

**Open Submission (June 2018) to Government Departments and Agencies regarding Public Health and Wellbeing Protection in Ireland in respect of Electromagnetic Fields (EMF) including pulsed microwaves used for Wi-Fi, 'smart' metering, 4G LTE and small cell antenna systems (5G), culminating in a request for an inquiry on behalf of the public, especially children and vulnerable groups.**

### Exponential Expansion Of Electrical And Telecommunications Infrastructure

The exponential rise of electrical and telecommunications infrastructure in Ireland has seen numbers of broadband companies install infrastructure overhead and underground at a speed and magnitude that might be described as a military exercise. These are now being added to by the ubiquitous installation of 'smart' meters communicating through use of wireless technology, along with the, as yet untested, 4G LTE and 5G small cell antennas which are presently being installed on structures such as lamp-posts, bus stops etc. As a consequence our properties, airspace, bodies, and the wildlife we are custodians of are now unremittingly blanketed in Electromagnetic Fields (EMF) at unsustainable levels. In light of the Irish Governments limited provision of information or engagement with the issue of EMF and health, this submission introduces fundamental questions that need to be answered, culminating in a request for a public inquiry.

### Standards and Guidelines

The current standards promulgated by the Irish Government, its Departments and Agencies as safe have been formulated by the International Commission on Non-ionizing Radiation Protection ([ICNIRP](#)), a private company with no legislative authority, standing or accountability. The ICNIRP, like the European Commission's group of experts, the Scientific Committee on Emerging and Newly Identified Health Risks ([SCENIHR](#)) and the World Health Organisation's [WHO EMF Project](#) (page 2) all conclude that there are no evident adverse health effects or risks associated with non-ionising EMF below the threshold levels put forward by the ICNIRP. These three 'expert' groups share other similarities in that: they are not considered to be representative of the scientific expertise in the field; their reports refer exclusively to the **thermal** effects of EMF and are based upon a Specific Absorption Rate (SAR) tested only for tissue heating effects and only for a duration of six minutes. This raises important questions as to why the **non-thermal** effects of Electromagnetic Fields have not been addressed. It is known that many of the members of SCENIHR and the WHO EMF Project are inextricably linked with the ICNIRP and several members are notorious for their 'no-risk' profiles, raising questions about the committee selection process. It is also well known that several [members](#) have intimate links with the telecommunications or electrical industries, raising questions about conflicts of interest. Their conclusions/opinions repeatedly omit and dismiss contradictory conclusions from good quality, peer reviewed studies evidencing potential risks to human health and wildlife arising from **non-thermal** EMF. Furthermore, it has also been shown that the question within the remits of these groups referred to the **possibility** of health risks from EMF whereas their conclusions refer only to whether scientific **certainty** has been established.

In 2011 the WHO's International Agency for Research on Cancer (IARC) classified [EMF as Group 2B, a possible human carcinogen \(page 419\)](#), (Vol 102) yet in contradictory conclusions the WHO EMF Project continues to report that there are no adverse health effects from EMF. In 2006 the WHO was to launch its monograph, *Environmental Health Criteria re EMF fields and Health* (EHC), but the first draft, which emerged in 2014, brought scientific conflict to a climax. Forty-seven [NGO organizations](#) and lobby groups responded to an invitation for comments and highlighted the lack of transparency surrounding the selection of the WHO EHC core committee

members numbering [six 'experts', five of whom were affiliated with the ICNIRP](#). The full 'expert' group also had representatives from the electrical utilities and organisations with close ties to the Telecom industry. ([Microwave News Oct 1 2005](#)) The EHC monograph is important as it is used to revise the present health based exposure guidelines. The controversy has not yet been resolved and the WHO EHC Monograph has not yet been completed.

Such pro-industry closed groups, obvious conflict of interest, bias, narrow concentration on the element of temperature, exclusion of exposure to EMF emissions beyond 6 minutes duration regarding Specific Absorption Rate (SAR), omission of contradictory conclusions along with the paucity of specific skills needed for the wide scope of risks related to EMF should be a major source of concern.

Electromagnetic Sense Ireland (ES-Ireland) has had first hand experience of industrial interference concerning the adoption of an own-initiative opinion on electromagnetic hypersensitivity (EHS) by the European Economic and Social Committee (EESC) in January 2015. After receiving this remit a draft opinion was prepared by the [TENS/559 study group](#) through a democratic process that was inclusive of forty EHS groups from fourteen countries, including Ireland. The carefully refined positive conclusion of TENS/559 was rejected at the plenary session of the EESC Assembly as a counter-opinion was heard first, voted on and accepted. The counter-opinion had been prepared by an industrial lobbyist and sixteen of his cohorts and submitted 24 hours before the Session. Ten complaints were made to the EU Ombudsman Emily O'Reilly who opened an inquiry. She concluded that the EESC does not properly examine issues of potential 'conflicts of interest' and that it failed to follow the established procedure in the adoption of this counter-opinion. As the Ombudsman was unable to negate the final vote this industrial opinion with its scientific errors remains in place.

