Kingdom](#) and [Ireland](#) have passed resolutions to halt the roll out.
- In the United States [Easton Connecticut](#), [Keene, New Hampshire](#) and [Farragut Tennessee](#) have passed resolutions to halt 5G. [Hallandale Beach Florida](#) and [Greendale Wisconsin](#) have also passed 5G resolutions.
- **Los Altos CA has an ordinance that does the following:** Installation of small cells on public utility easements in residential neighborhoods is prohibited; 500 foot setbacks for small cells for multi-family residences in commercial districts; 500 ft separation from schools; 1500 ft separation between nodes.

France

2019: France: [Order of November 15, 2019 relating to the display of the specific absorption rate of radioelectric equipment and to consumer information NOR: SSAP1834792A](#)

“TYPES OF INFORMATION TO APPEAR UNDER THE SECTION “PRECAUTIONS FOR USING THE APPLIANCE”

Information on the behavior to adopt to reduce exposure to radiation emitted by radio equipment

Use the radio equipment under good reception conditions to reduce the amount of radiation received.

Use a hands-free kit or a loudspeaker, if suitable for radio equipment. Make reasonable use of radio equipment such as the mobile phone, by children and adolescents, for example by avoiding night-time communications and by limiting the frequency and duration of calls.

Keep radio equipment away from the belly of pregnant women.

Keep radio equipment away from the lower abdomen of adolescents.”

Dated November 15, 2019.

The Minister of Solidarity and Health, Agnès Buzyn

The Minister of Economy and Finance, Bruno Le Maire”

[French Government Order of November 15, 2019 relating to the display of the specific absorption rate of radioelectric equipment and to consumer information NOR: SSAP1834792A](#)

2017-20 ELF Policy for Sensitive Areas

“Zone of Caution” for Power frequency ELF-EMF in Areas of Sensitive Use:

A "zone of caution" of 1 microT from high-voltage infrastructure is recommended for new buildings with sensitive use (e.g. hospitals, primary schools, kindergartens) to be enforced by local municipalities. ([See WHO](#))

- “A ministerial recommendation advises the Prefectures to avoid as far as possible the creation of new hospitals, maternity wards and childcare facilities near power lines, cables, transformers and bus bars where children are exposed to a magnetic field stronger than 1 microtesla. For new or modified electricity infrastructure, the grid operator usually tries to avoid as much as possible the creation of new electricity infrastructure near such locations when planning a new grid

development. The grid operator has the legal obligation to monitor the strength of EMF near power lines in urbanized areas. Citizens can also request information about the strength of EMF from local power lines via their mayor.” [RIVM Report](#)

2017: Cell Phones are fully banned - in hallways, lunchroom and playgrounds- in schools through 14-15 years old (elementary and middle).

- Mobile phones will be fully banned announced the Minister of National Education Jean-Michel Blanquer according to [a news article published in Le Monde](#). The measure was confirmed by the Minister of Education. While France previously banned cell phones in classrooms, this policy includes all locations in the school and is considered a “full ban”.

2017: The Ministry of Ecological and Solidarity Transition: "mobile phone and health" campaign on 6 Behaviors to reduce exposure to radiofrequency radiation.

[Web poster 'Mobile phone. Adopt the 6 good behaviors'](#) [Poster for print 'Mobile phone. Adopt the 6 good behaviors'](#)

[Web pages 'Mobile Phone and Health' 4 pages print 'Mobile Phone and Health'](#)

[The Ministry of Ecological and Solidarity Transition Webpage "mobile phone and health"](#)

Since 2010 French Law has Regulations on Cell Phones

- Retailers must display SAR Radiation levels for different phone models, the specific absorption rate SAR shall be clearly indicated in French.
- All phones must be sold with a headset and mention should also be made of the recommendation to use the accessory to limit the exposure of the head to radio transmissions during communications.
- [Article 183](#): Cell phone advertising aimed at children younger than 14 is banned. In nursery schools, elementary schools and colleges, the use of a mobile telephone during a teaching activity and in the places provided by the rules of procedure, by a pupil is prohibited.
- Cell phones made for children under 6 are banned “to limit exposure to children”.
- EWG Blog Post: [“French law informs, protects cell phone users”](#)
- [Law No. 2010-788, Article 184](#) [2010 Decree No. 2010-1207 relating to the display of the specific absorption rate of radio terminal equipment](#)

2016 Report Cell For Reducing Exposure: French Agency for Food, Environmental and Occupational Health & Safety (ANSES) [2016 Report](#) “Radiofrequency Exposure and the Health of Children” recommends regulatory changes to ensure "sufficiently large safety margins" to protect the health of young children stating:

"ALL wireless devices, including tablets, cordless phones, remote controlled toys, wireless toys, baby monitors and surveillance bracelets, should be subjected to the same regulatory obligations as cell phones."

[Recommendations of the Agency](#): ANSES recommends to “reconsider the regulatory exposure limits” to ensure “sufficiently large safety margins” to [protect](#) the health of young children:

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- All wireless devices, including tablets, cordless phones, remote controlled toys, wireless toys, baby monitors and surveillance bracelets, should be subjected to the same regulatory obligations as cell phones.
- Compliance with regulatory exposure limits should be insured for the ways that devices are customarily used, such as positioned in contact with the body.
- Exposure limits for radiofrequency electromagnetic fields should be tightened to ensure sufficiently large safety margins to protect the health and safety of the general population, particularly the health and safety of children.
- Reliance on the specific absorption rate (SAR) to set human exposure limits should be re-evaluated and replaced through the development of an indicator to assess real exposures for mobile phone users that applies to various conditions: signal type, good or bad reception, mode of use (call, data loading, etc.), location device is used on the body.
- ANSES reiterated its recommendation, as previously stated, to reduce exposure to children: minimize use and prefer a hands-free kit. The new report has made [headlines](#) across the country.
- ANSES Article: [“Radio Frequencies, Mobile Telephony and Wireless Technologies”](#)
- [Press Release on Report](#) (translate into English)
- [Full 2016 Report](#) (French)
- [EHT Press Release on Report](#)

2016 National Decree No. 2016-1074 on the protection of workers against the risks arising from electromagnetic fields

- It is forbidden to place workers under age 18 in posts where EMF is apt to exceed limit values
- each employer has to evaluate EMF risks.
- When exposure exceeding limit values is detected or when an undesirable or unexpected health effect from exposure to EMF is reported, the worker will benefit from a medical visit.
- The employer must provide information and training to his employees regarding the characteristics of EMF emissions, the direct and indirect biophysical effects that could result from exposure to EMF, etc.
- The employer must adapt as much as possible the post in order to limit exposure to EMF.
- Specific precautions will be taken regarding pregnant women.
- News
- Next Inpact News Article: [“As early as 2017, employers will have to protect their employees against electromagnetic waves”](#)
 - Inter France News Article: [“Companies will have to protect employees from electromagnetic waves”](#)
 - Los Echos France: [“Electrosensitivity: A man recognized as victim”](#) 10/10/2018
 - BFM Business: [Electromagnetic waves: the very precise work code](#)
- France: [Decree No. 2016-1074](#)

[2015 National Legislation - “Law on sobriety, transparency, information and consultation for exposure to electromagnetic waves.”](#) [Original Report](#)

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- WiFi Banned in Nursery Schools: WIFI and Wireless devices will be banned in “the spaces dedicated to home, to rest and activities of children under 3 years”.
- WiFi on “OFF” as Default to Minimize Exposures in Schools: In elementary schools,WIFI routers should be turned off when not in use.
- Schools Will be Informed: The school board should be informed when new tech equipment is being installed.
- Cell Tower Emission Compliance Will Be Verified: A decree will define the limits of emission of equipments for electronic communications or transmission to which the public is exposed. These values can be verified by accredited organizations and results will be made accessible to the public through a National Radiofrequency Agency.
- Citizens Will Have Access to Environmental/Cell Tower Radiation Measurements Near homes: Every resident may get access to the results of measurements for their living space.
- Cell Antennae Maps For the Country: A description and map of the places with atypical (higher than the limits) places will be conducted at regular intervals with follow up of the actions being taken to limit the exposure. A map of all antennas will be produced for each town.
- Continued Evaluation of Health Effects: The National Radiofrequency Agency will be in charge of surveillance and vigilance, evaluating potential risks and setting up scientific research, including information on health effects.
- SAR Radiation Labeling Mandated: The SAR of cell phones must be clearly indicated on the package.
- Information on Reducing Exposures Mandatory: Information on ways to reduce exposure will be detailed in the contents of the cell phone package.
- Accountability in Advertising: Advertising must clearly, visibly and legibly mention the recommended use of a device that will limit the exposure to the head. The offender is liable to a maximum fine of € 75,000. Advertising is prohibited which promotes the use of a mobile phone without accessories allowing to limit the exposure of the head. (Maximum fine of € 75,000.
- Availability of Headsets: At the buyer's request, for the sale of any mobile telephone device, the operator provides an accessory making it possible to limit the exposure of the head to radioelectric emissions suitable for children under the age of fourteen.”
- WI-FI Hotspots will be Labeled: Places where WIFI is provided should be clearly marked with a pictogram.
- Advertisements Must Recommend Devices That Reduce Radiation Exposure to the Brain: Advertising for cell phones should clearly indicate the recommendation of hand free kits for protection of the head of the user and it will be included in the package. Advertising for cell phone not accompanied by such a kit is forbidden. Companies in violation will be fined 75,000 Euros.
- Children Must Be Provided Protections: At the request of the buyer, equipment reducing cell phone radiation exposures to the head for children less than 14 years should be provided.
- The Public Will Be Informed: Within a year, a policy of information on awareness and information on a responsible and reasonable use of cell phones and other apparatus emitting radiofrequencies will be set up.

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- Electrohyper-sensitivity Report To Be Submitted: Within a year, a report on electrohyper-sensitivity must be given to the Parliament according to the law.
- Le Monde.fr News Article: [“A law to frame exposure to the airwaves”](#)

French Agency for Food, Environmental and Occupational Health & Safety (ANSES) 2013 recommendations for limiting exposure to radio frequencies

- [Original opinion and report on the Update of the “Radiofrequencies and health” expert appraisal](#)
- Recommends hands free phones, SAR labeling, and “limiting the population's exposure to radiofrequencies... especially for children and intensive users, and controlling the overall exposure that results from relay antennas.”
- ANSES news article: [“ANSES issues recommendations for limiting exposure to radiofrequencies”](#)

French National Public Health Website Informs the Public About How To Reduce Exposure
The Website hosts [infographics on 8 Ways To Reduce Exposure](#) which include

1. Protect children and youth the most. It is recommended that parents advise their children or teenagers to use their phone only for essential calls. The use of the SMS and the use of the earpiece should also be encouraged by the parents. In addition to these specific tips, other good gestures should also be adopted.
2. Telephone with a headset: By phoning with a headset (wired or bluetooth, wireless), the phone is moved away from the head. It is an effective way of reducing exposure to head waves. (EHT Note: Bluetooth still exposes the brain to RF so we do not recommend this.)
3. Prefer SMS (Texting): By using SMS to communicate, one reduces the emission of waves of his telephone. Indeed, to send an SMS, the phone "connects" to the nearest relay antenna only the time to send the message. During a conversation, the phone connects to the nearest relay antenna and renews the connection regularly, especially on the go. The level of emission of waves is therefore more important. Also when sending an SMS, the notebook is away from the head.
4. Keep the phone away from electronic implants: If you wear an electronic implant (pacemaker, insulin pump, neurostimulator ...), keep your mobile phone away from the equipped area. It can disrupt the functioning of your medical device.
5. Do not call in areas of poor reception: The less the network coverage is good, the more your phone emits waves to keep the conversation going. It is therefore recommended not to call in areas where reception is not good: underground car parks, elevators, confined spaces ... Check the number of bars on your phone, it indicates the quality of coverage of the network. It is also generally prohibited to call in hospitals and airplanes because of the presence of radio-frequency devices. Your phone may cause interference and interfere with the operation of electronic devices.
6. Move the phone away just after dialing: To limit exposure to waves at the head, you can get into the habit of not approaching the phone in your ear within seconds of dialing. Indeed, it is during these first seconds that the transmission of waves is strongest to find the nearest relay antenna. The level of wave emission then stabilizes.

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7. Avoid calling while traveling at high speeds (car, train, bus). When moving at high speed, the phone must successively connect to different relay antennas to maintain the conversation. With each search for a relay antenna, the telephone transmits at full power, the level of emission of waves is therefore regularly higher. It is therefore recommended to avoid calling by train, for example. Telephoning while driving is also prohibited and liable to a fine. The danger comes more from the distraction created by the conversation than from the immobilization of a hand.
8. Read the information in your cell phone manual: You can find out about the level of exposure to the waves of your mobile phone: this is the DAS, whose display becomes mandatory at the points of sale in April 2011. The DAS (Specific Absorption Rate (SAR)) phones Mobile device quantifies the user's maximum exposure level to electromagnetic waves, for use at the ear. The French regulations require that the DAS does not exceed 2 W / kg. The devices described as "anti-waves" have not proved their effectiveness.

Go to French Government Website which hosts these [8 Ways To Reduce Exposure](#)

French National Agency on Frequencies Maintains Information On Cell Tower Radiation:

The Agence Nationale des Fréquences holds public information on the measurements from base stations. Their website has information on their measurements of electromagnetic fields around base stations and other radio frequency emitters.

[Read a 2016 French News Report on ANSES: "Children: their cognitive functions affected by electromagnetic waves"](#)

Over 150 Cities in France have refused Smartmeters

"Circulaire" 2013 from Minister of Ecology, Sustainable Development and Energy (MEDDE) to Prefets of Departements. Asks them to recommend to local municipalities that they should avoid, as much as possible, giving permission for new sensitive use buildings (e.g. hospitals, primary schools, kindergartens) in a "zone de prudence" of 1 μ T exposure from high-voltage infrastructure.

Additional Official Recommendations to Reduce Exposure

French Ministry of Solidarity and Health website on electromagnetic waves. Prior to the 2013 and 2016 recommendations, in 2012 a [Brochure Téléphones mobiles, santé et sécurité](#) (Official Recommendations to reduce exposure: Mobile phones, health and safety) was created to inform public about how to reduce exposure to cell phone radiation. In 2010 [Recommendations were issued on the government website here.](#)



Figure 3: Image from Lyon.fr

2009 City of Lyon France's Cell Phone Campaign ["Poster: No Cell Phone Before 12 Years old"](#)

France: French Government Resources

2019: [Order of November 15, 2019 relating to the display of the specific absorption rate of radio equipment and to consumer information](#)

2016 [Decree No. 2016-1074](#) on the protection of workers from electromagnetic fields.

2015 ["Law on sobriety, transparency, information and consultation for exposure to electromagnetic waves." Original Report.](#)

2010 [French Cell Phone Statute Article 183](#)

Reports of the French Agency for Food, Environmental and Occupational Health & Safety

- 2020 Report [Health Effects of 5G \(Interim\)](#)
- 2019 Report [Health Effects Low-frequency EMFs](#)
- 2019 Report [Possible health effects associated with high SAR from mobile telephones carried close to the body](#)
- 2016 Report [LEDs and Blue Light](#)
- 2016 Report [Radiofrequency Exposure and the Health of Children, Press Release](#)
- 2013 Report [Radiofrequencies and health", Press release](#)

Belgium

- RF limits lower than ICNIRP in specific municipalities such as Belgium.
- 2013 Federal Public Health Regulations Bans Cell Phones Designed for Young Children and Advertising Cell Phones for Young Children
- Ghent Belgium bans wi-fi from pre-schools and day care
- Health authorities recommend reducing exposure to cell phone radiation and provide extensive public health information

“Experts – including those on the Superior Health Council – advise everyone to limit their exposure to mobile phone radiation.” - [Health Food Environment Agency of Belgium](#)

The Belgium health agency has long issued [Tips for prudent use](#) and in 2013 the government banned [phones](#) designed for young children. In 2014 Ghent Belgium [banned](#) wi-fi from pre-schools and day care. In [Brussels](#), a map of all the locations of antennas is accessible online where the technical data of each installation is listed. People can ask for a compliance measurement, free of charge.

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Protective policy on ELF-EMF Magnetic fields:

In Flanders, new power lines over schools and childcare centers should be avoided and passing over homes kept to a minimum. New schools and childcare centers should not be more than year-averaged exposure greater than 4 milligauss. In Brussels, a ministerial instruction requires that the magnetic field levels in places near newly installed transformers where children under 15 may stay is kept below a 24-hour average of 4 milligauss. Wallonia applies the limits in the EU recommendation to transformers.

[RIVM Report](#)

April 2019: Brussels refuses 5G and refuses to raise limit values to allow full 5G deployment.

- HLN News [Brussels government refuses 5G: "Brussels residents are not guinea pigs"](#)
- Brussels Times [Radiation concerns halt Brussels 5G development, for now](#)

2014: Ghent Belgium bans wi-fi from preschools and day care.

