

The two-perspective risk assessment system in Europe

World health change possibly linked to electromagnetic fields



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1. The International EMF Alliance

- Global umbrella NGO with *public-health* interest
- Interprets (life) science from a *health-oriented biology* perspective
- Supported by 50 independent life scientists, medical doctors, other experts and
- 75 NGO's throughout 45 countries worldwide



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- Alliance for Irish Radiation Protection
- American Association for Cell Phone Safety
- ASANACEM/EEKNE
- Associació Oikos Ambiental
- Association for Environmental and Chronic exposure Injury
- Association for Electro Hypersensitive
- Association for Electrosensitive in Finland
- Association for the Protection of Health and the Environment
- Associazione Italiana Elettrosensibili
- AVAATE
- Bio Electromagnetic Research Initiative
- BIOGEN
- Cavi Society
- Cell Tower Dangers
- Center for Electromog Prevention
- Center for Safer Wireless
- Citizens for Safe Technology
- Citizens Radiation Protection
- California Brain Tumor Association
- Defense Association of Health and Environment
- Ecologists in Action (Ecologistas en Acción)
- EHS Association of Electrosensitives
- EKEUKO-COVACE
- Elektrosmognews
- Elektrosmog-Info
- Elettrosmog Volturino-onlus
- Electric Sense
- Electrical Pollution Solutions
- Electrosensitive Society
- Electromagnetic Radiation Research Foundation
- Electromagnetic Safety Alliance
- Electrohypersensitivity Foundation (Stichting EHS)
- Electromagnetic Fields Protection Alliance
- ElectromagneticHealth.org
- EMFacts Consultancy
- EMF Refugee
- EMR Australia
- EM Radiation Research Trust

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-  South Africa
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-  Malaysia
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-  United Kingdom

- EMR Policy Institute
- Environmental Health Trust
- ElectroSensitive Association (FEB)
- Escuela sin WIFI
- Green Warriors of Norway
- Health Defense Organization
- International Commission for Electromagnetic Safety (ICEMS)
- IGEF The International Society for electromagnetic research
- Irish Doctors Environmental Association
- Kitakamakurakeitaing
- Kompetenzinitiative
- La Fundación Vivo Sano
- L'association PRIARTÉM
- Limit the Radiation (Beperk de Straling)
- Mast Action UK
- Mast-Victims
- Mast Sanity
- MobileWise
- NEXT-up Organisation
- National Platform on Radiation Risks
- Our Children's Future (Vore Børns Fremtid)
- Pandora Foundation
- Powerwatch
- Radiation Education
- Rete Elettrosmog free Italia
- Robin des Toits
- StopUMTS
- SSITA (Safe Schools Information Technology Alliance)
- StralingsArmVlaanderen
- Stop Smart Meters!
- Teslabel
- The People's Initiative Foundation
- VGM Verein für Gesundheitsverträglichen Mobilfunk
- WaveBreaker (Vågbrytaren)
- WEEP (Wireless Electrical and Electromagnetic Pollution)
- WiFi in schools
- WiredChild

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Contribution to this conference

- Context and deeper layers of the policy system on EMFs & health in Europe (2 – 3)
- Focus on different paradigms & science interpretations underlying this system (4 – 6)
- Their deeper system origin, and fundamental impacts on assessed (EMF) risks & regulatory decisions (7 – 8)
- Recommendations to direct the existing system into *public-health* protection (9)

2. World health change:

Increase chronic multisystem diseases

Last decades: rapid growth of overlapping functional impairments, often connected to work- or lifestyle

- Neurological and neuroendocrine health problems
- Stress, depression and anxiety disorders
- Brain diseases, autism spectrum disorders
- Hypersensitivity and pain disorders
- Premature dementia (neurodegenerative disorders)
- Different types of cancers (dysregulated cell growth)
- Energy problems chronic fatigue, exhaustion, burnout
- Allergic and autoimmune diseases
- Bone, joint and muscle disorders, et cetera

Rapid expansion of public costs

- Prime value of life is threatened: Public Health
- Threats of structural and serious damage
- Huge economic, social and health costs
- Loss of occupational productivity
- Explosive costs of health-care systems
- Muscle & joint pain alone costing EU €240 billion a year
- Disorders of the brain costing EU €798 billion in 2010
- Many more billions for other chronic diseases

3. Can these modern diseases be caused by electromagnetic fields?

- Is the dramatic increase of EMFs a neglected factor in an unhealthy Western work- or lifestyle?
- Can these chronic energy fields of 'wireless' and 'wired' technical appliances form a heterogeneous cause of new 'multifactorial' system diseases?
- What is the ability of the existing policy system to protect human health?