## **Ireland and the Irish Reports**

### *The Irish 'Expert Report' 2007*

With corresponding similarities to the aforementioned groups, we find that half of the 'Irish Expert' committee (2007) had links with the ICNIRP, as did the majority of its advisors. The complicit silence regarding this set-up gives the appearance of, perhaps, an understandable lack of knowledge at that time of the then State Departments responsible. As greater knowledge has been gained over time the question arises as to whether the continuing non-protective approach could be labelled as wilful blindness, or in light of enormous profit, real concerns are venerated with the attractive notion of a 'state of the art telecommunications infrastructure that supports a competitive, innovative economy and a socially inclusive society' (Telecommunications and Internet Federation (IBEC)). The importance of questions regarding the selection, appointment of and composition of the Irish 'Expert Group' cannot be abnegated.

Conclusions in the [Irish 'Expert Report' 2007](#) state that radio frequency fields (the part of the EMF spectrum used for telecommunications/Wi-Fi etc) 'found in our environment do not produce any significant heating. While non-thermal mechanisms of action have been observed, none have been found to have any health consequence' ... 'no adverse short or long-term health effects have been found from exposure to the RF signals produced by mobile phones and base station transmitters' ... RF signals have not been found to cause cancer' ... 'no research has found any adverse health effects from children using mobile phones.' (Pages 2/3) Regarding Electromagnetic hypersensitivity (EHS) the report states 'Research has not established any link between EMF exposure and the occurrence of EHS symptoms.'

The more recent Irish Report is a review produced by the National Institute for Public Health and the Environment of the Netherlands ([RIVM \(2016\)](#)) at the request of the Irish Government. RIVMs overall remit was to report on current scientific knowledge regarding possible health effects of exposure from EMF. The report was limited to high-voltage overhead power lines (ELF), base stations for mobile communication (RF) and consideration of EMF policies established in five European countries and Ireland. The scientific findings alluded to in this review were based upon the conclusions of the ICNIRP, SCENIHR, the WHO EMF Project and AGNIR (who shares the same profile as these groups). Consequentially the review is a repetition of conclusions in other reports and does not address the **non-thermal** EMF health effects, or continuous exposure to pulsed wireless technology.

It is doubly disquieting therefore that the RIVM report is used to formulate Government policy as it clearly highlights the fact that Government policies are based exclusively on the **thermal** effects of EMF. The issue not being addressed by the Government is that thermal-only standards offer an inadequate level of protection, leaving the public exposed, especially vulnerable groups such as pregnant women, children and the elderly. The result is the instigation of policies that are void of any regard for the scientific and irrefutable conclusions provided by numerous independent non-industry funded scientific studies, evidencing adverse health effects from **non-thermal** and pulsed microwave EMF.

In 1999 the European Council adopted [Recommendations 1999/519/EC](#) on the limitation of exposure of the general public to EMF (0Hz to 300 GHz) as per the ICNIRP. However, the European Parliament resolution of 2008 on the *Mid Term Review of the E.U. Environment and Health Action Plan 2004-2010* (2007/2252(INI)) noted that these standards (ICNIRP) were obsolete and had not been adjusted despite the continuing accumulation of information and communication technologies, and did not “address the issue of vulnerable groups, such as pregnant women, newborn babies and children.” (Points 22/23) Then in 2009, having regard to the [report of the Committee on the Environment, Public Health and Food Safety 2008/2211\(INI\)](#) the E.U. Parliament adopted by 559 votes to 22 with 8 abstentions, a resolution on health concerns associated with EMFs calling again upon the Council to amend Recommendations 1999/519/EC. (Page 10) It was noted that the standards had not been adjusted and now, ten years on, it appears that these inadequate limits on public exposure to EMF are still in use.

#### *Communication Regulator (ComReg)/Monitoring and the Telecommunications Guidelines*

A report on the implementation by various European countries of the European Council *Recommendations 1999/519/EC* (as above) was compiled in the [E.U. Commission's Recommendation 1999/519/EC Implementation Report \(2008\)](#). This informs us that, in Ireland the ICNIRP standards were adopted by the [Communication Regulator \(ComReg\)](#) but only in relation to licensing conditions for telecommunications operators (page iii). Also, that ‘responsibility for the potential health effects of EMF is the function of the Department of the Environment, Heritage & Local Government’ from 1 May 2007 (page 43). In 2016 this Department was renamed the Department for Communication, Climate Action and the Environment. Recent correspondence from this Department indicates that this responsibility was translated as a ‘transfer for responsibility for **policy** in relation to the health effects of EMF’. Is this the same as transfer of responsibility for potential health effects from EMF? There is no real confirmation here as to who holds legislative responsibility and accountability for the protection of the public from adverse effects of EMF. The E.U. Commission report also introduces the question as to whether the Minister for Health and his Department have been absolved from any responsibility regarding the health effects of EMF despite the Constitutional Duty of that Department?

The incorporation of the ICNIRP standards into the Telecommunications licensing system meant that they bypassed the Houses of the Oireachtas and the Dail and they therefore have no primary legislative framework as is confirmed in the *E.U. Commissions Recommendation 1999/519/EC Implementation Report (2008)* (as above) (page 42). Given the now irrefutable evidence of harm, the seeming dismissal of the Irish population in exchange for profit gleaned from the sale of licences is a travesty of justice, a Constitutional failing and an ethical issue. Government rhetoric about public health and wellbeing, environmental sustainability, legislative and constitutional rights and human rights takes on the appearance of an image management or paper exercise.