Read the Flanders Today article: ["Ghent bans wi-fi from pre-schools and day care"](#)

2013 Federal Public Health Regulations Bans Cell Phones and Advertising Cell Phones for Young Children

- Original Legislation: [“New rules for selling mobile phones: Practical guide for sellers and distributors”](#)
- Phones designed for children under 7 years old are prohibited from sale.
- Total Advertising Ban on cell phones aimed at children under 14.
- Mandatory Radiation SAR levels must be available for consumers at point of sale. Warning label on phones: “Think about your health – use your mobile phone moderately, make your calls wearing an earpiece and choose a set with a lower SAR value.”
- Recommendations include use of hands-free methods to keep the phone away from the body such as text messaging and not making calls when the signal is weak, such as in elevator/vehicle.
- Flanders Today News article: [“Belgium bans sale of mobile phones designed for children”](#)
- 2014 Presentation on the [“Implementation of the Council Recommendations in Belgium” by the Ministry of Public Health of Belgium.](#)
- Belgium Governments [frequently asked questions](#) about the new law.
- Press Release by Dr. Moskowitz: [“Belgium Adopts New Regulations To Promote Cell Phone Radiation Safety”](#)
- Lower RF Limits are Precautionary in accordance with advice of the Belgium Health Council.

2009 Resolution of the Belgian Parliament - "Introduction of new rules for mobile phone sales"

[Belgian Health Food and Safety Brochure on Wireless Devices](#): This document discusses everything from DECT home phones to baby monitors to Bluetooth to SAR.

“Considering that baby monitors can differ so greatly, it is advisable to carefully follow the instruction manual, to place the baby set at a sufficient distance from the crib (at least 1 m) and to use the ‘voice activation’ setting, among other things.”

Flanders Belgium has website information for residents

[Flanders Environment Department](#)

- Citizens can request radiation measurements: “Do you live less than 150 meters from a transmitting antenna? Then you can request a radiation measurement free of charge.”
- Government website has [maps of antennas.](#)

Flanders Belgium Department of the Environment Website Section on “Radiation: transmitting antennas, WiFi, mobile

- [Radiation is unhealthy or not?](#)
- [FAQ on transmitting antennas and health](#)

Belgian Federal Public Service: Health, Food Chain Safety and Environment Recommends

Reducing Exposure

- [“Wireless Devices”](#) - Document describing regulation for wireless telecommunication equipment, wireless home telephones, baby monitors, wireless on the Internet, bluetooth, and comparison of SAR values
- Specific tips for Wi-Fi installations: “In order to limit the exposure, the following simple measures can be taken: Only switch on your wireless network connection when it is needed. This concerns the wifi adapter in your laptop in particular. Otherwise, your laptop tries to continually connect to the network, and that leads to unnecessary exposure and decreases the life expectancy of the batteries. Place the access point away from places where you spend lots of time.”
- [Tips for prudents use](#) - “So far, it has not been proven that the radiation from mobile phones is harmful to their users. But on the foundation of current scientific knowledge, health risks relating to long-term, frequent mobile phone use cannot be ruled out. Experts – including those on the Superior Health Council – advise everyone to limit their exposure to mobile phone radiation.”
- [Mobile phones and children](#) - “The use of the mobile phone by children is a special point of attention. Children may be more sensitive to radio waves. Children absorb twice as much radiation in the brain than adults do, and 10 times more in the bone marrow of the skull. In addition, due to the popularity of the mobile phone, the cumulative exposure of the current generation of children will be much higher by the time they reach their adulthood than that of the current adults.”
- [Electromagnetic hypersensitivity](#): This webpage contains information about complaints, the state of affairs of the scientific research and advice about what can be done in this situation.
- [Wireless on the Internet](#) “Only switch on your wireless network connection when it is needed. This concerns the wifi adapter in your laptop in particular. Otherwise, your laptop tries to continually connect to the network, and that leads to unnecessary exposure and decreases the life expectancy of the batteries. Place the access point away from places where you spend lots of time.”
- [Brochure electromagnetic fields in Dutch, French and German](#)

The Belgian Foundation Against Cancer warns that intensive use of a mobile phone can increase the risk of contracting cancer. They suggest that children younger than 12 should not use a mobile phone, and that using a mobile phone as an alarm clock is not desirable because the phone is in close proximity to the head the entire night. The Cancer Foundation also strongly advises people not to use a mobile phone in the car or a train. Read details in the [Mobile Phones Section 7: UK & International regulations](#) by Alasdair and Jean Philips.

[WHO International EMF Project Report on national activities in Belgium for 2010-2016](#)

- Details the research and legislation activities of Belgium

The Government of the Brussels Capital Region Has Maps of Cellular Antennae: A map of all the locations of antennas is [accessible online](#) with the technical data of each installation.

Spain

Several autonomous parliaments and numerous municipalities have adopted resolutions that urge the application of the precautionary principle in the field of electromagnetic pollution, e.g. by eliminating/limiting wireless networks for children, conducting health education and public awareness campaigns, avoiding the implementation of smart meters, and claiming support measures for people affected by central sensitization syndromes.

Institutional statements of some regional parliaments of the Autonomous Communities (Basque Country and Navarre) adhering to [Council of Europe Parliamentary Assembly Resolution 1815](#) (PACE) of 2011 to apply the precautionary principle in relation to EMF exposure.

[Prohibition of the installation of new high-voltage lines](#) in the vicinity of residential development areas, schools and public places.

More and more Spanish schools requests a cable internet connection, and the case of the School Solokoetxe in Bilbao has been significantly discussed in the [Basque Parliament](#) itself in 2015 with scientific advisors provided by the parents' association.

The [Basque Parliament](#)

In October 2011, the [Basque Parliament](#) in a Non-Law Motion adheres to PACE Resolution 1815 to "act accordingly ... in favor of health protection" in the field of electromagnetic waves, in particular the conducting of information and awareness campaigns "against the immoderate use of mobile phones among children".

In April 2013, a [Resolution of the Ombudsman of the Basque Country](#) recommends that the Basque Department of Education implement measures to reduce the levels of radiofrequency emission in schools.

The Parliament of Navarre

In September 2014 the [Parliament of Navarre](#) voted to adhere to PACE Resolution 1815 [The potential dangers of electromagnetic fields and their effect on the environment](#), with a resolution urging the Spanish Government and the Navarre Autonomous Community Government to implement the recommendations to apply the precautionary principle in relation to EMF exposure. News Article: ["The Parliament of Navarre urges to remove the WIFI in schools by precaution"](#)

Since 2012, various institutional declarations have been approved by municipalities and other local entities requesting the implementation of the recommendations of PACE Resolution 1815:

[Barakaldo](#), [Erretería](#), [Espartinas](#), [Hospitalet](#), [Jerez de la Frontera](#), [San Sebastián](#), [Vitoria](#), [Villa de Plentzia](#), [Cornellá de Llobregat](#), [Torrox](#), [Mula](#), [Villa de Buenavista del Norte](#), [Poio](#), [Arganda del Rey](#), [Cenizate](#), [Hospitalet](#), [Juntas generales de Guipúzcoa](#), [Villava](#),

Hospitalet City Council deactivated Wi-Fi:

In April 2014, the Hospitalet City Council [deactivated the Wi-Fi network](#) of municipal nursery schools, reducing levels in these centers below the limits required by PACE Resolution 1815. In December 2014, the head of the Hospitalet department of education [asked](#) the Department of Education of the Catalonia Autonomous Community to follow the precautionary principle to reduce EMF exposure in Catalan educational establishments.

The Vitoria-Gasteiz City Council at its plenary session in September 2015 unanimously [approved a precautionary approach with wireless](#): Citizens will be informed of the location of wireless transmitters in civic centers and municipal buildings. It is recommended that children's spaces such as playgrounds and family libraries, will be free of Wi-Fi or have decreased Wi-Fi and Wi-Fi free zones will be established in playgrounds and building entrances.

- El Mundo News Article: [“Victoria ‘cures in health’ against the wifi”](#)

Institutional motions regarding people affected by environmental pathologies

Since 2012, municipal institutional motions have been approved in support of people affected by central sensitization syndromes and / or in favor of prevention and action measures in environmental pathologies: [Vitoria-Gasteiz \(May 2012\)](#), [Pinto \(January 2014\)](#), [Jaén \(December 2014\)](#), [Sant Cugat del Vallès \(September 2014\)](#), [Tarragona \(November 2015\)](#), [Barcelona \(December 2015\)](#), [Vilanova i la Geltrú \(December 2015\)](#), [Terrassa \(January 2016\)](#), [Hospitalet de Llobregat \(March 2016\)](#), [Vilassar de Mar \(March 2016\)](#), [Montcada i Reixac \(March 2016\)](#), [Castellbisbal \(May 2016\)](#), [Badia del Vallés \(April 2016\)](#), [Arenys de Munt \(June 2016\)](#), [Durango \(February 2017\)](#).

The Tarragona City Council (Tarragona is a major city 100 kilometres south of Barcelona) at its plenary session in November 2015 unanimously approved the “Institutional Declaration of support for people with Central Sensitivity Syndromes”:

1. Carry out (with a yearly update) a diagnosis and census of those affected by CSS in the City of Tarragona, showing what is the actual situation and the specific needs of these patients and their families.
2. An intervention protocol for the staff of the Area of Services to Citizens of the Tarragona City Government to look after those with CSS- including a list of economic subsidies for food, first necessity elements, reduced water bill, and home help specific to the needs of these patients.
3. Housing protocol for people with CSS, especially those who have MCS and/or EHS, those threatened by eviction or those who are forced to leave their home. This protocol has to include a series of safe social housing (green/white spaces: free of xenobiotics and electromagnetic waves).

4. Create green/white spaces in all municipal buildings (free of xenobiotics and electromagnetic waves).
5. Eliminate, as much as possible, the use of pesticides in the whole of the municipality. In the case when this is not possible, establish a communication protocol to contact those affected and the press regarding the places and dates of the interventions with preventive advice.
6. Training for social workers and educators about CSS, its social, health and economic reality. Elaboration of information and education to increase the knowledge about these illnesses amongst the general population and of the city workers in particular, with the objective of diminishing the stigma that is now present regarding these illnesses.
7. Protocol for adapting working conditions of the municipal workers who have CSS with specific measures of support when having a flare up. These would be the measures: work schedule flexibility, encourage work from home through internet (teleworking), reserved parking spaces and include in the collective agreement not deduct the salary of the first 20 days of sick leave.
8. [Read the full article in Catalan, Spanish and English detailing the actions here.](#)
9. Blog Post: [“GOOD NEWS: FIRST RESCUE PLAN FOR PEOPLE WITH CSS”](#)

In May 2012, the Galician Association of Biologists [asks the government of the Autonomous Community of Galicia](#) to apply the precautionary principle to exposure to electromagnetic fields, specifically to protect children: Information on health EMF risks, the ban of the use of mobile phones and Wi-Fi devices in the schools and mobile phone antennas near the schools.

In May 2016, the Guipuzcoan Association of Pharmacists of (COFG) and the Guipuzcoan Association of Fibromyalgia and Chronic Fatigue Syndrome Bizi Bide signed [a collaboration agreement](#) of 284 pharmacies in Guipúzcoa to disseminate information and to raise awareness on Central Sensitization Syndromes (Fibromyalgia, Chronic Fatigue Syndrome, Multiple Chemical Sensitivity and Electrohypersensitivity).

Smart Meters

- During 2016 and 2017 motions were approved at municipal or provincial level, in Catalonia and Andalusia, against the installation of “Smart meters” (1 and 2): [Sta. Perpetua de Mogada](#) (June 2016), [Diputació de Barcelona](#) (June 2016), [Barcelona](#) (July 2016), [Masnou](#) (September 2016), Hostalet de Pierola (September 2016), [Sta. Coloma de Grallanet](#) (September 2016), [Vallirana](#) (September 2016), Sant Feliu de Guíxols (September 2016), [Celrà](#) (October 2016), [Hostalric](#) (October 2016), Sant Adrià de Besòs (October 2016), Cerdanyola del Vallès (October 2016), Diputació de Girona (November 2016), [Torrelles de Llobregat](#) (November 2016), [San Cugat del Vallés](#) (November 2016), [Hospitalet de Llobregat](#) (November 2016), [Cornellà de Llobregat](#) (November 2016), [La Llagosta](#) (November 2016), Pallejà (November 2016), Polinyà (November 2016), [Monistrol](#) (December 2016), [Rupià](#) (December 2016), [Balaguer](#) (December 2016), [Cervellçó](#) (December 2016), [Vendrell](#) (December 2016), [Esplugues de Llobregat](#) (January 2017), Molins de Rei (January 2017), Cunit (January 2017), [Sant Cebrià de Vallata](#) (January 2017), Caldes de Malavella (January 2017), Prat de Llobregat (February 2017), [Fuente Vaqueros](#) (Granada, February 2017), [Sant Boi de Llobregat](#) (February 2017), [Sant Andreu de la Barca](#) (February 2017),

[Sant Quirze del Vallès](#) (February 2017), [Mollet del Vallés](#) (March 2017), [Abrera](#) (March de 2017), [Diputación de Granada](#) (March 2017)

Since 2011, several court judgments have been approved recognizing the disability to different people affected by electrosensitivity.

- In May 2011, a judgment of the [Madrid Labour Court nº 19](#) to declare permanent incapacity (100% of his base salary) of a worker Complutense University of Madrid who suffered from chronic fatigue and environmental and electromagnetic hypersensitivity (the EHS is mentioned for the first time in Spain as cause of disability).
- In July 2016, a judgment [Nº 588/2016 of the High Court of Madrid](#) has recognized for the first time a situation of total permanent disability for the exercise of the profession of a telecommunications engineer as result of "electrosensitivity syndrome (EHS)". For the first time in Spain, the EHS condition is considered as the main cause of disability involved. "This is the first we have achieved total disability due exclusively to this syndrome," says attorney Jaume Cortés, the Col·lectiu Ronda. Lavanguardia News Article: ["A 'teleco' with electrosensitivity achieves the inability to work between wifes: The TSJ of Madrid recognizes the right to a benefit denied by the INSS"](#)
- In February 2017, the [Social Court, number 4, of Castellón](#) has issued a ruling that recognizes, for the first time, a permanent disability in the degree of great disability to a patient who suffers as a clinical picture residual multiple chemical sensitivity and electrosensitivity.
- During the last decades, Regional and municipal regulations were approved to reduce the legal exposure in their territories. Unfortunately, now, the last General Telecommunications Law (2014) eliminated the regional and municipal competences in that area.
- In November 2017 a court in Murcia acknowledged the permanent incapacity for work due to electromagnetic hypersensitivity and chemical sensitivity to a university employee of a university - by the union STERM Intersindical. Read [A judge grants an employee permanent incapacity for work due to electromagnetic hypersensitivity](#)

Sweden

"The hands-free recommendation for mobile phone calls remains even though trends of glioma incidences do not provide support for an increasing risk caused by mobile phone exposure. However, uncertainties regarding possible long-term effects justifies caution. The authorities' recommendation to limit the exposure for low frequency magnetic fields still remains, due to the conceivable correlation between this kind of fields and childhood leukemia."

[-Sweden Radiation Authority](#)

Canada

“What you should do: Limit the length of cell phone calls, Replace cell phone calls with text messages or use "hands-free" devices, Encourage children under the age of 18 to limit their cell phone usage.”

[-Health Canada](#)

In 2011 Health Canada issued “ [Practical Advice on reducing exposure](#)” which states, “the department also encourages parents to reduce their children's RF exposure from cell phones since children are typically more sensitive to a variety of environmental agents.”

[Health Canada offers Practical Advice on reducing exposure to wireless radiation](#)

1. Limit the length of cell phone calls
2. Replace cell phone calls with text, use "hands-free" devices
3. Encourage children under the age of 18 to limit their cell phone usage.

The City of Peterborough in Ontario, Canada has developed an [information sheet](#) to help organizations accommodate individuals who have electromagnetic hypersensitivity (EHS).

2015 Canadian Parliament Standing Committee on Health of the House of Commons Report: "Radio Frequency Electromagnetic Radiation and the Health of Canadians"

- [Original Report](#)
- They made 12 recommendations including an awareness campaign on reducing exposures, improved information collecting and policy measures regarding the marketing of radiation emitting devices to children under the age of 14, "in order to ensure they are aware of the health risks and how they can be avoided."

Toronto “ Prudent Avoidance Policy for Cell Towers”

- Toronto's current PA policy was adopted by the Board of Health and City Council in 2008. The Policy was first recommended by the Medical Officer of Health and adopted by the Board of Health in 1999 as a precautionary approach.
- This policy recommended that levels of exposures to radiofrequency (RF) for the general public be kept 100 times below Health Canada’s guidelines. [Read Factsheet on Policy](#)

2015 National Bill C-648 was Introduced into the House Of Commons

- An Act Respecting the Prevention of Potential Health Risks From Radiofrequency Electromagnetic Radiation” would require manufacturers of all wireless devices to place specific

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards (ET Docket No. 19–226; FCC 19–126; FRS 16618)

health warning labels clearly on packaging, or face daily penalties /fines and/or imprisonment. Although the Bill did *not pass*, it made headlines.

- [Bill C-648 Video of Bill Introduced](#)
- [Video of Press Conference Featuring Terrence Young and Frank Clegg](#)
- [Canadians For Safe Technology Press Section Website](#)

[Case Study: Measurements of Radio Frequency Exposure from Wi-Fi Devices](#)

Canadian Pediatric Association issued a Position Statement Recommending no Screen-based Activities for Children under Two

- Original Position Statement: [Healthy active living: Physical activity guidelines for children and adolescents](#)
- For healthy growth and development: screen time (eg, TV, computer, electronic games) is not recommended for children under 2 years old. For children 2-4 years, screen time should be limited to <1 h/day; less is better.