4. Two opposite science interpretations on long-term risks

Traditional 'EMF-Safety' community

"No hard evidence for health risks"

Recent 'EMF-Health' community

"World health at risk, since evidence of serious disruption to biological systems
Associations with many of the
increasing chronic diseases & disorders"

5. Science interpretation within a risk-protection system

Paradigm – it's wide effects

- Set of assumed concepts, theories & methods
- The guiding frame of mind of a scientific community
- Generates the organizing and understanding of reality
- More or less true-to-reality (earth flat or round)
- Different paradigms are incompatible
- Revolutionary competition between paradigms
- Implicit basis for *science interpretation*
- Thus guiding policy, research and communication

Framework for risk assessment

- Paradigm-based approach for overall-risk assessment
- Chosen approach for assessing 'facts' & 'overall risks'
- Approach for evaluating & weighing available evidence
- Rules of the game for interpreting science
- Outcome is more or less true-to-reality
- If so, consistent with other types of knowledge

Input for risk management

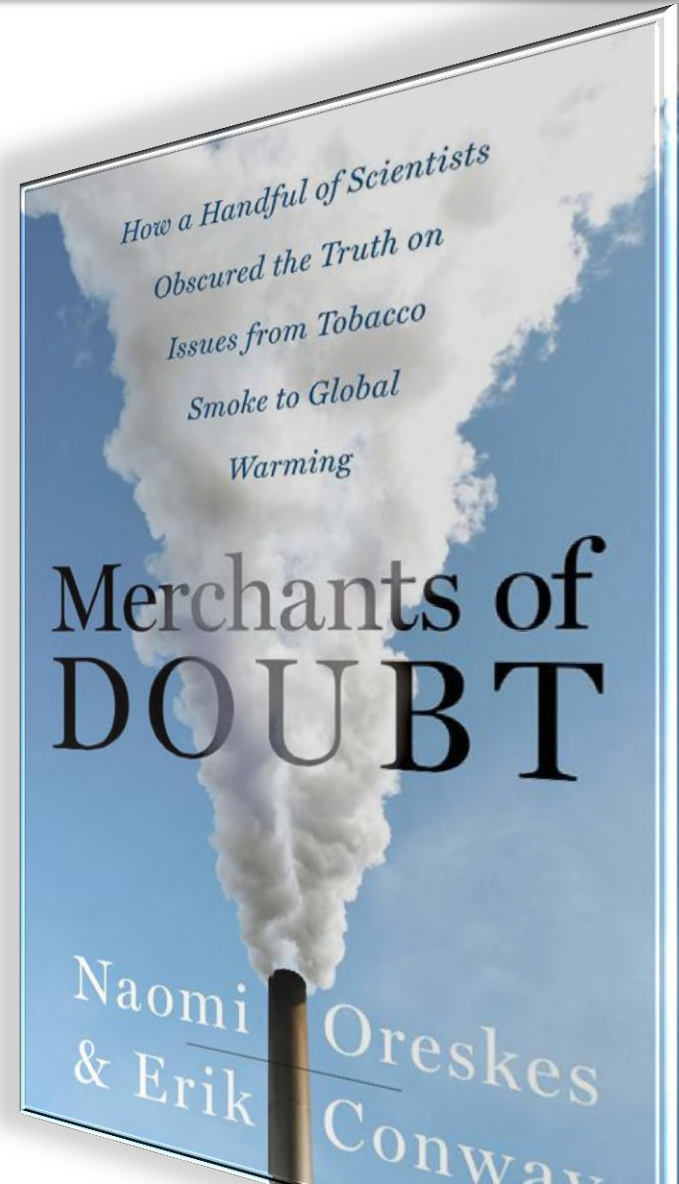
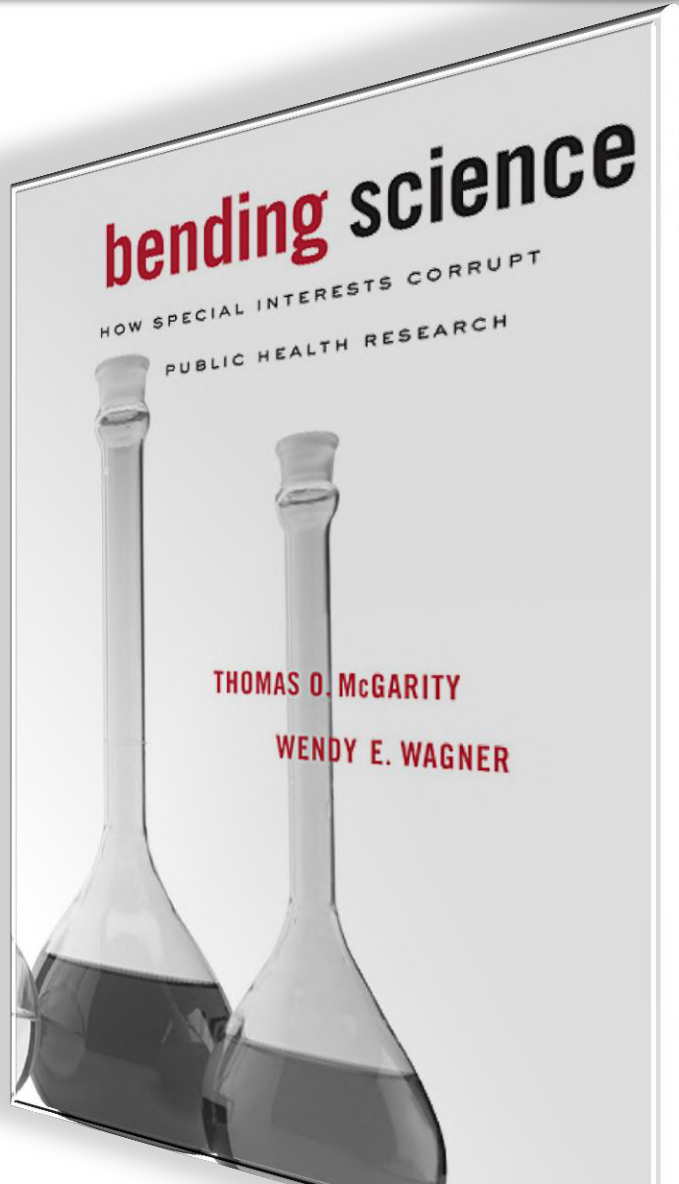
- Resulting assessed risks form input for risk research, risk communication, risk management et cetera
- Thereby major effects on risk protection systems