ComReg (Industry/Radio Spectrum) operates a special radio technology or services licensing regime designed to encourage innovation and development in the radio and electromagnetic spectrums. Two types of licences are available i.e. Test Licences and Trial Licences. These allow radio/telecommunications operators and service providers to use Ireland as a place to test or try out novel equipment, different spectrums or technologies. ComReg's on-site video heralds Ireland as a small island with a relatively small population, low corporation tax, wide open and available radio spectrum, licences within 10 days and it is therefore the perfect place for test and trial experiments. The video contains a stated belief that our lives depend on the devices that use the radio spectrum. It has always been acknowledged that our lives depend upon clean water, air, trees, plants, insects, birds and the animals that we share the planet with, and which are currently being decimated by EMF. The cost of a licence to experiment on the population does not reflect the potential public health risk - at a maximum of 200 euro for a test and 400 euro for a trial. The phoenix of the Nuremberg Treaty does not rise up here out of the ashes of profit. The unaware public have no chance to protect their children, their property or their human rights and have no notion of the potential cost, which they and their children will pay, of the impending health crisis.

ComReg provides a National monitoring service of radio/telecommunications operations, apart from Tetra. At best, monitoring is minimal and is undertaken only with regard to the masts that have planning permission and licences. They also do not monitor Tetra masts, which it seems, are the responsibility of the Office of Public Works (OPW). ComRegs measurements appear to be taken without any attention paid to the density of beams at various distances from the masts. A cursory glance at Siteviewer gives some indication of the number of masts who do not have licences or are exempt or are awaiting retention, as some sites have double the number of masts noted on the Siteviewer.

*Guidelines for Planning Authorities on Telecommunications and Support Structures, 1996*

Another regulatory tool in Ireland is the [Telecommunications Antennae and Support Structures Guidelines \(1996\) for Planning Authorities](#). These do not include any particular focus or specific measures regarding EMF and public health protection, monitoring, control, or enforcement provision. The guidelines also omit any provision for a complaints or appeals procedure for citizens who are affected by EMF emissions. In 2012 any possibility that achievable change to these guidelines might offer protection to the public dissipated when amendments were introduced through [Circular Letter PL 07/12](#) from the then Department for Environment, Community and Local Government (2007). This instructed planning authorities:

- against attaching a condition which would limit the life of masts and antennas to a set temporary period;

- not to include separation distances as they “inadvertently have a major impact on the roll out of a viable and effective telecommunications network”;
- that lodgement of a cash deposit for removal of redundant structures is no longer required and, most importantly;
- that “planning authorities should not include monitoring arrangements as part of planning permission conditions **nor determine planning applications on health grounds.**”

The reason stated in this letter for suppressing the notion of health is that planning authorities “do not have competence for health and safety matters in respect of telecommunications infrastructure. These are regulated by other codes and such matters should not be additionally regulated by the planning process.” (PL 07/12) To date these evasive ‘other codes’ have not been uncovered, even by the most ardent seeker. The circulatory letter is clearly biased against the public and discriminatory in favour of the telecommunications industry.

The Department of Housing, Planning and Local Government, in a more recent [Circular letter \(PL 01/2018\)](#) introduced amendments to development provisions already exempted under the Planning and Development Amendment (No. 3) Regulations 2018 (S.I. No. 31 of 2018). These amendments grant allowance to telecommunications operators to install higher structures/masts, larger dishes and a greater accumulation of antennae, and they allow a new exemption for the deployment of small cell millimeter wave antennas (5G).

The Circular Letter’s amendments provide unbridled exemptions to radio/telecommunications providers to install the, as yet untested, [fifth generation \(5G\) small cell antennas](#) using millimeter wave technology. These can now be placed on existing structures in urban areas such as bus stops, phone kiosks, lamp-posts and will raise EMF pulsing pollution to new levels. Almost every structure will have pulsing millimeter wave technology attached as a means of initialising the move towards the Internet of Things (IoT) or the connection of everything absolutely. The IoT will enable massive data collection ability as well as a total technological control grid of populations such as that specified in the American [U.S. Department of Defence, Non-Lethal Weapons Program](#). This programme uses Active Denial Technology designed for ‘crowd control’, ‘perimeter security’, ‘to deter and turn back suspicious individuals’ and presumably groups. Active Denial Technology uses non-thermal millimeter wave EMF and can be directed from ‘fixed-sites or mobile platforms’ and is being further developed to enable ‘turn-on’ and ‘shoot-on-the-move’ capabilities. Effects, as the information states, have been tested and conclude that there is only a 1/10<sup>th</sup> of 1% chance of injury. When connected through the Internet of Things, who will maintain global control over this grid?