July 2008: The first policy of its kind in Canada, the Toronto Public Health Department issues Factsheet on Children and Cell Phone Use. [Factsheet PDF Memo Staff Report By Department](#)

“Children, especially pre-adolescent children, use landlines whenever possible, keeping the use of cell phones for essential purposes only, limiting the length of cell phone calls and using headsets or hands-free options, whenever possible”

Matla

Monitors RF levels and makes these publicly available. The public can request measurements “The MCA, as part of its rigorous routine audit programme, monitors the levels of EMF at various locations around Malta and Gozo. So far, all results obtained from these audits were well below the acceptable level established by ICNIRP. A summary of the EMF measurement results are publicly available and can be found [here](#). EMF measurements are also carried out, by the MCA, upon requests from the general public.”

[EMF Measurement at Malta Government Website](#)

Australia

While the government has recommended children reduce exposure in various ways over the years (watering down the verbiage substantially), the government also says that [5G is safe](#) and government reports on non-ionizing radiation [conclude](#) that “although studies have reported a range of biological effects at low levels, there has been no indication that such effects might constitute a human health hazard.”

[Mobile Phones and Health Factsheet](#) Recommends Parents Reduce Exposure to Children

“It is recommended that, due to the lack of sufficient data relating to children and their long term use of mobile phones, parents encourage their children to limit their exposure by reducing call me, by making calls where reception is good, by using hands-free devices or speaker options, or by texting.” [Mobile Phones and Health Webpage \(saved on WayBackMachine as of 2019\)](#) , [Mobile Phones and Health Factsheet](#)

The Australian Radiation Protection and Nuclear Safety Agency has issued several Factsheet on Wireless over the years and made substantial changes to these factsheets- *downgrading the concern*. They have an online [radiation survey page](#) that summarizes studies and they provide commentary.

Feb 2013 [How To Reduce Wireless Exposure Factsheet 14](#) August 2013 How To Reduce Wireless Exposure Factsheet 14

“How to Reduce exposure from mobile phones and other wireless devices.”

- Reduce the risk from WiFi devices by “keeping them at a distance, for example placing the wireless router away from where people spend time”, and “reducing the amount of time you use them”.
- ARPANSA recommends that parents encourage their children to limit their exposure stating that “It is recommended that, due to the lack of sufficient data relating to children and their long term use of mobile phones, parents encourage their children to limit their exposure.”
- by reducing call time, by making calls where reception is good, by using hands-free devices or speaker options, or by texting.”
- [Factsheet saved on WayBack Machine 9/2019](#)

Current [March 2015 How To Reduce Exposure Factsheet](#) * *Cautionary advice further minimized.*

Recommendations to parents minimized

“There is no established scientific evidence that the use of mobile phones causes any health effects. However the possibility of a small risk cannot be ruled out. There are things one can do to substantially reduce exposure. Overall, the evidence suggests that the radiofrequency (RF) electromagnetic energy (EME) emissions of mobile phone handsets are not harmful to the user. However, it’s impossible to be completely sure there isn’t some risk. This is particularly true for children where there is little research

evidence. One way to exercise caution is to reduce unnecessary exposure from your handset and to encourage your children to do this. This can be done easily. Remember, it doesn't have to be for every phone call and in an emergency there are better things to worry about."

ARPANSA still recommends that parents encourage their children to limit their exposure stating that "It is recommended that, due to the lack of sufficient data relating to children and their long term use of mobile phones, parents encourage their children to limit their exposure." [March 2015 Factsheet](#)

Italy

Italy has strict limits for RF and EMF, far lower than ICNIRP or the FCC

RF Limits Lower in Country and Lower Near Homes

- Power Density: The exposure limit is 1 W/m². Moreover, in homes, schools, playgrounds and places where people may stay for longer than 4 hours, an 'attention value' of 0.1 W/m² is applied and averaged over any 24 hour period. A 'quality goal' for new installations is identical to the attention value. [World Health Organization Country RF Limits](#)

Magnetic Fields ELF-EMF Limits Lower for Homes

- 3 microT as quality goal (precautionary "technological" goal applicable for new building/electrical installations); 10 microT as "attention value" (precautionary value not to be exceeded in residential buildings and areas where people can stay > 4 hours); 100 microT as "exposure limit" (not to be exceeded anywhere) ([See WHO](#))
- **Italian Decree of 8 July 2003** (electric and magnetic fields of power lines): [Intervention level](#) 10 microteslas (μT) for existing installations at playgrounds, flats, schools and areas where people stay 4 hours per day or more. Quality objective = 3 microteslas (μT) for new lines and for planings. There are more stringent guidelines in three regions: 0,2 microteslas (μT)

2019 Health Ministry Campaign to Reduce Radiation Exposure

Campaign Webpage ["Correct Use of Mobile Phones"](#)

Focus on EMFs from Phone

"Use your messages, speakerphone or headset on your cell phone. To reduce exposure to electromagnetic waves on your mobile phone, we recommend using messages, the speakerphone or the headset." created by the ministries of Health, Education, University and Research, the Environment [www.cellulari.salute.gov.it](#)"

- **Poster:** [Infographic on reducing cell phone radiation](#)
- **Video Information Campaign** ["Reducing Cell Phone Radiation"](#)

2019: [Municipality of Rocca di Papa, Italy voted on a Moratorium to halt 5G](#)

2019: Florence approves precautionary stance on 5G.

- “It is written that as the highest local health authority, Mayor Dario Nardella is officially committed “to elaborate an overall plan, in agreement with the competent authorities, for the installations of the 5G technology before issuing individual authorizations in view of the application of the Precautionary Principle and public health”, “carefully evaluating any authorization for 5G installations in the territory of the municipality of Florence”. [Dr. Lennart Hardells blog](#) April 8, 2019
- ["It causes damage to the body!" Florence brakes on 5G and applies the Precautionary Principle. The motion to defend health was approved with \(almost\) unanimous vote - April 5 2019](#)

2019: XII Municipality of Rome votes against 5G.

*“With 11 votes in favor and 3 abstentions, the **XII Municipality of Roma Capitale** has deliberated **against the experimentation** . A large slice of the city of Rome therefore wants to avoid fifth generation wireless, creating a '5G free' hole in the Portuense, Gianicolense and Monteverde areas up to Maccarese and Castel di Guido: “We ask the mayor to stop the 5G trial and not to raise the limit values in the threshold of electromagnetic radiation avoiding the positioning of groups of mini-millimeter microwave antennas on homes, schools, day centers, recreation centers, street lamps and more ”, is written in the approved text.”*

- This action was followed by a National Stop 5G conference in Milan, promoted by the Italian Electrosensitive Association with speakers including Dr. Fiorella Belpoggi of the Ramazzini Institute, Dr. Olle Johansson, neuroscientist at the prestigious Karolinska Institute in Stockholm and Stefano Bertone, one of the lawyers who represented the plaintiff involved in the [landmark cell phone case](#) that recognized a causal role between cell phone use and tumor development.
 - [Stop 5G Program](#)
 - [Watch Video of Conference](#)
- **News articles:**
- **March 2019: [A Municipality of Rome votes against 5G: what will the Giunta do?](#)**
- **March 2019: [“Resounding, in Rome and Trento we vote to stop 5G: they don't want it - EXCLUSIVE NEWS OASI SANA”](#)**

2019: Italian Court Orders Italian Government to Launch Awareness Campaign on Cell Phone Radiation

An Italian court has ordered the government to launch a campaign to advise the public of the health risks from mobile and cordless phones to begin by July 16. A citizens group called [APPLE](#) (Association for the Prevention of and Fight Against Electrosmog) sued to force the government to act.

- [The Regional Administrative Court for Lazio decision that Italian government must inform the public of the health risks of mobile phones](#)

Joint press release on Court decision between the Ministry of the Environment, Education and Health, January 16, 2019

- “The Lazio Regional Administrative Court, welcoming the appeal of the Association for the prevention and fight against electrosmog, asks the Ministries of Environment, Health and Education, University and Research to arrange to adopt an information campaign on correct use of mobile phones. The three ministries welcome the judicial decision, convinced of the need to raise awareness on the issue and to promote prevention measures. The ministries are already at work for the establishment of a joint table that will have the purpose of following up what has been decided by the administrative judges.”

News coverage on the court decision

- [Local news coverage from La Repubblica](#)
- [Corriere della Sera news coverage](#)
- AP Daily Journal [Court orders Italian govt to publicize cellphone risks](#)
- [APPLE's press release](#)
- [Health risks arising from mobile phone misuse: government ordered to launch information campaign](#), International Law office, May 2019
- [Cellulari, Tar del Lazio obbliga i ministeri a fare informazione su rischi connessi al loro uso: “Campagna entro 6 mesi”](#)

2019: Court orders school in Florence -the Botticelli Comprehensive Institute- to turn off the Wi-Fi to protect the health of a child.

In March 2019 a Court hearing will determine if the Wi-Fi should remain off in the school.

According to IlFattoQuotidiano News “[In Florence, the court will turn off the Wifi at school. An extraordinarily innovative act](#)” January 28, 2019

- "There is an unheard-of altera parte - reads the order notified to the school manager - that the Botticelli Comprehensive Institute removes immediately the WiFi systems in the institute".
- "Internet service can be guaranteed by the institute also through systems that do not produce electrosmog, without the use of wireless Wi-Fi", clearly pointing to the vision of the Decree 11

January 2017 issued by former Minister for the Environment Gian Luca Galletti who, on the subject of indoor pollution for the offices of the public administration, ordered the replacement of Wi-Fi with the safest wiring, ie the cable connection already provided several virtuous schools of Italy (2013 motion of the Regional Council of Piedmont, 2015 motion of the Autonomous Province of Bolzano, while the City of Brescia has then wired those in its municipality as well as, among the controversy of those who diverted the heart of the problem, in a prudential manner the mayor of Borgo Franco d'Ivrea made his classrooms electrosmog free).

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- AP Daily Journal [Court orders Italian govt to publicize cellphone risks](#)
- [APPLE's press release](#)

2018: The City Council of Bologna unanimously approved an initiative to inform the public about the health risks of cell phone and wireless radiation in light of the NTP and Ramazzini Institute studies. According to news reports the action calls for the Council to:

- Inform the public about the health risks of cell phone and wireless radiation
- Invite mayor Virginio Merola and the junta "to take action, including with the Emilia-Romagna Region, with the Ausl and the competent institutions, through appropriate communication

channels, to launch a public information campaign, so that the population citizen is aware of the risks involved in using mobile phones inappropriately. "

- Proposes to the mayor "to request a commitment in this sense also to telephone companies".
- Read June 26, 2018 News Report bologna.repubblica.it "[The telephone companies inform about the risks of the mobile phone](http://bologna.repubblica.it)": the appeal from Bologna"

2018: The Ramazzini Institute of Bologna has developed materials to share to high school students on how to reduce exposure to cell phone radiation.

2017 Decree of the Environment Minister has recommendations on reducing EMF.

Section 2.3.5.4 of the Decree recommends reducing exposure to indoor electromagnetic pollution

- **Reduce low frequency magnetic fields:** "In order to reduce as far as possible the indoor exposure to low frequency magnetic fields (ELFs) induced by electrical panels, uprights, conductor dorsals, etc." the design of the plants must provide that meters and electric panels are outside the building and take measures to reduce levels.
- **Reduce Radio frequency radiation:** Reduce as much as possible the indoor exposure to high-frequency magnetic fields (RF) equip with alternative data transfer systems to wi-fi, eg. cable connection or Powerline communication (PLC) technology.
- This was started by a Communication by ECC ([COM\(2003\) 302](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003D0302)), to European Parliament about: Integrated Product Policy: Develop the concept of "environmental lifecycle.
- [Read the 2017 Decree of the Environment Minister page 20-21.](#)
 - News on the Directive: "[Replace The WiFi Dangerous With Safer Wiring: It Is Law But No One Knows!](#)" Di Maurizio Martucci, July 11, 2017

Occupational Safety Database: National [database](#) of emission levels of equipment funded by Ministry of Health, regarding occupational exposure to physical agents including EMF www.portaleagentifisici.it The site is managed and upgraded by INAIL, in cooperation with Tuscany regional authority, and local occupational safety and prevention Departments of Siena and Modena cities. The development of the web site is absolutely relevant in the frame of public information activities, specifically designed for occupational safety.

2017: The Italian Court of Ivrea ruling recognizes causal link between cellphone use and brain tumor.

- Italian court is the first in the world to recognize this causal link in an April 11, 2017 ruling which awarded a Telecom employee, Roberto Romeo, lifetime damages of 500 euros a month after he developed a brain tumor from fifteen years of cellphone use.
- [Original Ruling](#)
- [Press Release](#) EHT
- [Cell phones and cancer, court adviser: "Scientific studies Authors work for telephone companies: conflict of interest" by Andrea Tundo \(In Italian and can be translated.\)](#)

- Documents in Italian: The Court’s expert report, the defendant’s critics and final reply from the experts: [Consulenza Ivrea Tribunale di Ivrea, Sezione Lavoro: Osservazioni CTU Romeo INAIL: Risposta CTU: Tribunale Ordinario di Ivrea:](#)
- The Guardian News Article: [“Italian court rules mobile phone use caused brain tumour”](#)
- NY Daily News Article: [“Italian Court Finds Link Between Cell Phone Use and Tumor”](#)
- Courthouse News Service Article: [“Italian Court Finds Link Between Cell Phone Use and Tumor”](#)

2016: Mayor of Borgofranco d'Ivrea ordered Wi-Fi to be turned off in schools.

“Mayor Livio Tola told the town's high school and elementary school to return to using cables to connect to the internet after reading that the electromagnetic waves given off by wireless routers were especially harmful to young children.”

- The Local News Article: [“Italian town shuts down wifi over health fears.”](#)
- Torino News Article: [“Ivrea, The Mayor Removes WiFi as it Could Be Dangerous”.](#)

2015: State Parliament of South Tyrol voted to reconfirm the precautionary principle:

The State Government was mandated:

- To replace existing wireless networks whenever possible with networks that emit less radiation at schools, preschools, hospitals, nursing homes, and other public facilities.
- Establish a working group whose mandate it is to assess these new technologies and their exposure levels. With regard to wireless communication technologies, mobile Internet access, and public health, the working group shall clarify which technologies emit less radiation and provide sustainable technology options and
- To start an education and awareness campaign that informs about possible health risks, especially regarding the unborn, infants, children, and adolescents and that develops guidelines for a safer use of cell phones, smartphones, and Wi-Fi.
- Previous Hearing at the Parliament of South Tyrol, 29 April 2015 - [“hearing on the effects of mobile radio”](#)
- Discussion at the Plenary Session: [“Mobile Communications, Refugees”](#)
- Kompetenzinitiative News Article: [“Parliament of South Tyrol Reconfirms Precautionary Principle”](#)
- [Official Resolution - “WLAN, mobile radio, radiation exposure: does the precautionary principle apply”](#)

2012 Italian Supreme Court Ruling: Man’s brain tumor was caused by his cell phone use.

- The National Institute for Workmen’s Compensation must compensate a worker with head tumor due to cell use.
- Reuters News Article - [“Italy court ruling links mobile phone use to tumor”](#)
- RT News Article - [“Cancer cells: Italian court rules ‘mobile phones can cause brain tumors’”](#)
- Daily Mail News Article - [Mobile phones CAN cause brain tumours, court rules in landmark case.](#)

Lecce, Italy, "Istituto Comprensivo Alighieri- Diaz" School banned wifi: Their two resolutions decided:

- To ban wifi in school and install a wired system for the use of internet and reject the request of the local government (Municipality) to install an antenna on the school roof for the wireless signal providing for the "Wireless city" program.
- The resolution also asks the Municipality to install the antenna at a reasonable distance from school.

The Piemonte Region Council adopted a resolution to limit EMF exposure by limiting the use of wifi in schools and be considerate to the problem of EHS people.

- Original Resolution - [“Adoption of the Precautionary Principle exposition Installations in Wireless Environments in School”](#)

The Italian Society for Preventive and Social Pediatrics has officially called to prohibit cell phones for children under 10 years old.

- Giuseppe Di Mauro, president of the Italian Society of social and preventive pediatrics [Società italiana di pediatria preventiva e sociale (www.sipps.it)] “We do not know all the consequences associated with cell phone use, but excessive use could lead to concentration and memory loss, increase in aggressiveness and sleep disturbances.” and he cites electromagnetic fields stating “The damage to health are increasingly evident”
- Il Tirreno Tuscany News Article - [“Pediatricians: Phone Alarm for Kids”](#)

2016 - Turin Mayor Chiara Appendino laid out plans “to cut back on Wi-Fi in state schools and government buildings over concerns that radiation might damage people's health”.

The Local News Report [“Turin could slash Wi-Fi over 'radiation' concerns”](#)

Republic of Korea

Mandatory SAR labeling on cell phones and portable devices: According to the [2017 WHO EMF Project update by the Republic of Korea](#) a new regulation mandates that SAR labels be affixed to devices that are used in contact with the ear of the consumer.

“The regulation for EMF rating and labelling was enforced from August 1, 2014 (MSIP Notification N o. 2015-16). The operators of radio stations should affix the labels for EMF strength rating in an appropriate place. For portable devices used in direct contact with the user’s ear, those who manufacture or import such devices should affix the labels for SAR rating, and/or display the highest SAR values appropriately.”