Pipeline from science to policy

Frequently manipulated, for instance

- Advocates of vested interests infiltrate the pipeline and secretly situate themselves at various key points
- Using assumptions, methods, and interpretations that appear legitimate on the surface, concealing incremental choices that ensure that research support predetermined ends
- Half of environmental epidemiologists in 2001 survey had been harassed by someone with interest
- Hiring scientists to attack unwelcome research

Bending Science



Recent examples of bended science

2011

"Member WHO RF Committee linked to telecom industry"

2012

"Climate skeptics financed"

"EU Food Safety Authority not independent"

"Psychiatry in grip of commercialism"

"Tabaco industry ruthless & deviant enemy"



Chosen profile for policy action

Action profiles
of policy advisors
Weiss 2003

Level of precautionary action

High



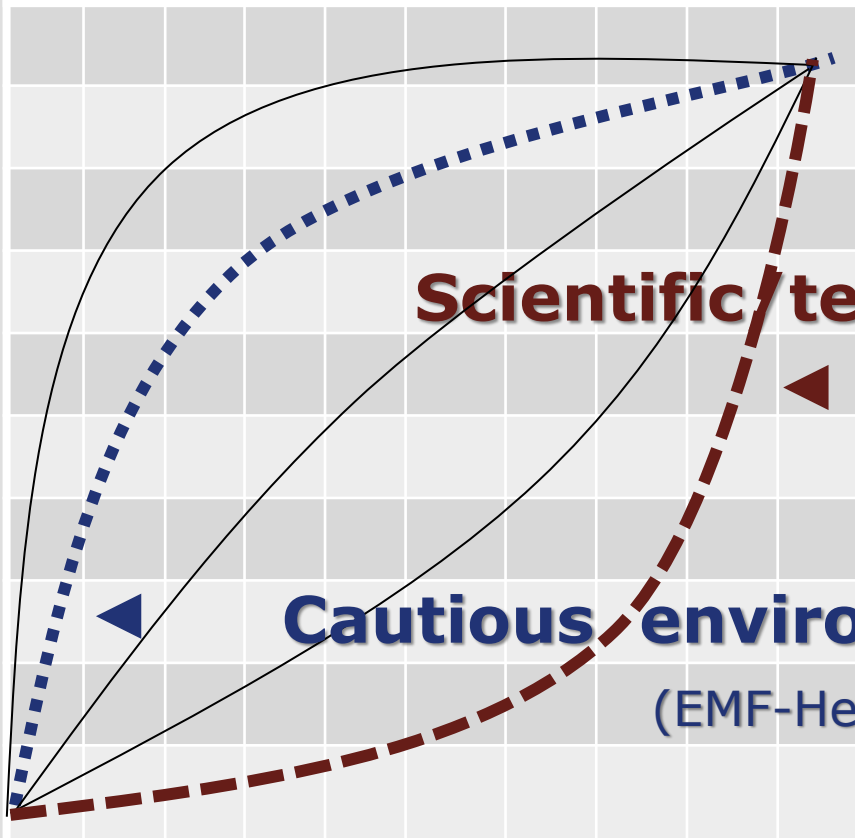
Low

Level of risk evidence

Low



High



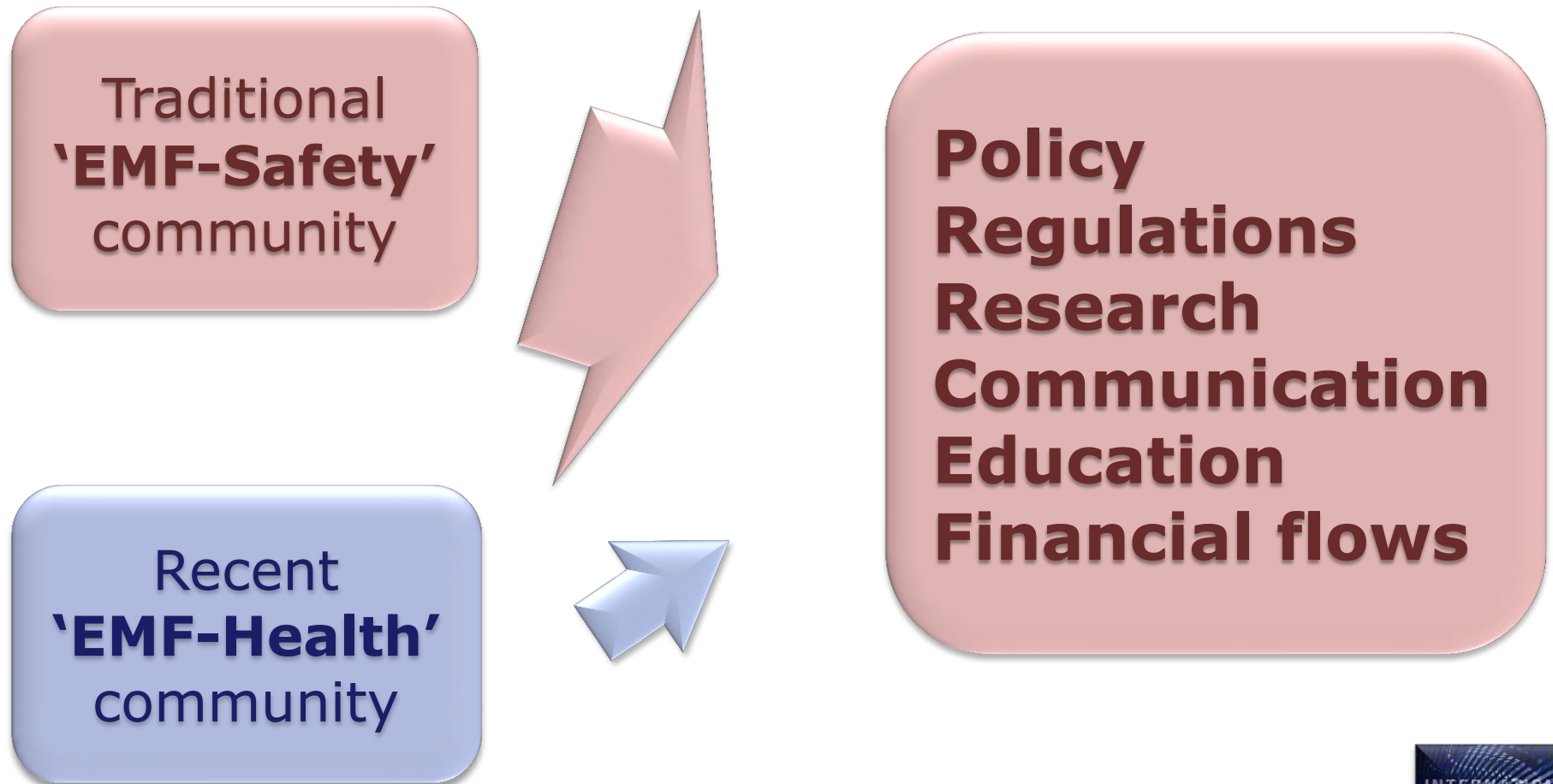
Scientific/technical absolutist

(EMF-Safety community)

Cautious environmentalist

(EMF-Health community)

6. The two-perspective protection system for EMFs in Europe



History of the current system for risk assessment EMFs (1)

- 1884 Institution of Electricity and Electronics Engineers
- 1966 IEEE co-sponsors an '*Exact Physics*' RF standard to ensure direct EMF-Safety of technical appliances
- 1998 The International Commission on Non-Ionizing Radiation Protection (ICNIRP) incorporates the IEEE RF standard and paradigm in guidelines for EMF protection
- 1999 the '*Exact Physics*' guidelines are approved by EC/SCENIHR, and widely recommended for EU policy
- 2002 a corresponding ICNIRP framework for EMF risk assessment was made adopted by WHO in 2006 and promoted as established risk assessment



History of the current system for risk assessment EMFs (2)

- 2007 The BioInitiative Group presents innovating EMFs risk assessment report plus guidelines for public-health protection, based on '*Complex Biology*' paradigm