The unwillingness of the Government to contemplate the issues of privacy, control or public health linked to this untested millimeter wave technology is unfathomable. Newly [emerging science studies](#) are already demonstrating that the sweat ducts of human skin concentrate emissions from the spectrum band used for millimeter wave 5G. Effects are described as a feeling of heat on the skin or ‘as if you were on fire’. Questions here arise around how it is that some of our existing Telecommunications Infrastructure is already controlled from outside the State and who will control the 5G grid? Is the military aspect of millimetre wave technology the reason non-thermal issues are not being addressed? These small cells antennas are currently being installed around Ireland without the consent of or knowledge of the public. The monetary value to the State purse of the sale of licences in the Spectrum Auction held in 2017 was 78 million euro.

A Scientists Appeal regarding 5G has been sent to the E.U. with growing numbers signing it, currently 223 scientists from 41 countries (2018) [Scientists Warn of Potential Serious Health Effects of 5G, September 2017](#) The appeal requests a moratorium on the roll-out of fifth generation (5G) for telecommunications until potential hazards for human health and the environment have been fully investigated by scientists who are independent from the Telecom industry. The Appeal calls for “remedial action such as new safety limits, wave free zones and education of doctors to protect our DNA fertility, and nervous systems, plus children and pregnant women from wireless exposure. And from rising, mains-electricity fields.” (The Ecologist) ([Lynne Wycherly](#))

In [2011 the Chief Medical Office](#) in the Department of Health and Children indicated awareness that research ‘does show that using mobile phones affects brain activity’ that ‘there is general consensus that children are more vulnerable’ and ‘therefore the sensible thing to do is to adopt a precautionary approach rather than wait to have risks confirmed.’ The [Mobile Phone Radiation Warning Bill](#) (introduced in 2008) had been passed in the same year by both houses of the Senate but the Bill was withdrawn in 2011. Given the obvious concerns of the Chief Medical Officer, the question here is, why was the Bill not enacted? A chief technical adviser to the then Department of Communications in an interview on RTE (2008) is reputed to have said ‘Ireland’s electromagnetic field policy is not to allow the electromagnetic field health issue affect the growth and prosperity of the Irish economy.’ In terms of economy this seems a bit shortsighted when the cost to the State of already established health effects is considered.

*Radiological Protection Institute/The Environmental Protection Agency*

The [E.U. Commissions Recommendation 1999/519/EC Implementation Report \(2008\)](#), regarding the limitation of exposure of the general public to electromagnetic fields informs us that in Ireland, there was belief that a single State agency would be established to deal with EMF radiation including non-ionising radiation (page 43). This was to be achieved by extending the statutory powers of the existing Radiological Protection Institute of Ireland (RPII) to include matters relating to non-ionising radiation and with provision of the necessary administrative and legal arrangements. In 2014 the Radiological Protection Institute ceased to be visible, having been subsumed into the Environmental Protection Agency as a ‘fifth Department’ and renamed the [Office of Radio Protection and Environmental Monitoring](#), now based in University College, Dublin. However, this ‘office’ is only ‘responsible for ensuring that people and the environment in Ireland are protected from the harmful effects of **ionising** radiation i.e. not the non-ionising radiation of radiofrequency EMF as used in the Telecommunications industry.

The Environmental Protection Agency refers to non-ionising EMF in their Report [Ireland’s Environment – An Assessment 2016](#) (Chapter 8) and refers to the development in the Governments [Healthy Ireland Framework 2013 - 2025](#) of the inclusion of ‘wellbeing’ as a means of moving beyond ‘disease prevention’ and embracing ‘a fuller vision of people’. The focus of the EPA report is to take ‘a whole of society approach to improving health and wellbeing and the quality of people’s lives’. Sadly, in Chapter 8, by quoting SCENIHR and RIVM, they echo the usual opinion i.e. that there are no evident adverse health effects associated with EMF if exposure remains below the ICNIRP levels. Again, the scientifically proven **potential** health effects of **non-thermal** EMF are blindly ignored.



## Real Evidence

The links between EMF and adverse health effects are contained in thousands of research studies undertaken by independent non-industry funded scientists. These studies have been replicated, peer-reviewed and printed in respected journals. All living things are affected by EMF including humans, animals, birds, plants, insects and the environment. [The E.U. Parliamentary Assembly Doc. 12608](#) (6 May 2011) on *Potential dangers of Electromagnetic Fields and their Effect on the Environment*, provides information on research undertaken on plants, beans, trees and the magnetic compass used by some animals or insects to orient themselves. The research establishes effects such as stress reactions and disruptions of gene expression. The effects of mobile telephony microwaves were clearly demonstrated, particularly in tomato plants. The notion of a Nocebo effect or psychological issues has been negated as a result of copious amounts of EMF research on e.g. cress, tomatoes, ants, fruit flies and so forth. A prime example of independent research is contained within the report [BioInitiative: A Rationale for a Biologically-Based Public Exposure Standards for Electromagnetic Fields](#) 2012 (a Summary was produced in 2014). This report emerged from the BioInitiative Working Group, an international collaboration of prestigious scientists and public health experts and includes a total of 3,800 peer-reviewed research papers, providing a summary of key scientific evidence. This report has overtaken ICNIRP as the leading international authority on the bio-effects of EMF.