The government agency “Korea Radio Research Institute” has websites and videos with easy to understand and clear information on EMFs and how to reduce exposure.

- SAR levels of phones <https://www.rra.go.kr/en/sar/value.do>
- SAR limits for different countries <https://www.rra.go.kr/en/sar/standard.do>

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards
(ET Docket No. 19–226; FCC 19–126; FRS 16618)

- Click on devices to see EMF levels- ELF in home <https://www.rra.go.kr/emf2/index.do>
- Living room- <https://www.rra.go.kr/emf2/living/home/index.do#livingroomView06>
- Office <https://www.rra.go.kr/emf2/living/office/index.do#officeView02>
- School <https://www.rra.go.kr/emf2/living/school/index.do#presentationView01>

Videos on EMFS

- Educational Videos on how to reduce EMF exposure
- Children reducing cell phone radiation <https://www.youtube.com/watch?v=xH1LpnQb4VA>
- Adults reducing cell phone radiation <https://www.youtube.com/watch?v=hMGtL-dHVkA>

Public health recommendations to reduce exposure to cell phone radiation include:

“Text messaging is safer than voice calls because it moves the phone farther away from your face. It is safer to use alternating right and left sides of the face rather than talking on one side of the face. When you are asleep or when you are relaxing, the farther away the phone is from your body, the safer you are. If you use handsfree for mobile phone calls, you can reduce the amount of electromagnetic waves absorbed by your head by moving away from your phone”

The Korean [government webpage on children and EMF](#) has graphics that illustrate how to use cell phones in “safer ways” and states:

“Children and adolescents are not physically developed yet, and when you use your cell phone as a child, you are exposed to cell phone electromagnetic waves for a very long period of time and can have more impact than if you were an adult. Electromagnetic waves generated in daily life are weak and do not affect the human body. However, if exposed for a long time, it could be harmful to the human body. If you sleep with your mobile phone on your bedside, it may interfere with your sleep by ringtone, text message, beep, etc. , and cause sleep disorder. Especially for children, it is best to keep them as far away as possible because they can not take a good night's sleep due to text phone calls etc. If the base station is far away, or the environment in which radio waves are received, such as basements, becomes weaker, the intensity of the electromagnetic waves of the mobile phone becomes larger and the number of antenna reception indications of the mobile phone becomes smaller. In closed spaces such as basements, lifts, and deep mountains, the intensity of electromagnetic waves in mobile phones becomes stronger, so it is advisable to refrain from talking as much as possible.”

China

China has RF power density limits lower than ICNIRP and FCC limits. They state that these limits are science based on effects found at lower levels. ([Wu 2015](#))

RF Public Exposure Limit Lower than ICNIRP

- RF 12 V/m 900 MHz RFR V/m electric field limit. The standard also cites the precautionary principle and encourages facility and equipment owners to take effective measures to reduce public exposure.

TABLE 1

The variations of exposure limits to RF radiation in several countries.

Country/Guidelines	PD Restrictions for the General Public in W/m ²	PD Restrictions for the General Public in mW/cm ²	Frequency Range (GHz)	Basis
ICNIRP [17] (1998)	10	1	2–300	Science based
FCC [16] (1996)	10	1	1.5–100	Science based
[*] China [32] (1987)	0.1	0.01	0.3–300	Science based
Russia [33] (2003)	0.1	0.01	0.3–300	Science based
[*] Switzerland [34] and [35] (2000)	0.1	0.01	1.8–300	Precautionary
Italy [36] (2003)	0.1	0.01	0.0001– 300	Precautionary
Typical maximum exposure from cellular base station mounted on 50-m tower (assuming a total effective radiated power of 2,500 W in each sector, summed over all channels)	0.01	0.001	1–2	Example from [29]

^{*}These restrictions only apply to sensitive areas, such as school, hospital, or rooms in buildings, where they are regularly occupied by persons for prolonged periods.

Figure 4: Image from (Wu 2015)

Sri Lanka

Recommendations to reduce exposure: The Ministry of Health press release signed by Dr. Paba Palihawadana, Director of Health Education and Communication (dated October 5, 2018) informs people of the "serious risks" to the brain and the rest of nervous system in particular. The press release advises people not to keep mobile phones and electronic communication devices in the sleeping areas and to minimize their use.

According to [coverage](#) by the Daily Mirror, Dr. Ayesha Lokubalasooriya of the Sri Lankan Family Health Bureau said in a press conference that, “ long term exposure to electromagnetic waves regularly could create severe health issues” and she advised to use hands free devices (headsets, earphones) as much as possible to minimize the health issues from mobile devices.

Daily Mirror, [“Switch off mobile devices at night”](#) 10/7/2018

Hiru News, [“Risk of Cancer by Keeping Mobile Phones Near Bed”](#) 10/6/2018

Finland

2015 - Radiation and Nuclear Safety Authority (STUK) recommend reduced exposure to children

- [“Exposure can be reduced by simple means”](#) webpage recommends:
- Use a hands free device, don’t use phones reception is poor, the phone should be kept on a table or similar location instead of in the user’s pocket.
- “STUK recommends that unnecessary exposure to radiation from mobile phones be avoided. In particular, children’s unnecessary exposure should be avoided as their life-long exposure will be longer than that of those who begin using mobile phone as adults and as only scant research exists on health effects to children.”
- ["Mobile phones are a major source of radio frequency radiation"](#) webpage states:
- “The level of exposure to radiation from a mobile phone held next to user’s ear can approach the exposure limits. *Never before have humans been exposed to equally strong sources of radiation in their living environments.* Identifying any health impacts is highly important because practically everybody uses a mobile phone today.”

Israel

2020: Government Website on EMF-[TNUDA'S recommendations for children.](#)

- “It is advisable not to allow infants and toddlers to use cell phones, to minimize the exposure of children to cell phones, to consider the age of onset, to reduce exposure in the ways outlined above, notably to reduce exposure time and body distance and to reduce use.
- “It is advisable to keep the phone out of bed and / or turn it off during sleep and even consider removing it from the bedroom during the night. Regarding children: We recommend avoiding nightly use of cell phones.”

Nationwide Radiation monitoring system from broadcasting facilities

- Since 2015, the Ministry of Environmental Protection has operated a radiation monitoring system. The system consists of 17 permanent monitoring stations deployed throughout the country. The monitoring stations are deployed near cellular broadcasting stations, radio and television broadcasting stations, and some were also deployed in areas far away from broadcasting facilities. This information is distributed on the Ministry of Environmental Protection website. In 2017, the monitoring system indicated that the levels did not exceed the recommended thresholds for exposure to radiation. An analysis of the data from the monitoring system shows that exposure to radiation in 2017 increased by about 10% compared to 2016.
[Source 2017 WHO EMF Project](#)

2017: Measurements and reductions of ELF-EMF for infants in hospitals.

[According to the 2017 WHO Report-](#) Measurements of ELF-EMF were taken for incubators in neonatal units at the request of the Ministry of Health and the Ministry of Environmental Protection and they found a range from 0.05 μ T to 5 μ T. The recommendation of the Ministry of Environmental Protection is to reduce the duration of exposure as much as possible and give priority to incubators emitting low levels of magnetic field. They found efficient shielding methods, approved by the manufacturer, for mitigation of the exposure in incubators.

2017: Ministry of Education banned personal use of cell phones for teaching and educational staff during teaching hours.

[Read english translated memorandum.](#) [Read original Memo in Hebrew](#)

2018 Note* Newspaper article states “ Offer Rimon, [Head of the Technology administration in the Israeli Ministry of Education](#), said that soon, the ban on smart phones' use in schools will be removed.” Details at [No Rad For You](#). EHT will update.

Since 2013 - Israeli Ministry Of Education has issued guidelines limiting WiFi radiation in schools.

- Wireless networks banned in preschool and kindergartens.
- 1st. & 2nd. grade internet is limited to max. 3 hr. per week of internet.

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards (ET Docket No. 19–226; FCC 19–126; FRS 16618)

- 3rd grade maximum 8 hours a week.
- A hard wired direct cable connection is required if the teacher has a computer in the class.
- Recommendations for reducing magnetic fields to below 4 mG for children under 15 in schools representing the government's position that international guidelines are NOT protective of children.
- [Israeli Ministry Of Education has issued guidelines limiting WiFi radiation in schools.](#)

Note: Despite the precautionary recommendations of the Health Ministry and the statements in Education Ministry regulations for the preference of wired (not wireless) networks- the reality is that wireless is still being deployed in schools. ICNIRP limits are presented as the limit for comparison at the same time that it is stated that non-thermal effects and effects from long term exposure are possible. The *actual practice* in Israel is different than the *official stance* and this has prompted strong outcry from doctors, parents and citizens for the government to be accountable to children's health.

- [A 2016 News Report shows the complex picture](#) whereby no agency is assuming responsibility for ensuring protections. Although smartphones are banned as an educational classroom tool, the Education Ministry is still [promoting the use of digital tools](#) that are used for Smartphones, such as [Kahoot](#).

2016: Ministry of Education banned cell phones during the school day.

- [Original Summary of the Directive](#)
- A computer or tablet are approved for Pedagogical activities and smartphones are not approved until examination of the issue by the Ministry with published Instructions.
- CH10 News Report - ["NEW CEO memorandum - No use of cellphones for learning in class"](#)

2016: The Mayor of Haifa calls for the removal of Wi-fi from all schools.

Haifa Mayor Yona Yahav, said that "When there is a doubt, when it comes to our children, there is no doubt".

- "The roots of the decision go back to a 2013 petition by parents in four schools who claim that such networks are harmful. The case eventually made its way to the High Court, which has postponed a final decision on the matter...The movement has spread from Haifa to other cities as well, and petitions have been signed by parents in dozens of cities demanding the removal of the networks. Haifa is the first city to take action on the matter. Haifa Mayor Yona Yahav said that the city would replace the wireless network with a wired connection that will provide safer options to students."
- The school system has developed in house ability to ethernet connect computers in schools, however *in practice*, a few schools are choosing to continue to use wireless despite the ability to be fully hardwired but access is limited.
- [Video of Lecture by Reuven Kurman, BSc, MBA](#), Chief Information Officer, Education Department of Haifa, Israel "What Can be Done" - Reducing Exposure to Children in Schools and at City Level [PDF of Kurman January 2017 IIAS Presentation](#)
- Haifa & Haifa News Report - ["The Wi-Fi in kindergartens and schools in Haifa severed."](#)

- Hamodia News Report - [“Haifa to Shut School Wireless Networks.”](#)

Government radiation monitoring system from broadcasting facilities

- The Ministry of Environmental Protection operates a radiation monitoring system. The system consists of 17 permanent monitoring stations deployed throughout the country. The monitoring stations were deployed near cellular broadcasting stations, radio and television broadcasting stations, and some were also deployed in areas far away from broadcasting facilities (above 300m from base stations and above 5km from radio and television broadcasting stations). This information is distributed on the Ministry of Environmental Protection website. In 2017, the monitoring system indicated that the levels did not exceed the recommended thresholds for exposure to radiation. An analysis of the data from the monitoring system shows that exposure to radiation in 2017 increased by about 10% compared to 2016.

Croatia

Ministry of Health Information on Reducing EMF

The Ministry of Health maintains a dedicated web page, and communicates with concerned citizens. In addition, two downloadable brochures for the public were published in 2016: a descriptive brochure explaining the EMF protection principles, and a Q&A brochure.

- [Croatia: Non-ionizing electromagnetic radiation The most common questions and answers](#)
- Croatia: [EMF Protection Principles](#) (PDF on EHT website)
- Regulations in the field of protection against electromagnetic fields in the Republic of Croatia
- Regular monitoring of EMF from antennas: The owner of the electromagnetic field source is obliged to provide a new measurement of the electromagnetic field levels every three years and submit the results to the Ministry of Health.

The Ministry has a [webpage](#) hosting an educational video to educate families on how to reduce radiation from the cell phone. [EDUKATIVNI VIDEO](#)

Lower RF in Sensitive Areas

“Residential and commercial buildings, schools, maternity hospitals and hospitals are in the area of increased sensitivity and, as such, when measuring the radiation of electromagnetic field sources, they must meet the set requirements for the area of increased sensitivity

[-Communication of the Ministry of Health with the population of the Republic of Croatia regarding the influence of electromagnetic fields on human health](#)

[Brochure on Non-ionizing electromagnetic radiation](#)

The need to promote preventative measures is recommended especially for children and young people. It is strongly recommended that:

- Avoiding excessive use of mobile devices (especially during intense growth and development),
- Avoiding sleeping next to the devices that are the source electromagnetic fields,
- Avoid carrying such devices on a continuous basis,
- Use of headphones while making calls,
- Communicate by text message instead of telephone conversations when possible

Bulgaria

Regular 24 hour monitoring of electromagnetic radiation levels in the country.

The 28 Regional Health Inspectorates (RHI) are involved in the process of measurement and exposure assessment of EMF exposure in residential areas. Special instruction from the Ministry of Health to perform annual monitoring of 10% (annually) of the registered base station in the region, in “sensitive” areas around schools and kindergarten, and in response to complaints of citizens. They also provide 24-hour monitoring by setting monitoring stations to collect real-time exposure data for the selected location. [Read details in the WHO EMF June 2018 Report.](#) [Also read the 2019 WHO Report](#)

In 2012- Proposed changes in health law Council Recommendation of the Limitation of Exposure to the General Population EC/1999/519 is still in a stage of implementation in Bulgaria (probably June 2013).

“Two differentiated zones of exposure to the population are defined in the following matter:

- “First zone (short-term stay) sets regions where only short-term human stay is possible: hard-to-access areas, slope roofs of residential buildings.
- Second zone (access area) sets regions where temporary and/or periodical human stay is possible, as: agricultural lands, accessible roofs of residential buildings, residence areas, streets, electric transport.
- Precautionary sub zone is a part of the second zone, and it sets “sensitive” in relation to risk perception regions defined as sites for public purposes: for recreation and leisure, recreation parks, health recreation facilities, facilities for elderly people, rehabilitation and social re-adaptation establishments, children centers, schools, kindergartens, healthcare establishments. This sub zone is defined only for exposure to base stations in the frequency range 850 to 2150 MHz.”

- For the first zone the ICNIRP exposure limits – basic restrictions and reference levels for the frequency range > 0 Hz to 300 GHz are accepted.
- For the second zone the strategy is to keep the actual exposure limits that are in use in Bulgaria. It means frequencies from 30 kHz to 30 GHz.
- For the precautionary sub zone the proposal for the limit has been proposed by the population, and it is 1 $\mu\text{W}/\text{cm}^2$ (0.01 W/m²). It is clear that this decision is political.
- There is a legal procedure for implementing of sources of radiation emitting in residential areas that every owner should pass. It includes calculation of safety zone around the source corresponding to the accepted limits, and spot measurements for control of the emission. The main health inspector gives the permission for construction or mounting the equipment.”

Switzerland

Radiofrequency radiation limits are much stricter than ICNIRP or FCC limits. Even with the strong push for 5G in 2019, Switzerland refused to weaken their radiofrequency radiation limits: A [parliamentary motion](#) demanding a weakening of the precautionary emission limitations for mobile phone base stations has been rejected by the Swiss Parliament after they convened experts to develop a report. Therefore the precautionary installation limit values in the ONIR remain at 4-6 V/m for this type of installation.

Reuters covered this action ["Swiss maintain 5G emission standards amid safety concerns"](#)

- "The Swiss government will keep current safety standards for fifth-generation (5G) mobile frequency emissions, it said on Wednesday, settling a debate that has delayed the rollout of the new technology."
- "Concerns about the potential health impact of 5G emissions have flared in Switzerland, where just over half of people fear that radiation from mobile antennas may be dangerous, a government report last year found."
- "The Federal Council (cabinet) wants to maintain for the time being the applicable (emission) limits to protect the population from non-ionizing radiation," it said in a statement."

Swiss expert group on electromagnetic fields and non-ionising radiation (BERENIS)

- In Switzerland, the Federal Office for the Environment (FOEN) is the responsible government body for monitoring and assessing research on health effects of non-ionising radiation (NIR) from stationary sources in the environment. The FOEN has nominated *BERENIS - Swiss expert group on electromagnetic fields and non-ionising radiation*- a consultative group of Swiss experts from various disciplines with scientific expertise regarding electromagnetic fields. The BERENIS

experts regularly screen the scientific literature, and assess the publications which they consider relevant for the protection of humans from potentially adverse effects.

- [Regular BERENIS Newsletter and Scientific Updates](#)
- 2019 [Report "Mobile Radio and Radiation" by the working group on Mobile Radio and Radiation](#)

Regarding 5G, in 2019 several regions voted against the rollout and the country is going to monitor EMF levels.

News stories

- [Switzerland to measure RFR levels and monitor potential health risks posed by 5G networks](#)
- [Switzerland will monitor the risks arising from the 5G's radiations](#)
- Switzerland, Geneva, Canton of Vaud, [Geneva stops construction of 5G antennas](#), 20 Minutes Switzerland, 11/04/2019
- Switzerland, Cantons of Geneva, Vaud, and Neuchatel, [Switzerland blocks the deployment of 5G telephony until its security is demonstrated](#), ABC Society, 14/04/2019
- Switzerland, Canton of Vaud, [Swiss canton blocks 5G mobile rollout](#), le News Switzerland, 11/04/2019

Germany

The Federal Office for Radiation Protection (FORP) Website provides precautionary advice and tips for reducing radiation exposure to smartphones, tablets and wireless devices stating, “Since long term effects could not be sufficiently examined up to now the Federal Office for Radiation Protection (BfS) recommends to keep exposures to these fields as low as reasonably achievable.”