- 2007 This '*complex biology*' science interpretation is criticized by an EU Fast Response Team on EMF and Health, embracing the ICNIRP '*Exact Physics*' paradigm
- 2010 '*Biology*' scientists publish EMF Seletun resolution containing guidelines for public-health protection
- 2010 These '*Complex Biology*' guidelines are neglected, pointing (2007) to '*Exact Physics*' reference reports
- 2011 Wide requests for new paradigm, standards



The EMF-Safety community:

Technical & Governing institutions

Technological industries

KEMA, IATA, Telecom IA, IEEE IAS

Technical and medical experts

ACGIH, HPS, IEEE, IRPA, NRPSs, SCENIHR, WHO IARC

Technical advisory bodies

ICNIRP, NCRP, EMF-NET

- Last century – *'establishment'*

Governments and Authorities

EU Council, EU Commission, COST, NGovs, WHO, NHAs

Technical implementing bodies

CENELEC, CIE, IEC, ILO



The EMF-Health community: Environment & Health institutions

Health & Environment Advisory bodies

ENSSER, EEA, HDO, EPA, HEAL, IEMFA, RNCNIRP

Health-oriented Life Sciences

BEMS, BioInitiative Group, Ecolog, ICEMS

Public-Health and Environment doctors

CHE, EUROPAEM, HICs, ISDE, NMAGs

Workers, Patients & Civil institutions

ETUC, EPSU, AMICA, EFBWW, EU Parl, PACE, NGOs

-Last decades –recent network



Two distinct paradigms, perspectives and guidelines for EMFs protection

The 'Exact Physics' paradigm
of the traditional EMF-Safety community

The 'Complex Biology' paradigm
of the recent EMF-Health community

Traditional EMF Safety community

Including IEEE, ICNIRP, WHO, EU Commission

History

Electronics
Engineering
& Physics

Background

Applied
technology

Objective

Acute Safety of
EMF technology

Focus

Acute risk of short
term high
exposure

Action pathway

Electric potentials,
currents & heating
of tissues

Method

Calculating
based on
theoretical models

PHYSICS PARADIGM

Traditional Advice

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Emerging EMF Health community