Awareness of the contents of the following recent reports/studies is recommended:

1. [BioInitiative 2012: Summary for the Public \(2014 Supplement\)](#)
2. The [National Toxicology Program](#) (NTP) (USA), which, under the National Institutes of Health, have completed the largest ever animal study on cell phone radiation and cancer. The results were consistent with findings in humans of increased risk of glioma and acoustic neuroma (cancers of the brain) and of malignant schwannomas - cancer of the heart (a rare cancer), as well as DNA damage. These effects occurred even within threshold levels currently allowable. The NTP study has now (2018) been [peer-reviewed](#) and accepted by independent experts and the full report will be available later this year;
3. The second recent study is a corresponding large Animal Study on [Base Station/Cell Tower Radiofrequency Radiation](#) undertaken by the Ramazzini Institute (Italy). The importance of the key conclusions of this study is that they are consistent with and therefore reinforce the findings of the National Toxicology Program. Key findings attest to an increase in the incidence of glioma, acoustic neuromas (cancers of the brain) and rare malignant tumours such as schwannomas of the heart.
4. The recent review by Professor Martin Pall, a winner of eight international awards, entitled [Wi-Fi is an important threat to human health](#), and published in *Environmental Research* 164 (2018) 405 – 416 considers repeated studies on Wi-Fi and other microwave frequency EMFs. He identifies seven effects that are consistently accepted as proven in 10 to 16 studies and which can therefore be scientifically referred to as established. These established effects are oxidative stress, sperm/testicular damage, neuropsychiatric effects including EEG changes,

apoptosis, cellular DNA damage, endocrine changes and calcium overload. The review informs that EMF effects are often cumulative and irreversible, and that EMFs may impact young people more than adults.

### *The Mechanisms*

Professor Pall revealed a viable and now [accepted mechanism](#) by which non-thermal pulsed microwave EMFs cause bio-effects and disease at cellular level. His predominant mechanism for harm rests in how pulsed microwave EMFs put force on the voltage sensor that controls the voltage-gated calcium channel (VGCC), allowing excess calcium to penetrate the cells. 'This increases nitric oxide and superoxide in the cells, leading to production of free radicals, oxidative stress and DNA damage. Potential health effects include cancer, male and female infertility, neurodegenerative disease, neuropsychiatric conditions, and electromagnetic hypersensitivity. In addition, microwave radiation in conjunction with specific chemical exposures may increase autism risk.' ([Electromagnetic Radiation Safety](#)) The mechanism has been replicated at least six times and no inconsistencies were found. Where does this place us with the installation of small cell millimetre wave antennas (5G)? In a [letter to Legislators in California](#), U.S.A., Professor Pall warns that the State would be making a grave mistake in installing these and that "Legislators would best pause to understand the gravity of the biological consequences from continual damage to human DNA." Small cell millimetre wave antennas (5G) are currently being installed in Ireland, without primary legislation or provision of information regarding risks, despite an estimated 5% to 10% of the population already suffering from the environmental impairment/functional Impairment/'microwave sickness' called Electrohypersensitivity.

### *Electrohypersensitivity*

[Electrohypersensitivity](#) (EHS) or electrosensitivity (ES) has been a health issue now for at least four decades, symptoms of exposure to radiofrequency have been acknowledged in a [Review of Soviet/Eastern European research on health aspects of microwave radiation](#) (1979) (D.I. McRee), by the U.S. [Navy in 1971](#), and the U.S. [Air Force](#) in 1994. In contradiction the [WHO's Fact Sheet No. 296](#), 2005 on Electromagnetic Hypersensitivity (Page 3) advises Governments that the information they provide to the public should include a clear statement that no scientific basis currently exists for a connection between EHS and exposure to EMF. Despite this, EHS is already formally recognised as a functional impairment in some countries, e.g. Sweden, where they have their own association and where it is embedded within the Swedish Disability Federation. The main issue for electrosensitives lies in an inaccessible environment associated with unsustainable levels of EMF both within and outside of their homes. Although effects are accumulative, those with less severe symptoms can initially manage their lives by taking measures to shield rooms and/or their bodies with protective clothing etc. For others, symptoms become so severe that they have no option but to move house, others move from place to place continuously, some resort to living in sheds; sleeping in cars, avoid public/social service providers, hospitals, schools etc. Needs such as shopping, attending the doctor, using public transport, use of social services etc., become almost impossible. At the severe stage there is an inability to continue participating in society or the social activities considered necessary for health and wellbeing. The daily toil of survival is a 24/7/365 operation.

The two almost universal daily symptoms of EHS are fatigue and mental impairment such as poor memory, reduced concentration, insomnia, pain, particularly in the head and limbs, vertigo, palpitations, eye and ear problems, skin rashes and 'microwave hearing.' Long-term effects include Cancer, Neurological/Neuropsychiatric effects, Anxiety and Stress, Alzheimers,



Autism, Genetic effects such as male sterility, DNA damage, Miscarriage and birth defects, Asthma, Diabetes, Thyroid dysfunction, Bleeding disorders, and significantly decreased sperm counts. ([BioInitiative Report – Conclusions 2012](#))

Compounding the difficulty of being electrosensitive is the lack of medical practitioners trained in environmental illnesses and their lack of knowledge regarding the diagnostic tools already available. It is left to the sufferer to self-diagnose, recognising the cause of their problems through observation and experience.