- [“Electromagnetic Fields” FORP Website](#) ”
- “There are uncertainties in the risk assessment that the German mobile communications research programme has not been able to remove completely. These include in particular: possible health risks of the long-term exposure of adults to high [frequency](#) electromagnetic fields when making mobile telephone calls (intensive mobile use over more than 10 years) & the question of whether the use of mobile phones by children could have an effect on health. For these reasons, the BfS continues to consider that precautionary measures are necessary: exposure to electromagnetic fields should be as low as possible.”
- [“Smartphones and tablets – tips to reduce radiation exposure”](#) Website - which recommends: “It is particularly important to minimise children’s exposure to radiation. They are still developing and could therefore react more sensitively in terms of health.”
- [“Bundesamt warns schools against WLAN networks”](#) - The FORP recommends landline phone instead of mobile phone base stations and that schools should not connect wirelessly to the internet.
- [FORP Public Education Poster “Less radiation when Telephoning”](#)

[The German Federal Ministry](#) for Radiation Protection: Read the [German Parliament 2007 document](#) which states, “supplementary precautionary measures such as wired cable alternatives are to be preferred to the WLAN system.”

Law states that ELF should be minimized, especially where people and children live, play and learn.

The 26th Ordinance for the implementation of the Federal [Immission](#) Protection Act applies (reference values according to EU Council Recommendation).

- For certain power supply and railway installations, it applies that Reference values must not be exceeded under maximum load, short-term (5 per cent of the day) and small-[scale](#) exceedances by twice the reference value, remain out of consideration
- **Precautionary measures: Emissions are to be minimised.**
- No exceedance of reference values in the vicinity of flats, hospitals, schools, kindergartens, day nurseries, playgrounds or similar institutions. When constructing new maximum voltage transmission lines (>220 kV, 50 Hz): no construction of power lines over buildings and parts of buildings designed for permanent stay.
- [Ordinance on Electromagnetic Fields \(Verordnung über elektromagnetische Felder – 26. BImSchV\) of 14 August 2013](#)
 - When erecting or significantly altering low frequency installations and direct current installations, the possibilities shall be exhausted to minimise the generated electric magnetic and electromagnetic fields.
Low frequency installations for transmission of electricity with a frequency of 50 Hz and a rated voltage of 220 Kilovolt and more which are erected in a new path may not be erected over buildings or parts of buildings intended for the long-term presence of humans.”

Bavaria - The State Ministry of Education and Cultural Affairs

- [2007 Decision of the Bavarian Parliament - Protecting Children at School from Radiation Exposures Final Report](#)
- “For precautionary reasons the Federal Office for Radiation Protection recommends for schools that if a wireless network is used to place its components in suitable locations and to prefer the use of wired network solutions whenever possible.” In 2007 Parliament recommendation to all schools to not install wireless LAN networks.

Frankfurt’s Schools Banish Wireless Networks

- The Local Education Authority did not wish to conduct a “large scale human experiment,” said Michael Damian, spokesperson of the Head of the School Department Jutta Ebeling. “In Frankfurt’s schools, there will be no wireless networks in the short or mid-term.
- Omega News Article - [“WLAN is to be banished from the school sphere”](#)

2013: Four German Federal Agencies issued a guidebook recommending reducing cell phones and Wi-Fi to young children

- ["Parenting Guide: Environmental and Child Health"](#) by the Federal Office for Radiation Protection (BfS), the Federal Institute for Risk Assessment (BfR), the Robert Koch Institute (RKI) and the Federal Environmental Agency (UBA). It contains practical information including reducing electromagnetic radiation from baby monitors and telephones: Baby monitors should be as far as possible away from the crib. Phones should be banished from the nursery. They are not suitable toys for infants and toddlers. Use of cabled landline phones is preferable. Wi-Fi routers are not suitable in children's bedrooms, and should be switched off when not in use, especially at night.
- Umwelt Bundesamt News Article - ["Nothing for children's sorts: Thick air in school and home: Federal authorities publish comprehensive advice on children's health"](#)

Austria

The Federal Ministry of Transport, Innovation and Technology in cooperation with the Federal Ministry for Transport, Innovation and Technology, the Broadcasting and Telecom Regulatory GmbH and the Mobile Communication Forum [has a website](#) where people can see radiofrequency emissions measurements.

Information on How to Reduce Exposure Health Effects of Electromagnetic Fields at the Homepage of the Federal Ministry of Health and Women's Affairs.

- [Brochure on How to Reduce Exposure](#)
- [Report and Recommendations of the Supreme Medical Council](#)

Federal Law Gazette No. BGBl. II No. 179/2016 on EMFs:

["Ordinance of the Federal Minister of Labor, Social Affairs and Consumer Protection, which enacts the Ordinance on the Protection of Workers against the Effects of Electromagnetic Fields \(Electromagnetic Fields Regulation - VEMF\) and with which the Ordinance on Health and Safety at Work 2014 and the regulation on employment prohibitions and restrictions on juveniles is amended"](#)

- Employers must identify and assess worker exposure to electromagnetic fields with professional assessments and measurements. The evaluation should include the nature, extent, duration and frequency or wavelength spectrum of exposure to electromagnetic fields, taking into account multiple sources of electromagnetic fields with multiple frequencies, the action values for particularly vulnerable workers, and the information provided by manufacturers, distributors or the operating instructions (in particular information on the correct use, maintenance and marking of work equipment) and published information such as scientific findings.
- Measures must be adapted to the needs of particularly vulnerable workers, such as when an employee has a medical implant or a body-worn medical device.

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards (ET Docket No. 19–226; FCC 19–126; FRS 16618)

- Hazards of electromagnetic fields must be minimized to the extent possible. In order to keep electromagnetic fields as low as possible, employers must comply with the principles of hazard prevention. When developing measures to address EMFs particularly vulnerable workers shall be considered.
- Work equipment and work processes that cause electromagnetic fields at workplaces shall be designed or performed in such a way that the level of exposure is reduced as much as possible.
- The workplace evaluation must be updated regularly.
- At the request of the employer, the employee must provide evidence of EMF measurement documentation.
- AUVA [EMF Brochure for Evaluating Worker/Office Spaces](#)

Austria's [Scientific Advisory Board for Radio Frequency](#)

Austria's Highest Health Council of the Ministry of Health Advises to Reduce Exposure to Cell Phone Radiation:

Brochure states that since the long term research is still not completed, it is advisable to take simple precautions to reduce exposure.

- [2017- Original Brochure](#)
- [WHO Report on Austria's EMF activities and research studies](#)

Austrian Workers Compensation Board

The Austrian workers compensation board (AUVA) recommends reducing exposure to EMF and cell phone radiation. AUVA provides support for employers to adequately implement the requirements of legislation on EMFs. In addition, information is provided on the website along with reports and brochures.

- [AUVA Homepage on EMFs](#)
- [10 Tips to Reduce Exposure to Cell Phone Radiation \(AUVA\)](#)
- [Reports on Electromagnetic Radiation by AUVA](#)
- [EMF Brochure for Evaluating Worker/Office Spaces](#)

Salzberg Public Health Department Advises Against Wi-Fi in Schools

- [Original Letter](#)
- "The official advice of the Public Health Department of the Salzburg Region is not to use WLAN and DECT in Schools or Kindergartens." - Gerd Oberfeld, MD.
- The public health department of Salzburg (Landessanitätsdirektion) also recommends to evaluate mobile phone base station exposures based on the [EUROPAEM EMF Guideline 2016](#)
- [Lists Electrosmog studies](#) highlighting the EUROPAEM EMF guideline 2016 as representing the current state of medical science that it is used by the Landessanitätsdirektion Salzburg for the health assessment of EMF.

Salzburg Department of Health Publications

- Salzburg ElectroSmog Report (German)
- [Salzburg ElectroSmog Report “Suggestions for minimization - What everyone can do for themselves Electrostress in everyday life Make good use of technology”](#)
- [electromagnetic pollution reduction](#)
- [Guide Elektrostress in everyday life](#)
- [Digital media in the classroom](#)
- [New media and health](#)
- [Media consumption and mobile radio radiation](#)

Salzburg Department of Health developed a School Curriculum Kit for elementary school children.

“The School Kit (Schulkoffer) was developed by the public health office of the land Salzburg under the direction of Dr. Gerd Oberfeld and in collaboration with educators. It aims to help educators work on the subject with students through games and experiences that make the invisible electrosmog visible, audible and liveable. Possible effects on health and how to maintain a healthy environment should also be discussed. The Target group consists of educators and children and adolescents from 3TH TO 6th year.” [Regionnews.at news report on the curriculum “Salzburg: -Schulkoffer Elektrosmog- clarifies”](#)

[The Vienna Medical Association issued cell phone safety guidelines](#)

- Guidelines state that cell phones should be used for as short of a time as possible and that children under 16 should not use cell phones at all. They also state that “wireless LAN leads to high microwave exposure”.
- Ten Cell Phone Guidelines:
 1. Make calls as short and little as possible - use a landline or write SMS. Children and teenagers under 16 years old should carry cell phones *only for emergencies!*
 2. Distance is your friend- Keep the phone away from body during connection of Phone. Pay attention to the manufacturer's safer distance recommendation in the manual, keep a distance during the call set-up from the head and body. Take advantage of the built-in speakerphone or a headset!
 3. When using headsets or integrated hands-free, do not position mobile phones directly on the body - special caution applies here for pregnant women. For men, mobile phones are a risk to fertility if Mobile is stowed in Trouser pockets. Persons with electronic implants (pacemakers, insulin pumps et cetera) must pay attention to distance. Unless otherwise possible, use coat pocket, backpack or purse.
 4. Not in vehicles (car, bus, train) calls - without an external antenna, the radiation in the vehicle is higher. In addition, you will be distracted and you bother in public transport the other passengers!

5. During the car when driving should be an absolute ban on SMS and internetworking - the distraction leads to self-endangerment and endangering other road users!
 6. Make calls at home and at work via the fixed corded (not wireless) network - Internet access via LAN cable (eg via ADSL, VDSL, fiber optic) no Radiation, is fast and secure data transfer. Constant radiation emitters like DECT cordless telephones, WLAN access points, data sticks and LTE Home base stations (Box, Cube etc.) should be avoided!
 7. Go offline more often or use Airplane mode - Remember that for functions such as listening to music, camera, alarm clock, calculator or offline games an internet connection is not always required!
 8. Fewer apps means less radiation - Minimize the number of apps and disable the most unnecessary background services on your smartphone. Disabling "Mobile services" / "data network mode" turns the smartphone again into a cell phone. You can still be reached, but avoid a lot of unnecessary radiation by background traffic!
 9. Avoid Mobile phone calls in places with poor reception (basement, elevator etc) as it increases transmission power. Use in poor reception Area a headset or the speakerphone!
 10. For buyers of mobile phones, Look out for a very low SAR value and an external antenna connection!
- [Press Release - "EMF guideline propagates precautionary principle for electromagnetic fields"](#)
 - [Translated Poster with Tips](#)

Guideline of the Austrian Medical Association for the diagnosis and treatment of EMF related health problems and illnesses (EMF syndrome)

- [Original Guidelines](#)
- The Austrian Medical Association has developed a guideline for differential diagnosis and treatment of health problems associated with outdoor and indoor electrosmog.

India

2012 - The Ministry of Communications and Information Technology issued new EMF guidelines with new Exposure Limits *lowered to 1/10 of the ICNIRP level, and SAR labeling on phones.*

"Keeping the precautionary EMF safe exposure limits for the Radio Frequency Field (Base Station Emissions) as 1/10th of the safe limits prescribed by ICNIRP for all areas in India, eliminates the need for fixing lower limits for specific areas like schools, hospitals, residential premises, children playgrounds; a segregation of which is impractical in densely populated localities." <http://www.dot.gov.in/journey-emf>

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards (ET Docket No. 19–226; FCC 19–126; FRS 16618)

- [Official Guidelines](#)
- India Government Precautionary Guidelines for mobile users:
 1. Keep distance – Hold the cell phone away from body to the extent possible.
 2. Use a headset (wired or Bluetooth) to keep the handset away from your head.
 3. Do not press the phone handset against your head. Radio Frequency (RF) energy is inversely proportional to the square of the distance from the source -- being very close increases energy absorption much more.
 4. Limit the length of mobile calls.
 5. Use text as compared to voice wherever possible.
 6. Put the cell phone on speaker mode.
 7. If the radio signal is weak, a mobile phone will increase its transmission power. Find a strong signal and avoid movement – Use your phone where reception is good.
 8. Metal & water are good conductors of radio waves so avoid using a mobile phone while wearing metal-framed glasses or having wet hair.
 9. Let the call connect before putting the handset on your ear or start speaking and listening – A mobile phone first makes the communication at higher power and then reduces power to an adequate level. More power is radiated during call connecting time.
 10. If you have a choice, use a landline (wired) phone, not a mobile phone.
 11. When your phone is ON, don't carry it in chest/breast or pants pocket. When a mobile phone is ON, it automatically transmits at high power every one or two minutes to check (poll) the network.
 12. Reduce mobile phone use by children as a younger person will likely have a longer lifetime exposure to radiation from cell phones.
 13. People having active medical implants should preferably keep the cell phone at least 15 cm away from the implant.

The India Ministry of Communications and Information Technology has an [EMF webpage](#) with EMF information.

Public Information on Environmental Levels from Base Stations:

The India Department of Telecom has a web portal for mobile tower compliance called Tarang Sanchar.

- The site contains data from 12.5 lakh base transceiver stations (BTS), and allows users to view tower-specific details such as the operator, the supporting technology (2G/3G/4G) and radiation compliance.
- [Tarang Sanchar website](#)

Cell Towers Removed Near Schools in India Localities

2018: State of Karnataka drafts policy to limit cell towers near schools and homes and hospitals. Read news article "[Mangaluru: Actress Juhi Chawla appreciates state's new mobile tower policy](#)" and TV debate on the new policy [Are cell phone towers safe? | The Urban Debate With Faye D'Souza](#).

- "These towers should be at a minimum distance of 50 meters from schools, hospitals and places of worship. Silent generator needs to be installed. The towers which are already existing also have to implement all the rules mentioned in the policy. Before installing these towers on the house or buildings a certificate needs to be issued by the structural engineer with regards to the strength of that particular building."

2016: Brihanmumbai Municipal Corporation bans mobile towers at parks, playgrounds

"The Brihanmumbai Municipal Corporation (BMC) in its new policy on regularising mobile towers, has said such towers won't be allowed on plots reserved for playgrounds, recreational grounds, gardens and parks." Hindustan Times News Article - ["Brihanmumbai Municipal Corporation \(BMC\) bans mobile towers at parks, playgrounds"](#)

2015: [Zilla Parishad](#) orders removal of all cellphone towers within a 50-metre radius to schools citing exposure to "harmful radiation". Kantilal Umap, chief executive officer of Pune Zilla Parishad, said, "We will survey the cellphone towers in all the grampanchayat limits in the district. Notices will be sent to unauthorised towers and those falling within a 50-metre radius from a school's premises. They will have to be moved to another location." [Read Times of India News January 6 2015 article Zilla Parishad orders removal of cellphone towers near schools in district](#)

2013: State of Rajasthan: Supreme Court of India upheld the 2012 High Court of the State of Rajasthan decision to remove all cell towers from the vicinity of schools, hospitals and playgrounds because of radiation "hazardous to life."

- Two hundred and four mobile towers installed on the school premises of Rajasthan have been removed in compliance.
- Economic Times News Article - ["Rajasthan HC orders relocation of mobile towers from schools, hospitals"](#)

2013 Mumbai Policy to Prohibit Mobile Towers in Educational Institutions

In August 2013 the city of Mumbai, prohibited cell towers within 100 meters of schools, colleges, orphanages, child rehabilitation centers, and old age homes. It ordered that existing antennas on schools, colleges and hospitals be removed. It also prohibited the installation of antennas on residential rooftops without the consent of every person on the top floor, as well as the consent of 70% of the people in the rest of the building. And it began the process of dismantling 3,200 illegal rooftop towers.

[Policy: REVISED DRAFT POLICY GUIDELINES FOR INSTALLATION OF MOBILE TOWERS IN THE CITY OF MUMBAI first developed in January 2013.](#)

[Read the Indian Express article “State approves policy ban on installation near schools”](#)

[Indian Council of Medical Research](#) Continues research on EMFs:

- [“Short Report on the Indian Studies”](#) - Document prepared by Dr. Sharma, Sr. Deputy Director of the Indian Council of Medical Research on Indian Research Studies.
- [ICMR to study effect of cellphone on public health:](#)
- *“ICMR, the apex government body for biomedical research in the country, has embarked on an ambitious five-year study to measure the effect of [radiation](#) from cellphones and cellphone towers on human health and has asked for healthy volunteers in the age group 18-45 years.”*
- *“Though a review of international scientific data has not established conclusive evidence on the safety or risk of RFR emitted from cellphones and towers, a growing body of scientific evidences indicate the adverse health effects of RFR, which may be possible if not probable, said the ICMR.”*
- *“[Diseases](#) that may have potential links to the cellphone [radiation](#) are brain tumour, Alzheimer's, Parkinson's, cardiovascular disorder, ENT impairment, electromagnetic hypersensitivity syndrome, genotoxic effect, infertility, anxiety, sleepiness, [poor appetite](#) and headache, it said.”*

2014 Report: [Information paper On Effects of Electromagnetic Field Radiation from Mobile Towers and Handsets 30th by the Telecom Regulatory Authority of India.](#)

- This paper contains a write-up on sources of exposure, effects of Electro-magnetic (EM) exposure on humans, absorption of energy from EM fields and International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines, information on various studies published on effects of EMF radiations and stands taken by various individuals/ bodies.