In 1998 and 2005 a group of EHS sufferers made presentations before Oireachtas Committees as noted in the Joint Committee on Public Enterprise and Transport report on *Non-ionising Microwave Radiation Emissions from Communications Masts* (1998) and the Joint Committee on Communications, Marine and Natural Resources, Report on *Non-ionising Radiation from Mobile Phone Handsets and Masts* (2005). These reports appear to be no longer available or cannot be found. The suffering of these victims was, and continues to be, for those who have survived, completely ignored along with issues raised by other concerned groups during the course of discussion at those Committee meetings.

As a means of assisting in the provision of information on effects from EMF the following table is provided: [Table of Effects by SAR or Power Density in Safety Advice for Electromagnetic Fields](#)

#### *ICNIRP Acknowledgement of Microwave Hearing*

The ICNIRP standards (page 506) do mention one of the most debilitating symptoms of EHS i.e. '[microwave hearing](#)' (often referred to as 'as the Hum' on social media). This is caused by the absorption of continuous-wave microwave radiation (Wi-Fi/3G/4G/ 5G) on the brain resulting in a '[thermoelastic wave of acoustic pressure](#)' that travels to the inner ear (Lin & Wang). This tortuous effect is added to by the resonance of continuous radiation from telecommunication masts. The ICNIRP standards actually state that "repeated or prolonged exposure to microwave auditory effects may be stressful and potentially harmful." The European Council [Recommendations 1999/519/EC](#) on the limitation of exposure of the general public to EMF (0Hz to 300 GHz) as per the ICNIRP, have recommended limits for pulse duration and the frequency range 0.3 to 10 GHz (199/65) and for localised exposure of the head, 'in order to limit and avoid auditory effects.' Yet it would be difficult to find any telecommunication infrastructure contractor, sub-contractor, County Council Office or Government Department who are aware of what these limits are or that auditory effects are dependent on pulse shape, duration, pulse repetition rate, SAR distribution and other factors such as skull and brain geometry.

A new threat has recently been added to the mix for those who suffer from 'microwave hearing'. This is experienced as a constant brain piercing penetrating 'noise'/agitation with little possibility of relief 24/7. Those who experience the auditory perception of microwave frequency fields believe this may be due to the frequencies used for 4G LTE which affects both sides of brain, or possibly the recently installed 'smart' meters or meters using 2.4 GHz/5GHz, or perhaps the installation of 5G small cell antennas (as yet untested for safety), or an upsurge in the use of Tetra masts. Tetra, used mainly by emergency staff, uses a frequency similar to that of the human brain. An already intolerable situation has been made unsustainable for many. This position is exacerbated by: lack of knowledge of Government Departments and Agencies; dependence upon standards and guidelines that are obsolete, ineffective and offer no protection; and minimal monitoring provided by ComReg. The phenomenon of 'microwave

hearing' was studied and published in the Journal of Applied Physiology as far back as July 1962 by Allan Frey.

Recommended reading: [Auditory Perception of Radio-frequency Electromagnetic Fields](#) by Chung-Kwang Chou and Arthur W. Guy – Journal of Acoustical Society of America, Vol 71 (6): 1321 – 1334, June 1982 (published online 1998).

### *Insurance Industry*

The seeming reluctance of the Government to acknowledge the known potential adverse health effects of EMF is openly opposed by an insurance industry that withholds cover for risks linked to EMF. Insurance Company specialists in Emerging Risks have warned the insurance industry about the impact of potential risks from the 'unforeseen consequences of electromagnetic fields.' 'The Electromagnetic Fields Exclusion ([Exclusion 32](#)) is now a General Insurance Exclusion applied across the market as standard.' Therefore liability coverage for claims 'Directly or indirectly arising out of, resulting from or contributed to by electromagnetic fields, electromagnetic radiation, electromagnetism, radio waves or noise' has now been excluded from public liability policies. The European Parliament Report 'on health concerns associated with electromagnetic fields ([2008/2211\(INI\)](#)' (page 8) refers to the implication of this exclusion especially given 'that insurers have the ability to evaluate risk ... and to bank on the future, there is good reason to ask why they are seeing fit to apply the precautionary principle in their own way?' Hardly reassuring, yet even in the face of this, all notions of precaution seem to have been abandoned by the Irish Government and its Agencies. Instead, regulations regarding EMF have been demoted in importance and reduced, placing the needs of the telecommunications industry for profit in paramount position regardless of the State's Constitutional responsibility and duty of care to protect human life, public health and wellbeing and the environment.

### *Strategies used by Industry to deflect attention from the truth*

The European Environment Agency (EEA) reviews environmental hazards such as asbestos and tobacco and warn that 'there are many examples of the failure to use the precautionary principle in the past, which have resulted in serious and often irreversible damage to health and environment.' ([EEA re Bioinitiative Report](#)) In their report [Late lessons from early warnings](#) (Precautionary Principle) the EEA advises that 'fear of false positives is misplaced and should not be a rationale for avoiding precautionary actions where warranted.' (Page 19) The EEA is aware that decisions made can be 'the result of a deliberate strategy in risk communication' based on how 'some regulated parties have consciously recruited reputable scientists, media experts and politicians to call on if their products are linked to a possible hazard. Manufacturing doubt, disregarding scientific evidence of risks and claiming over-regulation appear to be a deliberate strategy for some industry groups and think tanks to undermine precautionary decision-making.' (Page 19) The EEA report [Implications for Science and Government](#) suggests that the question that needs to be addressed is 'are we sufficiently confident that this exposure to a potential hazard leads to adverse effects serious enough to initiate transparent and democratic procedures to decide on appropriate intervention?' (Page 623)

### *Laissez-faire Approach by Government to Public Health and Wellbeing*

Delay in instigating the precautionary principal may reflect a Government that is complicit in the game of pleading 'more research needs to be done', 'no adverse effects' or 'scientific

uncertainty' as a means of delaying the disclosure of the real scientifically based truth about EMFs and health. The predisposition of relevant Departments and Agencies to ignore [E.U. Parliamentary Assembly Resolutions such as 1815 \(2011\)](#) *The potential dangers of electromagnetic fields and their effect on the environment* and to rely upon conclusions in 'not fit for purpose' reports as a means of delaying the introduction of truly biologically safe standards, real regulation, primary legislation or even precaution renders them to be in dereliction of their Constitutional obligations. The non-adoption of any precaution despite early warnings from numbers of citizens who suffer with EHS, along with numerous research studies undertaken by respected independent non-industry funded scientists looks like wilful blindness in the face of a potential public health crisis. There can be little doubt about a culture of favouritism towards the prioritisation of radio/telecommunications operators/services over human rights. In legal terms, Government Departments and Agencies will be aware that the public have a constitutional right to the quiet pleasure of their homes. They also have a human right to a healthy environment, to live without torture and to live on an equal basis with others. The public have received no information on, or given consent to the polluting of their homes and airspace with EMF. The public have given no consent to being used as test and trial material for the telecommunications industry with the active facilitation of the Irish Government and its Agencies. The truth is that pulsed microwave/millimetre wave EMF is not biocompatible.

Article 30 in the [E.U. Parliamentary Assembly's Doc 12608](#) Report advises:

If most governments and safety agencies have merely contented themselves with replicating and adopting the safety recommendations advocated by the ICNIRP, this has essentially been for two reasons:

- in order not to impede the expansion of these new technologies with their promise of economic growth, technological progress and job creation;
- and also because the political decision-makers unfortunately still have little involvement in matters of assessing technological risks for the environment and health

Levels of proof regarding EMF and adverse health effects are sufficient to prompt immediate action by the Government to urgently replace Wi-Fi with wired systems in schools and sheltered housing for the elderly and to hold back on the installation of 'smart' meters and 5G millimetre wave technology until proper testing for safety has been undertaken.

**NOTE:**

Added to the rising male infertility statistics, Alzheimer Deaths, Genetoxity and DNA damage, a pattern of coincidences are appearing in articles from an otherwise silent media. An Irish Independent newspaper article ([28<sup>th</sup> May 2017](#)) heralds a warning from Dr. Michael Kerin, Professor of surgery at NUI Galway that Ireland is facing a cancer epidemic, with the number of cases set to double by 2040. Another recent article in the Irish Independent ([5<sup>th</sup> May 2018](#)) points out that brain cancers 'gliomas' have increased from around 1,250 a year in 1995 to just under 3,000 today. Other signs exist e.g. a report by the Royal College of Surgeons in Ireland informs us that [One in Five Young People in Ireland is Experiencing a Mental Disorder](#) (2013), an effect of EMF as highlighted in Professor Martin Pall's peer-reviewed research [Microwave frequency electromagnetic fields \(EMFs\) produce widespread neuropsychiatric effects including depression](#) (Journal of Chemical Neuroanatomy, Volume 75, Part B, September 2016 pages 43 – 51).

### **Establishment of a Public Inquiry**

Given the forgoing critical analysis, it should be obvious that questions need to be answered sooner rather than too late. This submission is a request for a public inquiry to investigate all aspects of the issues surrounding EMF and health and should include discussion on:

1. The ICNIRP Standards being used by the Government are ambiguous and obsolete. They do not refer to the **non-thermal** effects of EMF or long-term continuous pulsed microwaves or millimetre waves. These are used in 4G LTE, 'smart meters' and fifth generation (5G) small cell antennas that are currently being installed, without proper research or information provided to the public regarding risks.
2. The selection process of 'expert' committee members in Ireland as well as in Europe needs to be fully investigated to ensure these committees are not tainted by industry with apparent conflict of interest issues.
3. The ICNIRP Standards managed to bypass the approval of the Houses of the Oireachtas and Dail by being adopted by ComReg into licensing practice for Telecommunications operators.
4. No primary legislative framework exists, no implementation measures are taken on basic restrictions and the precautionary principal does not appear to have been adopted in Ireland.
5. Any existing regulations are very much Pro-industry with minimal monitoring.
6. The telecommunications industry is insulated from any public health issues and subsequent financial costs. These have been shifted onto the taxpayer and ultimately it is the Exchequer that will bear the cost.
7. The onus of proof is placed upon the victims of EMF pollution whose daily physical symptoms prevent them from living an equal life to others and where daily tasks become insurmountable problems.
8. The environmental/functional impairment/'microwave sickness' called Electrohypersensitivity (EHS) is not formerly recognised by the Irish Government and/or its Agencies
9. The suppression of the word 'health' which all are informed comes under the evasive 'other codes'. (Circular Letter: 07/12)
10. Failure to set up a specific Agency to hold responsibility for EMF and health effects. Any existing responsibility is fragmented between a variety of Government Departments and Agencies.
11. Transfer to Department of Communications, Climate Action and Environment for **policies** on EMF and Health - but not health effects? Has the Minister for Health been absolved from the constitutional duty of care to protect the public in relation to EMF?
12. Reduction of Human Rights: Breaches of [Nuremberg Charter 1945](#) regarding experimentation on populations; Breach of the [Aarhus Convention](#) (E.U. Parliamentary