Department of Telecom, Government of India

- ["Ensuring Safety from Radiations: Mobile Towers and Handsets"](#) - Graphic including precautionary guidelines for mobile phones [In English](#) [In Hindi](#)

2011 Ministry of Environment and Forest Study on the Impact of Communication Towers

- [“Report on Possible Impacts of Communication Towers on Wildlife Including Birds and Bees”](#)
- *“The review of existing literature shows that the Electro Magnetic Radiations (EMRs) are interfering with the biological systems in more ways than one. There had already been some warning bells sounded in the case of bees and birds, which probably heralds the seriousness of this issue and indicates the vulnerability of other species as well.”*

Celebrity Advocates Raising Awareness

- Juhi Chawla - who has won multiple awards for her work has taken on the issue of EMF's and received the Indira Gandhi Award for her efforts in raising awareness: [Global Awards 2016](#), [Indira Gandhi Memorial Awards](#), [Full Speech at Gandhi Awards](#), [2011 Lecture](#), [Do's and don'ts for using cellphone safely by Juhi Chawla](#)

Video Lecture: A Review of epidemiology and toxicology: Dr. R.S Sharma, Dr. Devra Davis and special guest Dr. George Carlo at George Washington University – The Milken Institute School of Public Health

In a 2015 lecture at George Washington University, Dr. R.S. Sharma, Indian government Senior Deputy Director General & Scientist of the Indian Council of Medical Research, reviewed the research showing genetic damage and health effects from wireless exposures which are informing India's new telecommunications policy. He describes how the government is supporting efforts to reduce exposures.

Slides from Dr. Sharma's presentation can be found [here](#).

News Stories

[Government sets up laboratory at TEC for testing radiation level of mobile phone](#)

[Youtube Video on India Government Changes on Cell Towers and Cell Phones](#)

Bangladesh

September 2019: Guidelines to minimize exposure. Authorities not to install any mobile phone tower on rooftops of residences, schools, colleges, playing fields, populated areas and heritage areas. Those installed earlier in such areas were asked to be removed.

9/2019 News Report: [BTRC finalises guidelines to curb mobile tower radiation](#)

"The High Court on April 25, 2019 directed the telecom regulator to do a thorough study within the next four months to measure the impact of radiation from telecom towers on citizens' health and environment. In a final verdict on a seven-year-old writ petition, the HC bench, comprising Justice Syed Refaat Ahmed and Justice Md Iqbal Kabir, came up with the directive.

The bench directed the authorities concerned not to install any mobile phone tower on rooftops of residences, schools, colleges, playing fields, populated areas and heritage areas. Those installed earlier in such areas were asked to be removed."

April 2019: Court Directive on Cell Tower Radiation

According to news reports in [Bangladesh, a High Court \(HC\) has issued an 11-point directive to protect public health and environment from cell tower radiation.](#)

THE 11-POINT DIRECTIVE

1. The radiation level of the mobile phone tower must be reduced to 1 percent from the permissible level of 10 percent;
2. Remove the mobile phone towers installed on the rooftop of homes, schools, colleges, hospitals, clinics, jails, playgrounds, populated areas, heritage and archaeological sites and no more installations on those places;
3. Take security measures to control higher level of radiations;
4. Check whether there is any obstacle in acquiring land or take alternate measures in order to installation of towers;
5. Follow the radiation levels in line with the BTRC, International Telecommunication Union or ITU and International Electrotechnical Commission or IEC standards;
6. Replace over-radiated towers with new ones;
7. Hold the BTRC accountable for tower verification and monitoring tests;
8. Form a BTRC monitoring cell to control health risks;
9. The BTRC will form an alternative dispute resolution committee and will ask the license holders to submit progress report every 6 months;
10. Specific absorption rate or SAR value should be showed on mobile set so that it can be visible;
11. Monitor every report and record submitted by the license holders concerned up to five years.

News Reports

2019 April 25, [High Court orders BTRC to report on mobile phone tower radiation](#), BDNews24.com

October 2019 [HC's full verdict removing mobile towers from sensitive places](#)

French Polynesia

2016 Legislation To Protect The Public and Reduce Exposure

Legislation the country adopted in 2016 prohibits advertising of cell phones to children under 14, prohibits advertising cell phones without showing how to minimize radiation exposure to the head, prohibits wireless in nursery schools, limits wireless in primary schools and reduces exposures to workers.

Summary of the [Law 2016-41 / APF December 8, 2016 on Electromagnetic Radiation](#)

- Prohibition of advertising that promotes the sale or use of a cell phone to children under fourteen years old. Advertising should clearly and legibly show the limiting of exposure to the head. An offender is liable to a fine not exceeding 8,900,000 F CFP.

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards (ET Docket No. 19–226; FCC 19–126; FRS 16618)

- Cell phones may not be marketed without an accessory that limits exposure to the head.
- Recommendations to limit head exposure and SAR levels should be readable and intelligible.
- Wireless is prohibited in nursery schools and spaces dedicated to “reception, rest and activities of children under three years of age.”
- Wireless should be turned to OFF in primary school unless specifically in use for digital activities.
- The government is implementing measurement and monitoring of levels of public exposure to electromagnetic fields throughout the country of French Polynesia.

2017 Public Awareness Campaign

French Polynesia has launched a major public awareness campaign to raise awareness about how to reduce exposure to the electromagnetic radiation from electronics, cell phones, and wireless devices as part of the country’s new law to reduce citizens’ exposures to electromagnetic radiation exposure.

The multimedia campaign of the French Polynesia Directorate-General for the Digital Economy (DGEN) includes video and graphics promoted on television, radio, and social networking platforms.

A “Best Practices Guide” provides specific recommendations to reduce electromagnetic radiation in order to “protect children and youth.”

Summary of Recommendations to Reduce Wireless Radiofrequency Electromagnetic Radiation ([Best Practices Guide](#))

- Children under 15 are advised to not use cell phones.
- Distance the phone away from the head.
- Make voice calls with a headset to reduce exposure to the brain.
- Move the mobile device away from electronic implants (pacemaker, Insulin pump, neuro-stimulator, etc.). A mobile device near the implantation area may interfere with the operation of a medical device.
- Do not call in areas of bad reception.
- Avoid carrying your phone in your pants pocket.
- Prefer texting SMS instead of voice calls.
- The base of the home cordless phone emits radiation constantly, so keep it at a distance and use loudspeaker.
- When indoors, prefer to connect to networks outside the building by using your device near a window.
- Distance the phone away from the head after dialing, as wave emission can be the strongest at that time.
- Avoid calling during high-speed travel (in cars or other vehicles) as the phone must emit at full-power to connect successively with different antennas to maintain the connection.

- Place yourself at least 1.50 m from your Wi-Fi box or router, and turn it off overnight. If you are ready to part with it, opt for cable (ethernet) connections (with Wi-Fi capability turned off) or very high-speed fiber optic if possible.

Summary of French Polynesia Recommendations to Reduce ELF Electromagnetic Radiation

- Do not charge your mobile phone near the bed, distance it as far away as possible.
- Maximize distance from the front of the television or computer monitor.
- Have a professional check home electrical wiring.
- Turn off electricity where no device or appliance is in use.
- Place the wireless baby monitor at least 2 meters (about 6.5 feet) distance from the baby and never in the crib or bed.
- Buy a new microwave oven every five years. Always distance yourself and others at least 1 meter away from the oven and unplug the oven when not using it.
- Distance yourself and others at least 1 to 1.5 meters (3 to 4.5 feet) away from induction stovetop or any appliance capable of generating electromagnetic waves such as your refrigerator.
- Install the electrical panel and large electrical equipment away from rooms and living areas.
- Turn off electrical appliances (by switching off power) when they are not in use, rather than putting them to sleep. This is also a gesture in favor of the environment and your budget.

Workplace Environment

- Suppression or reduction of risk:
Select equipment or processes that emit less intense electromagnetic fields, taking account of the work to be carried out. Use other working methods leading to less exposure to electromagnetic fields.
- Collective protection:
Establish technical or organizational measures to reduce the emission of electromagnetic fields (shielding, distance, locking, etc.).
- Access control:
Places where the electromagnetic field exceeds regulatory thresholds must be marked, labeled, barred, or marked on the ground in order to limit or control access.

DGEN's video "Electromagnetic Waves: Good Practices" visually depicts how common household electronics – such as a Wi-Fi router, video game console, and wireless baby monitor – emit microwave electromagnetic radiation like cell phone emissions. The campaign also addresses the electromagnetic radiation from electricity-powered alarm clocks and appliances.

All multimedia resources are officially provided in both French and Tahitian.

Public Education Video "Good Practices with Electromagnetic Waves"

[DGEN Website on Best Practices For Electromagnetic Waves French](#)

[DGEN Website on Best Practices For Electromagnetic Wave Tahitian](#)

[Watch Public Education Video in French](#)

[Watch Public Education Video in Tahitian](#)

[Watch Public Education Video English Translated by Environmental Health Trust](#)

[Download Best Practices Brochure in French.pdf](#)

[Download Best Practices Brochure in Tahitian Te rará 'ume uira, nāhea e ārai.pdf](#)

[Download the Campaign Poster in French.pdf](#)

[Download the Campaign Poster in Tahitian.pdf](#)

[Download the Law of Country 2016-41 / APF of December 8, 2016 on Electromagnetic Radiation.pdf](#)

News Articles on French Polynesia Law on Electromagnetic Radiation

- [“Government puts electromagnetic waves under control”](#) Tahiti Infos, August 3, 2017
- [“Electromagnetic waves: the CESC supports the precautionary principle”](#) Tahiti Infos, July 19, 2016
- [“Antonio Perez: "Protection of the population and digital development must be compatible"”](#) Tahiti Infos July 5, 2016

Slovenia

Slovenia has public exposure limits much stricter than ICNIRP both for RF and ELF.

Precautionary limit (lower than ICNIRP) for ELF-EMF

- Level I protection (10 micro Tesla) shall apply to areas that require greater protection from EMF on the basis of precaution (e.g. around hospitals, residential areas, schools, kindergartens, playgrounds, retail/business/residential areas). Level II protection (100 micro Tesla) shall apply to areas where higher EMF levels are permitted (e.g. non-residential areas designed for heavy or light industry or similar manufacturing processes, transport, warehousing or service activities, and all other areas not designated a Level I area). 0.5 kilovolts per metre (kV/m) and
- 10 microteslas (μT) [that is, 10% of the EU Council Recommendation reference value, World Health Organization exposure limits for low-frequency fields](#)

Government RF Measurement Campaign informs Public on Radiation Levels

[EMF Advisory Group:](#)

In response to health concerns, Slovenia created an advisory group with representatives of the Ministry of the Economy, the Ministry of Health, the Ministry of the Environment and Spatial Planning, NGOs in the Republic of Slovenia and local communities in the Republic of Slovenia to inform the public about this issue.

[Slovenia Institute for Non-ionizing Radiation webpage:](#)

[Electromagnetic radiation, MOBILE PHONES, AND HEALTH Brochure:](#) Although this brochure states that evidence does not conclude a proven health risk, it does recommend the prudent use of cell phones and provides a long list of measures to reduce radiation exposure including:

- Limit the number and duration of calls.
- Choose a low-SAR mobile phone. Recommendation is that SAR Less than 0,6 W / kg. Data on SAR values of mobile phones are collected At www.inis.si.
- If possible, use a handsfree kit
- Avoid conversation when the signal is weak (in basements, garages, elevators ...). Move to a place where the signal is strong.

[Webpage with Government Brochures on various issues related to EMFs](#) such as [Metal Implants](#), Base Stations and more

- [Brochure on Electromagnetic radiation](#) 2014
- This is a report that reviews the issue, shows how Slovenia has RF public exposure limits much stricter than ICNIRP.
- [Brochure on WiMAX](#)
- [Brochure on Cell Phones](#)
- [3819. Regulation on electromagnetic radiation in the natural and living environment, page 5925.](#)

This website has changed and resources can be found on Way back machine

https://web.archive.org/web/20120831175041/http://www.forum-ems.si:80/gradiva/publikacije/brosure/elektricna_magnetna_zdravje.pdf

Russia

2020: The Ministry of Health and Russian Committee for Non-ionizing Radiations Protection Recommendations During Quarantine, [PDF of Letter in Russian](#)
[Short Summary of Recommendations.](#)

Appendix 2: Proposed FCC changes to Measuring and Evaluating Human Exposure to Radiofrequency Electromagnetic Fields and Wireless Power Transfer Devices are Flawed: need for biologically-based standards (ET Docket No. 19–226; FCC 19–126; FRS 16618)

- Reduce using of computers by children when they don't go to school now (quarantine etc).
- Don't use smartphones for educational purposes until age of 18.
- For all age categories for reading and completing tasks it is recommended to use mainly ordinary books, notebooks.
- Children under 6 years old must completely exclude the use of any computer equipment for educational purposes at home.
- Children aged 6 to 12 are advised to minimize the use of computer equipment for educational purposes at home conditions.
- If necessary to use headphones, limit continuous use to no more than an hour at a volume of not more than 60%.
- Children aged 6 to 12 are advised to minimize the use of computer equipment for educational purposes at home conditions.
- Total the duration of all types of on-screen activities for children of this age group should not exceed 2 hours per day (including viewing TV).
- Using tablets for distance learning at home conditions is permissible by adolescents over 15 years of age. Before use tablet, wash your hands and wipe the screen with a disinfectant means (wet towel).
- The location of the WiFi point should be on a distance of at least 5 m from the student's workplace. The tablet is placed on table on a stand at an angle of 30 ° , the distance from the screen to the pupil's eyes is not less than 50cm. It is necessary to exclude work with a laptop or tablet on knees, in hands, lying and the like.

2019: The Russian National Committee on Non-Ionizing Radiation Protection is calling for the release of new EMF hazard warning signs for mobile phones, wireless devices and other EMF sources. This follows the release of [a published paper by Professor Oleg Grigoriev and ex-deputy minister of communication, Prof Yuri Zubarev](#). The paper was published in September 2019 in the oldest Russian journal of the communications industry. News coverage such as [“Due to low control over the safety of mobile phones, Russians risk their health”](#) showcases the warnings and public health opinions.

Professor Oleg Grigoriev is the Chairman for the Russian National Committee on Non-Ionizing Radiation Protection,

- Dr.Sc. (radiobiology), Ph.D. (radiobiology & hygiene of non-ionizing radiation) Laureate of Prize of the Russian Federation Government (for science and technology, Chairman, Russian National Committee on Non-Ionizing Radiation Protection, Member, Scientific Consul for Radiobiology of Russian Academy of Science, Member, IAC of the WHO EMF project

The Russian National Committee on Non-Ionizing Radiation Protection images and updates courtesy of [Radiation Research reporting](#).

- [2019 News Article](#)

- [Image of Warning Stickers](#)
- [Image of Warning stickers in Russian](#)
- [Warning sticker on a router](#)
- Federal News: [Due to low control over the safety of mobile phones, Russians risk their health”](#)

2020: Recommendations to Reduce Exposure Issued by the Russian Federal Service for Supervision of Consumer Rights Protection and Human Well-Being

[Recommendations to Parents for Using Your Mobile Phone Safely](#)

Translated by Google 01/10/2020

1. A conversation on a mobile phone should not last more than 2 minutes, and the minimum pause between calls should be at least 15 minutes. It is much safer to write text messages than to hold the phone near your ear.
2. Hold the handset of the mobile phone at a distance from the ear, for its lower part and vertically. The attenuation of radio waves occurs in proportion to the square of the distance traveled, therefore, by moving the tube away from the ear by just a centimeter and thus increasing the distance to the brain by half, you can reduce the power, radiation exposure to the brain, four times.
3. It is better to bring the tube to your ear after answering at that end. At the time of the call, the mobile phone operates at its maximum capacity, regardless of the communication conditions in the given place. At the same time, 10-20 seconds after the start of the call, the radiated power is reduced to the minimum acceptable level. It is pointless to put a phone to your ear also because the first long beep does not appear immediately.
4. Many children often send SMS messages or are excessively addicted to games built into cell phones. Such regular and prolonged tension on the growing hand and fingers can cause various disorders of the bones and joints. In addition, while playing, the child is forced to examine a small image, looks at the backlit screen for a long time, all the time at the same distance from the eyes. This is a serious strain on the eyes and can have a very negative effect on vision.
5. It is recommended to remove glasses with a metal frame during a conversation: the presence of such a frame can lead to an increase in the intensity of the electromagnetic field affecting the user.
6. It is not recommended to place mobile phones near you while you sleep.
7. Do not constantly keep your mobile phone with you, for example, in your trouser pocket.
8. Contacts with a mobile phone should be limited, especially if this is not necessary.
9. It is better to carry a mobile phone in a bag; you should not keep a cell phone for a long time on your chest, belt, or chest pocket.