Assembly Recommendation 1430 (1999) re information on the environment, public participation and access to justice; no involvement of the public into risk decisions that affect them; Breach of European Convention on Human Rights as indicated in a report to the E.E.S.C., by Isaac Jamieson, PhD – [Electromagnetic Hypersensitivity & Human Rights](#).

13. Apparent Dismissal of European recommendations/resolutions e.g. Parliamentary Assembly Doc. 12608 Report, May 2011 and its subsequent Resolution 1815 (2011), *The potential dangers of electromagnetic fields and their effect on the environment* and the Parliamentary Report A6-0089/2009 *On health concerns associated with electromagnetic fields* 2008/2211(INI), Text adopted April 2009. (Links provided earlier)

14. No progress made regarding Government Strategies e.g. the Department of Health's [Statement of Strategy 2016 – 2019](#), the Health Service Executive's [Health and Wellbeing Initiative](#), the Environmental Protection Agencies report [Ireland's Environment – An Assessment 2016](#) (Chapter 8), or the Governments [Healthy Ireland Framework 2013 - 2025](#)

15. Real evidence of adverse health effects from EMF ignored, wilfully or otherwise. The Government denies that there are any public health and wellbeing issues related to EMF despite mountains of proof and a visible and accepted mechanism for harm.

16. Disappearing Committees: e.g. the International Advisory Committee on EMF; Agencies such as the Radiological Protection Institute of Ireland; Bills such as The [Mobile Phone Radiation Warning Bill 2011](#), and reports such as those unavailable or 'Not Found' arising from Oireachtas Committees held in 1998 and 2005

17. Despite similarities to the history of the Tobacco and Asbestos Industry no notice is being taken of 'early warnings' regarding EMF and adverse health effects.

18. There appears to be a lack of knowledge on the part of telecommunication infrastructure contractors/sub-contractors regarding levels of EMF/Radiofrequency/pulsed microwaves above which the 'auditory effect'/'microwave hearing' becomes a reality.

19. No training of medical practitioners in environmental illnesses such as EHS or awareness of the diagnostic tools already available. Medical practitioners are instructed instead to treat symptoms only (Irish 'Expert Group Report' 2007).

***A credible initial response to this submission for electrohypersensitives would include:***

*Recognition of EHS as an environmental impairment*

EHS needs to be officially recognised as an environmental impairment/functional impairment and as a disability in order to enable access to necessary resources and to live an equal life in a society based upon equality as per the E.U. Human Rights Act and the U.N. Convention on Human Rights for Persons with Functional Impairments. An action plan needs to be drawn up which will enable citizens who are electro-sensitive to live, socialise and work on an equal basis with others

*Establishment of EHS Hotline*

The Introduction of a 'hotline' for EHS sufferers where a registry could be kept that would give some indication as to the numbers, geographical areas and scale of effects. This

should also provide access to ‘experts’ including e.g. building biologists, bio-physicists and engineers who have the ability, skills and knowledge needed to measure EMF pollution in the homes of sufferers and suggest protective steps, with resources provided by the State. The provision of appropriate ‘expertise’, options, information and practical assistance would enable the Government to exercise, at least in part, its duty of care to the citizen.

#### Creation of White (EMF Free) Zones

Sufficient evidence already exists regarding adverse health effects of EMF to warrant immediate intervention that could commence with the provision of ‘white zones’ in each county. With no ‘white zone’ i.e. an area free of EMF, there is now nowhere for sufferers to go for relief.

#### Public Participation in Decision-Making and Information Campaigns

One of the consistent points made by the E.U., and also referred to in the Aarhus Convention, ratified by Ireland in 2012, is that information regarding the risks associated with EMF should be provided to the public and also that public participation in decision-making regarding the environment should be made a priority. The dangers to the public are not being given sufficient prominence. Direct public participation in the decision-making process is a Constitutional right.

#### Reduction of Electrosmog in Wireless Local Networks

A system is available to assist in the reduction of electrosmog from wireless local area networks designed to reduce the risk of damage to health. Swisscom’s patent application confirms adverse health effects and also confirms that health destruction is ‘not dependent upon temperature increases. This system offers an initial solution to a difficult situation.

Ref: WIPO Patentscope, 1. (W02004075583) [Reduction of Electrosmog in Wireless Local Networks](#).

**SUBMITTED by Ethna Monks**

**On behalf of: ELECTROMAGNETIC SENSE IRELAND (<https://es-ireland.com>)  
(Formerly IERVN)**