The Federal Service for Supervision of Consumer Rights Protection and Human Well-Being

(Rospotrebnadzor) is a federal executive body that exercises responsibility for the development and implementation of state policy and legal regulation in the field of consumer protection, development and approval of state sanitary and epidemiological rules and hygienic standards, as well as the organization and implementation of the federal state sanitary and epidemiological surveillance and federal state supervision in the field of consumer protection.

2. The activities of the Federal Service for Supervision of Consumer Rights Protection and Human Well-being are managed by the Government of the Russian Federation.

Russian National Committee on Non-Ionizing Radiation Protection Issued Resolutions to Protect Individuals from Wireless Radiation

- 2011 Original Resolution - ["ELECTROMAGNETIC FIELDS FROM MOBILE PHONES: HEALTH EFFECT ON CHILDREN AND TEENAGERS"](#)
- Official Recommendations: The Russian Federation specifically advises that those under the age of 18 should not use a mobile phone at all, recommends low- emission phones; and requires the following: on-device labeling notifying users that it is a source of RF-EMF, user guide information advising that "it is a source of harmful RF-EMF exposure" and the inclusion of courses in schools regarding mobile phones use and RF-EMF exposure issues. "Thus, for the first time in the human history, children using mobile telecommunications along with the adult population are included into the health risk group due to the RF EMF exposure....In children, the amount of so-called stem cells is larger than in adults and the stem cells were shown to be the most sensitive to RF EMF exposure....It is reasonable to set limits on mobile telecommunications use by children and adolescents, including ban on all types of advertisement of mobile telecommunications for children."
- 2008 Original Decision - ["Children and Mobile Phones: The Health of the Following Generations is in Danger"](#)
- 2012 - [Video of Russian National Committee](#) Meeting in which they repeatedly warn about electromagnetic radiation impacts on children and recommended WiFi not be used in schools.
- 2010 - [Video](#) of Yuri Grigoriev, President of the Russian National Committee, giving a lecture
- Russian National Committee on Non-Ionizing Radiation Protection and EMF RF standards. [New conditions of EMF RF exposure and guarantee of the health to population.](#) Prof. Yu. Grigoriev Russian National Committee on Non-Ionizing Radiation Protection Federal Medical Biophysical Centre, FMBA, Moscow, Russia.
- [Professor Yu.G. Grigoriev, Honorary Chairman of RNPCN, spoke at a meeting of the Bureau of the Scientific Council of the Russian Academy of Sciences on Radiobiology with a report on](#)

[electromagnetic safety for the population in connection with the development of mobile communications](#)

- Professor, Doctor of Medical Sciences Yu.G. Grigoriev, is the oldest radiobiologist in the world, leading an active scientific work. He spoke at a meeting of the Bureau of the Scientific Council of the Russian Academy of Sciences on radiobiology with the report "Mobile communication and electromagnetic danger for the population - modern risk assessment and forecast for the near future." Yury Grigorievich believes that when using mobile phones, the brain is a critical organ. Professor Grigoriev: "No decisive experiments have been carried out to identify the effects of chronic exposure to the RF range on humans." However, based on his seventy-year-old (!) Experience of a radiobiologist, he justifies and predicts "long-term consequences, up to the onset of malignant tumors." Grigoriev noted that children are a particularly vulnerable part of the population in relation to environmental factors, and the electromagnetic field has become a risk group due to the early onset of exposure when using mobile phones and wireless communications.
- [120 years since the defense of the first Russian thesis on the biological effects of the electromagnetic field](#)
 - On May 25, 1898, Dr. Sergey Kostin defended his thesis "On the study of the physiological effect of the electric field on the motor nerve".
 - One of the most important scientific results of the joint work of V.Ya. Danilevsky and S.I. Kostin is that they introduced the concept of a stimulus for an alternating electric field, and then electromagnetic radiation ("Hertz rays"), proving this hypothesis as a result of numerous experiments. The concept of the dependence of the effect of distance, intensity, Electromagnetic doses were also formulated in the works of Kostin and Danilevsky, then entering the classical concepts of hygiene of non-ionizing radiation.

[Russian National Committee on Non-Ionizing Radiation Protection Website](#)

The Russian National Committee on the Protection against Non-ionizing Radiation (hereinafter referred to as the National Research and Design Agency for Nuclear Energy) was established in accordance with the decision of the Russian Scientific Commission on Radiation Protection under the Government of the Russian Federation on January 28, 1997.

Videos of RNCNRP scientists

- https://www.youtube.com/watch?v=DDIrXqPjknI&feature=emb_logo
- https://tvkultura.ru/video/show/brand_id/57402/episode_id/1341523/video_id/1529943/
- <https://www.youtube.com/watch?v=qDJ1H2b1o-s>
- <https://www.youtube.com/watch?v=YdH0hm1h8Jo>
- <https://www.youtube.com/watch?v=LHLzyRXBdzU>

Key Publications by the Russian National Committee on Non-Ionizing Radiation Protection

- [Scientific basis for the Soviet and Russian radiofrequency standards for the general public](#)
- [Evidence for Effects on the Immune System Supplement 2012 Immune System and EMF RF](#) Prof. Yury Grigoriev, MD, Chairman Russian National Committee on Non-Ionizing Radiation Protection Moscow, Russia, Chapter in Bioinitiative Report

Article by Professor Grigoriev Yu.G. From electromagnetic smog to electromagnetic chaos. To the assessment of the danger of mobile communications for public health, July 2018

translated by Google translate

“Over the past 25 years, there has been a global change in the electromagnetic environment on Earth, associated with the widest use of wireless communications by the population, which significantly changed the situation of artificial electromagnetic pollution of the external environment and the methodology for assessing the risks to the health of all population groups. In these difficult conditions, however, many authors, in their conclusions, neglect the concepts established in radiobiology when assessing the risk of exposure to electromagnetic radiation of ultrahigh frequencies (EMR UHF), which is connected, for example, with the concepts of a critical organ or critical system, the possibilities of accumulation of adverse effects and the formation of residual damage (long-term effects). Almost daily exposure to EMR microwave brain does not attract their attention.

We used classical radiobiological approaches to assess the danger of electromagnetic radiation of the microwave range of low non-thermal intensities, including mobile communications for the public and some data are presented on the negative impact on public health, including children - users of cell phones (PT). With specific examples, we consider the facts of a relative increase in the risk of developing brain tumors after a long period of active use of cellular phones. In many countries there is a complete disregard for the precautionary principle proposed by WHO. For the first time in the entire period of civilization, children are at risk. The recommendations of the International Agency for Research on Cancer (IARC) are ignored.

Even before the era of mobile communication development, there were significant differences in the approaches to the development of allowable doses for microwave EMP, but discussions are still ongoing about the possible adverse biological effects of these non-thermal low-level radiation. At the same time, a positive trend can be noted, due to the fact that almost all leading European countries already adequately assess the real danger of CT and have their own more stringent standards than in Russia (Austria, France, Italy, etc.).

At the same time, we are witnessing the silence by some scientists and important officials of many countries of the possible danger to the public from EMR mobile communications. As a fact, opposite decisions are being taken on the prevention and protection of the population, including children. At present, the current situation can be characterized as electromagnetic chaos in the habitat of the population. In our opinion, in the conditions of the existing electromagnetic chaos, it is necessary to inform the public that mobile communication in the absence of self-restraint can be dangerous to health. The population should have an independent choice of the type and mode of use of mobile communication. This choice is its voluntary risk.” [Full article](#)

[Results of a Russian scientific literature review on the long-term exposure effects of radio-frequency and microwave radiation in humans between 1960 and 1996](#)

European Environment Agency

2013 - EEA Issues [“Late Lessons From Early Warnings: Chapter 12: Mobile phone use and brain tumour risk: early warnings, early actions?”](#)

- The chapter concludes that “Precautionary actions now to reduce head exposures, as pointed out by the EEA in 2007, and many others since, would limit the size and seriousness of any brain tumour risk that may exist. Reducing exposures may also help to reduce the other possible harms...”

2011 - Precautions Recommended by David Gee, EEA Senior Advisor on Science, Policy and Emerging Issues

- Original document - [“Health risks from mobile phone radiation – why the experts disagree”](#)
- Gee stated in a press release that “We recommend using the precautionary principle to guide policy decisions in cases like this. This means that although our understanding is incomplete, this should not prevent policymakers from taking preventative action.”

2009 - EEA Issues Recommendations Based on Current Evidence

- [Original Statement](#)
- “The evidence is now strong enough, using the precautionary principle, to justify the following steps: 1. For governments, the mobile phone industry, and the public to take all reasonable measures to reduce exposures to EMF, especially to radio frequencies from mobile phones, and particularly the exposures to children and young adults who seem to be most at risk from head tumours.”

2007 - Professor Jacqueline McGlade, the EEA's executive director issued recommendations

- McGlade stated that "Recent research and reviews on the long-term effects of radiations from mobile telecommunications suggest that it would be prudent for health authorities to recommend actions to reduce exposures, especially to vulnerable groups, such as children."
- Independent News Article - ["EU watchdog calls for urgent action on Wi-Fi radiation"](#)

Poland

2018 and 2019 New changes to accommodate 5G that involve loosening Poland's long held protective regulations.

"5G for Poland"

[We want to be the European leader in 5G: Statement by Minister of Digital Affairs, Poland](#)

[Poland's 5G Strategy PPT](#)

"Today, we establish the agreement on the "5G for Poland" strategy addressed to all interested parties: telecommunications operators, economic chambers, providers of telecommunications services, equipment and solutions, research and development institutions, and technical universities and Polish start-ups. The aim of the agreement is to develop the "5G for Poland" strategy by the end of the year, which will be later adopted by the Council of Ministers. This is the first step that will let us become the European leader in 5G deployment." Anna Streżyńska, Minister of Digital Affairs, Poland

In April 2016, the Polish government announced they were preparing an Act on protection of the population from the radiation emitted by mobile base stations.

According to the [Telecom News article](#):

"The Polish Ministry of Digitalisation has announced its preparation of an act on the control of the effects of electromagnetic radiation from radiocommunications devices on human life and health, reports Telko.in. The first consultations are planned for the beginning of May. Discussions on public concerns related to electromagnetic radiation are conducted under the patronage of the President's Office.

After the first round of the discussions, the ministry decided to withdraw the controversial provision on facilitating the placement of radiocommunications devices from the draft amendment of the act to support telecommunications services and network development. The task of the new consultation group will be discussing the assumptions of the draft act with experts and the public and subsequent preparation of the draft. The group will include representatives of the public sector, the public, telecommunications operators and experts in the field of radio-communications and medicine, namely the Institute of Communications and Collegium Medicum of the University Jagiellonski.

The new acts will enforce supervision of emissions standards, tightening sanctions and increase the influence of the local community on the process of placing new radio communications devices.”

[Read the April 2016 Telecom Article on Poland’s Developing Action](#)

In December 2016, a conference was organized by the [National Institute of Telecommunications](#) on “Medical, Biological, Technical and Legal Aspects of Electromagnetic Field Influence on Environment” (see [warsaw-conference-on-emf](#)) and speakers from Poland, Finland and Japan presented the latest research and opinions about EMF technology and health.

[Video’s of the lectures are available at the Polish Government website here](#)

Slides from Dariusz Leszczynski’s lecture “[Cell Phone Radiation, Health Hazard and Precaution](#)” are available [on his blog](#).

The first mayor of Kraków to be elected by popular ballot, law professor Jacek [Majchrowski](#) initiated forums for citizens to discuss the growing ‘smog’ of electro-magnetic fields.

New Public Education Project of the City of Krakow Poland ”Let’s Be EcoDigital”

- The 2017 events of the “ Let’s Be EcoDigital” project included contests for Children and Youth: A Photography Contest “A Day Without My Smartphone” and Literary Contest “A Day Without My Smartphone.
- An eminent Polish artist [Paweł Kuczyński](#) created a series of illustrations presenting satirical view of some difficult aspects of digital reality.
- The “International Day of Protection from Electromagnetic Environmental Pollution” includes a “Family Picnic without Smartphone.” The City also organized an International Forum on Protection from Electromagnetic Environmental Pollution.

Resources on Krakow’s EMF Policy and Educational Program

[Protective Policy Webpage: This includes City Council](#) issued resolutions and visual images of radiation from cellular antennas

["Let's be EcoDigital" - a new project of the City of Krakow News Update](#)
[Protection against electromagnetic fields webpage: Includes Recommendations and Leaflets.](#)

ELF reference values lower than in EU Council Recommendation:

- electric field 1 kilovolt per metre (kV/m) and
- magnetic field 75 microteslas (μ T) for flats and sensitive areas
- http://www.bfs.de/EN/topics/emf/expansion-grid/protection/limit-values-europe/limit-values-europe_node.html

Tunisia

Recommends reducing radiofrequency radiation exposure in “sensitive areas.”

- Although Tunisia has adopted the ICNIRP limits, they define schools, kindergartens, hospitals, and nursery schools as “sensitive institutions” and do not allow antennas within 100m of these “sensitive institutions.” [See Tunisia WHO Report 2017](#)
- According to the [2017 Government Report](#) Circulars from jointly Ministry of Health, the Ministry of Communication and Technologies and the Ministry of Interior “fixed as per limit 100m between sensitive institutions (schools, kindergartens, hospitals...) and cellular phone BTS antennas, to minimize exposure.”

National website to inform citizens of their RF exposures.

- The website <http://www.cartoradio.tn/> is available for all citizens to look up their town and find RF measurements.

[2019 World Health Organization update on Tunisia,](#)

“The ad hoc working group charged for review complaints filed regarding the installation of mobile phone base stations was met three times in 2018 and has treated 21 cases. Based on the precautionary measures, the ad hoc working group suggests that cellular phone BTS antenna should not be sited closer than 100 m to sensitive institutions (schools, kindergartens, universities and hospitals) to minimize exposure of neighbors.”

Government Website with EMF Measurements

- For every mobile phone base transceiver stations (BTS) antenna in Tunisia, the synthesis of electromagnetic field measurement results and the conclusions (electric field levels compared with limit values), are available on the website <http://www.cartoradio.tn>.

United Kingdom

February 2020: UK issues updated recommendations to reduce exposure to cell phone radiation, especially for children.

Text was [placed online](#) on February 4, 2020.

“The international guidelines recommended by Public Health England (PHE) provide protection for the population as a whole; however, uncertainties in the science suggest some additional level of precaution is warranted, particularly for sources such as mobile phones where simple measures can be taken to reduce exposure.

Measures to reduce exposures from mobile phones have been recommended by the [Independent Expert Group on Mobile Phones](#) and PHE continues these recommendations which were accepted by government.

The main advice is:

- excessive use of mobile phones by children should be discouraged
- adults should be able to make their own choices about reducing their exposure should they so wish, but be able to do this from an informed position

Measures that can be taken to reduce exposure include:

- moving the phone away from the body, as when texting, results in very much lower exposures than if a phone is held to the head
- using a hands-free kit, keeping calls short, making calls where the network signals are strong
- choosing a phone with a low specific energy absorption rate (SAR) value quoted by the manufacturer

Exposures from devices held further away from the body such as wireless-enabled laptop computers, and transmitter masts in the community are very much lower than those from mobile phones and PHE considers that community or individual measures to reduce such exposures are unnecessary.

See also the advice of the [NPRB on reducing exposure to radio waves.](#)
[Read the latest UK government advice online HERE.](#)

The UK National Health Service has recommended reducing exposure since 2002.

- [2002 Steward Report commissioned by the UK Government - “Phones and Mobile Health - AUK Perspective”](#). The report found that exposure to RF radiation below guidelines has not been “proven” to cause adverse health effects but it is not possible to say “that exposure to RF radiation, even at levels below national guidelines, is totally without potential adverse health effects” as “there is some scientific evidence which suggests that there may be biological effects and gaps in knowledge justify a precautionary approach to the use of mobile phone technologies until much more detailed and scientifically robust information on any health effects becomes available.”
- [UK Department of Health - 2005 “Mobile Phones and Health” brochure](#) which reads: *“The expert group has therefore recommended that in line with a precautionary approach, the widespread use of mobile phones by children (under the age of 16) should be discouraged for non-essential calls. In the light of this recommendation the UK Chief Medical Officers strongly advise that where children and young people do use mobile phones, they should be encouraged to: • use mobile phones for essential purposes only • keep all calls short - talking for long periods prolongs exposure and should be discouraged The UK CMOs recommend that if parents want to avoid their children being subject to any possible risk that might be identified in the future, the way to do so is to exercise their choice not to let their children use mobile phones.”*
- [NHS 2009 slide presentation - “Radio Waves”](#)
- [2015 Webpage “Risks of mobile phone use”](#) with recommendations that state, *“Children are thought to be at higher risk of health implications from the use of mobile phones. This is because their skulls and cells are still growing and tend to absorb radiation more easily. It is recommended that children use mobile phones only if absolutely necessary.”*
- [National Health Service - 2011 “Mobile Phones and Base Stations”](#) which reads, *“Therefore, as a precaution, the UK Chief Medical Officers advise that children and young people under 16 should be encouraged to use mobile phones for essential purposes only, and to keep calls short. If you are concerned, you can take steps to reduce your exposure such as using hands free kits or texting.”*
- [2011 NHS Brochure - “Mobile phones and base stations: Health advice on using mobile phones”](#), which states: *“The body and nervous system are still developing into the teenage years. Therefore, as a precaution, the UK Chief Medical Officers advise that children and young people under 16 should be encouraged to use mobile phones for essential purposes only, and to keep calls short.”*
- Prior to 2015, the NHS also had additional website sections on health effects, including [“Mobiles and mums-to-be” web page](#), which summarized the research showing cell phones had been linked to behavioral issues in children. NHS also had a [“Mobile effect on sleep” webpage](#) which detailed research which concluded RF “is associated with adverse effects on sleep quality within certain sleep stages”. For the public, the NHS had “recommendations to help lower any potential long-term risks” which included keeping calls short, keeping the phone away from the body on standby mode, only use the phone when the reception is strong and using a phone with an external antenna. These web pages were deleted from the current site.

- In 2011, the National Health Service offered specific recommendations to reduce cell phone radiation exposure to children. Precautions are still recommended, however by 2015 this original advice was no longer present on the site. **The UK National Health Service changed the public advice text. Everything noted *above* was reworded. Now the website states:**
- [2015 Mobile Phone Safety - Risks Webpage](#) - “If there are any health risks from the use of mobile phones, children might be more vulnerable because their bodies and nervous systems are still developing. Research carried out to date hasn't supported a link between mobile phone use and childhood cancers such as leukemia. However, if you have any concerns, you can lower your child's exposure to radio waves by only allowing them to use mobile phones for essential purposes and keeping calls short.”
- The newly edited section called [“Mobile phone safety - FAQs”](#) states: *“Do scientists know everything about mobile phones and health? No, and research is continuing. Mobile phones have only been widely used for about 20 to 30 years, so it's not possible to be so certain about the safety of long-term use. More research on the effects of mobile phones on children is also needed, as they're known to be more sensitive than adults to many environmental agents, such as lead pollution and sunlight. Government advice is to be on the safe side and limit mobile phone use by children.”*
- [2015 Webpage "Risks of mobile phone use"](#) contains recommendations that state, *“Children are thought to be at higher risk of health implications from the use of mobile phones. This is because their skulls and cells are still growing and tend to absorb radiation more easily. It is recommended that children use mobile phones only if absolutely necessary.”*

2016 Regulation No. 588 - “Control of Electromagnetic Fields at Work”

- [Original Legislation](#)
- The regulation requires employers to assess the levels of EMFs their employees may be exposed to, ensure compliance, provide information on risks and take action if necessary.
- *“You must ensure you take workers at particular risk, such as expectant mothers and workers with active or passive implanted or body worn medical devices, into account when appropriate, devise and implement an action plan to ensure compliance with the exposure limits.”*
- Safety and Health Practitioner News Article - [“Explained: CEFaw Regulations, which come into force today”](#)
- Health and Safety Executive: [“Electromagnetic fields at work A guide to the Control of Electromagnetic Fields at Work Regulations 2016”](#)
 - This guidance explains an employer’s duties under the Control of Electromagnetic Fields at Work Regulations 2016 and will also be useful to others with responsibilities for health and safety such as employee and safety representatives. It explains what an EMF is, what the law says and how to assess employees’ potential exposure to EMFs with reference to ‘action levels’ and ‘exposure limit values’.

Hungary

- Nationwide measuring of radiation levels are available to the public on the [Hungary Government RFR monitoring website](#)
 - “The measurement programme involves collecting data using twenty five (25) area monitoring instruments by moving them to new locations every two weeks. Measurements spots were selected educational institutions, nurseries and schools situated close to radio facilities. Tests are also carried out occasionally on requests by private individuals. On the bases of the former work, Hungary expanded measuring activities, like, continuous programs in public places, testing new/specific stations, and path-registered measurements. Hungary also developed versatile web-publication, like, statistics between individual measurements, results of single handheld measurements, ranked results, different sites for each measurement programs, path-registered measurements, and application form for programs and web analytics.” [ITU 2017 Report](#)
- [Hungary Government Website on “Electrosmog](#): Information available for the public about the EMF exposure to RF referred to as Electrosmog at the homepage of the National Media and Infocommunications Authority
(<http://emirpub-prod.nmhh.hu/pubrendszer-web/eszmog/eszmogMeresek.i>)

Greece

Greek law mandates lower RF exposures near schools, nurseries and hospitals and bans antennas on school grounds.

- The exposure limits in Greece are at 70% of the official European limits. In areas less than 300 m from schools, hospitals and nurseries the exposure limit is lower at 60% of the official European limits.
- Installation of mobile phone base stations at the premises of schools, kindergartens, hospitals or eldercare facilities is forbidden.

Government mandates annual measurements in at least 20% of all antenna stations installed in urban areas.

- The results of all measurements performed in the vicinity of antenna stations, are uploaded to EEAE’s website (<http://eeae.gr/>). Until June 2017, the results of in situ measurements in the vicinity of more than 10000 base stations are uploaded to this webpage
- The third annual report concerning the operational aspects and the measurement results of the National Observatory of Electromagnetic Fields was published in February 2019 (https://paratiritirioemf.eeae.gr/images/news/EEAE_EPHP_report_2018.pdf, in Greek language). The measurement results of the first three years of operation (2016-2018) of the National

Observatory of Electromagnetic Fields revealed that all values were well below the reference levels for general public exposure, as defined by the Greek legislation. The results of this national monitoring network which is operated and controlled by EEAE, are presented through an interactive web portal (<https://paratiritirioemf.eeae.gr>), in which data are constantly updated with the latest station measurements.

Allowable radiofrequency radiation is set to 70% of the 1999 EU Council’s Recommendation basic restrictions and reference levels

The Greek government submission to the WHO EMF project states that, “According also to a new law (Law No 4070, Act. No. 82/A/10.04.2012 entitled: Regulations concerning electronic communications, transport, public works and other provisions), the safety limits for the exposure of the general public in the vicinity of all kinds of antenna stations are set (again, as in the previous legislation) to 70% of the 1999 EU Council’s Recommendation basic restrictions and reference levels values in all cases and to 60% of them for stations located closer than 300 meters from the perimeter of schools, kindergartens, hospitals or eldercare facilities. It should also be noted that according to this legislation, the Greek Atomic Energy Commission (GAEC) or other authorized laboratories, are monitoring electromagnetic field exposure levels by performing in situ measurements, ex officio or within 20 working days after request of any interested party. These measurements shall be performed every year in the vicinity of at least 20% of all the antenna stations installed in urban areas and their results shall be announced on the web site of GAEC (as it was also provisioned in the previous legislation). Concerning the funding of these activities, the owners of all licensed antenna stations are billed annually the sum of 200€ for each antenna station and everybody asking for measurements in his premises is charged with a fee of 160€. It should also be noted that with the new legislation, installation of mobile phone base stations at the premises of schools, kindergartens, hospitals or eldercare facilities is still forbidden.”

2012 - The Greek government website materials recommend reducing cell phone radiation to children under 16 and they inform citizens of non-ionizing radiation power levels in their community.

- [The National Observatory of Electromagnetic Fields](#) - Interactive web portal linked to a network of 500 fixed measurement stations throughout Greece that continuously monitor the EMF levels from all kinds of antenna stations in the frequency range 100 kHz – 7 GHz.
- In July 2008, the Ministry of Infrastructure, Transport and Networks held a public consultation about a new legislation that will establish at national level, a network of fixed and mobile measurement stations for continuous monitoring of the EMF levels from all kind of antenna stations. According to the draft text of this legislation, the results of this measurement network will be available via internet to every citizen.
- ELF and EMF Site Measurements can be looked up for various locations at [EEAE](#).
- The Greek government funds research as detailed on the [WHO EMF report](#).
- [The Q and A on RF radiation states the following text about children:](#)

“Even though it hasn’t been proven conclusively that children are more sensitive/reactive than adults to exposure to radiation, nevertheless, the direct/pointed recommendation of international organizations is that children be discouraged from [literally translated, learn not to trust] using cell phones. The above statement is supported by the following:

1. *Up to about the age of 16, the nervous system of the human body is in the process of development. Consequently, it’s totally possible (although not conclusively proven by relevant scientific research) that up until this age, human being are more sensitive to any number of factors/elements/determinants.*
2. *Younger people have more years ahead of them than older persons during which the long –term effects of mobile phones can be manifested.*
3. *Environmental factors/elements have a greater general impact on the health of children than on the health of adults.”*

Athens Medical Association

2017 the Athens Medical Association voted to issue 16 recommendations to reduce human exposure to wireless radiation. [Read the press release here.](#)

16 RULES FOR SAFER USE OF WIRELESS COMMUNICATION

- Use your cell phone with caution and make brief calls as necessary
- Children under the age of 14 should make limited use of cell phones
- Do not put your cell phone in contact with your head
- Do not use your cell phone inside a car, train, aeroplane, or elevator
- Restrict cell phone use when children or pregnant women are near
- Keep mobile phones away from your body
- When using your cell phone keep a safe distance from others
- Do not carry or keep your cell phone inside your pockets
- At bedtime, disable WiFi on your router and switch off your mobile phone
- Do not play games on-line; and if you will, first switch to airplane mode
- Hands-Free option is always preferable though may not be completely safe
- Wireless connections may increase your exposure to microwave radiation
- Limit WiFi connectivity and use hard-wired connection whenever possible
- When signal strength is weak do not attempt to make a call
- If a corded landline is available make use of this as a preferred option
- Disable WiFi, Bluetooth & Data options from your cell phone and other mobile device(s) when not needed.
-

[Athens Medical Association website page on Electromagnetic Radiation and Health Conference](#) whereby doctors voted to issue these recommendations.

[PC News Article: Secure Mobile Use Rules and Wi-Fi Connections by the Medical Association of Athens 3/4/2017](#)

Chile

2012 “Antennae Law” prohibiting cell antennae/towers in “sensitive areas”

- Read [International Bar Association Legal Practice Division Newsletter: “New communications antennae law in Chile”](#)
- ‘Regulates the installation of antennas used for the emission and transmission of telecommunications services’ This law limits the power of antennas, reduces urban impact of towers through ‘infrastructure sharing’ opens up a process for citizen participation in the approval or denial process, establishes mitigation measures in areas that are saturated with antennas and prohibits towers near “sensitive areas” institutions serving children, the elderly and medically compromised.
- Sensitive areas are those areas that demand special protection due to the presence of educational institutions, nurseries, kindergartens, hospitals, clinics, nursing homes, or other institutions of similar nature.
- Chile’s Minister of Transportation and Telecommunications Pedro Pablo Kuczynski stated, “...in addition to protecting the urban landscape and the goodwill of the neighborhoods, the new law takes care of the most important: the health of people in a precautionary manner as recommended by the World Health Organization, setting strict limits on the powers of the antennas. Chile is setting standards in this regard.”
- RCRWireless News Article - [“Chilean telecom companies need to comply with new antenna law”](#)

Ireland

Department of the Environment, Community and Local Government Gives Advice to Reduce Exposure

The department has a [webpage on Electromagnetic fields](#) that directs people to the advice of the Chief Medical Officer.

- 2011 [Advice of the Chief Medical Officer of Ireland.](#)
- “Advice from the Chief Medical Officer on mobile phone use: We may not truly understand the health effects of mobile phones for many years. However, research does show that using mobile phones affects brain activity. There is general consensus that children are more vulnerable to radiation from mobile phones than adults. Therefore the sensible thing to do is to adopt a precautionary approach rather than wait to have the risks confirmed. In the light of these

findings, the Chief Medical Officer of the Department of Health and Children strongly advises that children and young people who do use mobile phones, should be encouraged to use mobile phones for “essential purposes only” All calls should be kept short as talking for long periods prolongs exposure to radiofrequency electromagnetic fields. All mobile phone users can reduce their exposure to radiofrequency energy by making fewer calls, reducing the length of calls, sending text messages instead of calling, using cell phones only when landline phones are unavailable, using a wired “hands free” device so that the phone need not be held against the head and refraining from keeping an active phone clipped to the belt or in the pocket”.

- “Children are thought to be at higher risk of health implications from the use of mobile phones. This is because their skulls and cells are still growing and tend to absorb radiation more easily.
- It is recommended that children use mobile phones only if absolutely necessary.” [Ireland Health Ministry on Mobile Phones](#)

Irish Doctors Environmental Association Recommends Wired Connections

- [2013 Letter](#)
- The Irish Doctors Environmental Association wrote a statement in 2013 concerning health concerns with Wi-Fi in school: “We urge you to use wired technologies for your own safety and that of your pupils and staff.”

Denmark

Denmark Board of Health Provides Recommendations to Reduce Exposure

- [Denmark Board of Health Recommendations on Reducing Cell Phone Radiation](#)
- “As a precautionary measure, the Board of Health recommends a series of simple steps you should follow to reduce exposure from mobile phones:
 - Use the headset or handsfree with earbud, conversation, or use the speakerphone feature when possible,*
 - use text instead of call*
 - Limit the duration of calls*
 - Do not sleep with the phone close to the head*
 - Limit conversations during low reception and while in transport.*
 - Do not cover the phone with aluminum foil, special covers, etc.*
 - Compare phones' SAR value. Lower SAR require less exposure*

Denmark Schools that have removed or reduced wireless exposure

Bjedstrup elementary School of Børnehus, (school and kindergarten) Student must hand over cell phones before classes + no wifi in school premises; [Hammer Free Private School](#) - all internet connections are hard wired; Vejlnernes private school - no wifi; Kastanjely kindergarten - no wifi

Danish Health Authority recommends that new homes and new institutions where children stay should not be built close to existing power lines and new power lines should not be built close to existing homes and institutions where children stay.

Precautionary ELF limits: Annual average is not supposed to exceed 0.4 microteslas

Utilities measure magnetic fields at new installations: The annual average is not supposed to exceed 0.4 microteslas (μT) (.4 microteslas is the same as 4 milligauss) no kindergartens or new buildings in the vicinity of a high-voltage line.

- “In 1993 the Danish health authorities introduced a precautionary approach which stated that new high voltage installations should not be built close to existing dwellings or childcare institutions/schools. Equally the building of new homes close to existing high voltage installations should be avoided. The term "close to" was not defined by a minimum distance or an exposure limit but left to a pragmatic evaluation. The precautionary approach was updated in 2007.
- Autumn 2009: To ensure that the precautionary approach is applied in a uniform manner and to make it more communicable, Danish grid owners and local governments (local planning authorities) have defined an evaluation value of 0.4 μT . This value is not an exposure limit but rather a value that indicates when various measures to reduce magnetic fields near dwellings and childcare institutions should be evaluated and analysed. The 0.4 microtesla limit should not be considered a limit, which - when reached - dictates that measures must be initiated at any cost. If the magnetic fields are expected to be above 0.4 microteslas (annual average), it should be examined whether measures to reduce the fields can be implemented at a reasonable cost (cost/benefit, electrical safety, security of supply, human considerations, etc.). Examples of simple measures include e.g. the optimal phasing of new overhead lines. When new dwellings and childcare institutions/schools are being built in the vicinity of power lines, an approach could be to place the rooms/areas in which children spend a considerable amount of time as far away from the power line as reasonably possible to reduce the exposure. “

Turkey

The Ministry of Health has issued public information brochures that recommend limiting exposure, especially for pregnant women and children.

- [Ministry of Health Brochure Mobile Phones and Health Effects:](#)
- The Brochure starts by saying the research on cell phone radiation shows low levels of electromagnetic frequencies “may cause cancer”. 13 Recommendations to Reduce Exposure *which includes:* Pregnant women and children (under 16) are more vulnerable and they should use the phone only when necessary, Prefer speaker or headset, Decrease time on phones, Use low SAR phone, Keep phone away from the body, Keep phones out of baby and children’s

bedroom, Turn phone off when you sleep or keep it one meter away from bedside, using phones in cars increases your EMF exposure so it is not recommended.

Education on Safer Phone Use Project

- The project is mentioned in the following document: [“Annual Report from Turkey: National Activities on Health Effects of Electromagnetic Fields.”](#)
- Turkey has begun an educational project funded by Ministry of Internal Affairs, accomplished by Temkoder (Prevention, Measurement of Electromagnetic Pollution and Training Organization), which has resulted in secondary school student training in the safer usage of cellular phones.

Development of regulations prohibiting children’s cell phone use.

- In 2014, the Ministry of Health started working on new regulations to prohibit cellphone usage for children under 14-year-old children according to the [2014 WHO Report - “Annual Report from Turkey: National Activities on Health Effects of Electromagnetic Fields.”](#)
- However, by 2016 the proposed regulation was weakened and in 2016 Turkey stated that they are developing regulations that only would pertain to children under 7 years old- a change from 14 years old.
- [2016 WHO EMF Report - “Short Report Related to National Activities on Health Effects of Electromagnetic Fields”](#)
states, “Under Preparation and what is new; 4,5 G internet technology has been started to be used in the beginning of 2016 The Ministry of Health is working on new regulations about;
 - Recommendation of prohibiting the advertisements which help increasing the cell-phone usage under 7-year-old children.
 - Prohibiting mobile phone sellers to make promotions for increasing the usage of cell-phones by children who are <7.
 - Selling mobile phones including SAR values in their boxes and taking the signature of the consumers for the informed of consent forms (These forms include the information of healthy usage of mobile phones)
 - Prohibiting the sales of the mobile phones which are above the limit SAR values determined by Ministry of Communications and Maritime Affairs”

The Ministry of Communications and Maritime Affairs monitors Electromagnetic fields around the schools and homes.

- [Ministry Website](#)
- The EMF in schools is monitored and the public can get measurements on EMF levels from cell towers and schools at a national site.