Including ICEMS, BIG, Seletun, IEMFA, EU Parliament

History

Experimental
Biology

Background

Integrative life-
sciences

Objective

Long-term
influences of
EMF on Health

Focus

Long-term risk of
prolonged low -
level exposures

Action pathway

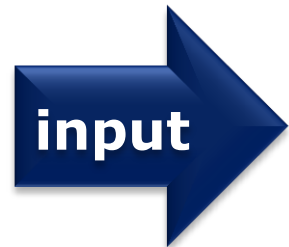
Heterogeneous
bioaccumulation
of disruptions

Method

Measuring
EMF-induced
bio-disruptions

BIOLOGY PARADIGM

**Additional
Advice**



**P
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C
Y**

7. Credibility of the 'Exact Physics' science interpretation

- Worldwide critics, appeals and warnings from life scientists, doctors, biomedical experts and civilians
- Requests for a thorough review of the science base of current EMF standards, plus more adequate paradigm
- Accumulation of theoretical assumptions, model-based formulas, mathematical calculations, estimations, combining of data, judgments, weighing, assigning of relevance, selections of studies, et cetera
- This results in high level of scientific uncertainty

8. Conclusion

The protection system for EMFs (a)

- By historical lead a worldwide advisory system on EMF protection could strategically be established, based on an '*Exact Physics*' paradigm of technological institutions
- A '*Physics*' paradigm is fundamentally inadequate for the complex dynamic domain of 'Living organisms'. *Biological* pathways of EMF action are downplayed. Only '*Exact Physics*' EMF mechanisms are recognized (tissue heating, e-currents, e-potentials)
- The established system thus produces fundamentally misleading EMF-risk information for worldwide policies, regulations, -research and -communication on EMF protection, in a paradigm-controlled way



Conclusion

The protection system for EMFs (b)

- The '*Exact-Physics*' policy systems that became internationally established in the last century are thereby fundamentally unable to protect public health
- According the '*Complex biology*' science interpretation, heterogeneous EMFs form a highly plausible causal work- and lifestyle factor of chronic multisystem diseases, that already may evoke huge public costs They form a wide and global threat for global health
- Policy decisions for unlimited roll-out of EMF technology (electricity, WiFi etc) are based on misleading risk information, bring large profits for industries but may further increase worldwide chronic diseases



9. Urgent actions to build a public-health protection system EMFs

1. It is essential to have '*complex biology*' persons in key positions of central institutions worldwide
2. Implement existing '*complex biology*' guidelines, i.e. the ten key points of the Seletun-scientists resolution, including reduction of EMFs exposure
3. In the complex domain of 'living organisms': switch from unfeasible action profile '*technical absolutism*' to more appropriate '*environmental precaution*'
4. Shift financial flows to '*complex biology*' actors

Urgent actions to build a public-health protection system EMFs

5. Let '*complex biology*' parties develop a biologically-based new framework for science & assessment of (long-term) public-health risks of EMFs
6. Switch selection of science-committees members, program committees and reviewers et cetera to '*complex biology*'
7. Change institutional control structure worldwide: public health & environment institutions should control technology institutions, not vice versa

INTERNATIONAL **EMF** ALLIANCE



IEMFA will gladly assist in the urgent transition
to a public-health protection system

Thank you for your attention

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References IEMFA

Madrid 17 May 2012 (1)

- Advisory Council for Research on Spatial Planning, Environment and Nature. 'New risks into the picture?', Ph van Notten, To learn from early warnings, meta-analysis of 'Late lessons from early warnings', Essay Series 2004.
- Andlin-Sobocki P, B Jönsson², HU Wittchen and J Olesen, Costs of Disorders of the Brain in Europe. European Journal of Neurology. Volume 12, Suppl 1. June 2005.
- Australian Medical Association (AMA), Guideline of the Australian Medical Association for the diagnosis and treatment of EMF-related health problems and illnesses (EMF-syndrome). Consensus paper of the AMA's EMF Working Group, 3 March 2012.
- BioInitiative Working Group, BioInitiative Report: A rationale for a biologically-based public exposure standard for electromagnetic fields (ELF and RF). Pathophysiology, Volume 16/2,3, pp. 67-248, August 2009. Original BioInitiative Report 2007. Last update April 2011.
- BioInitiative Working Group, BioInitiative Report: A rationale for a biologically-based public exposure standard for electromagnetic fields (ELF and RF). Original BioInitiative Report 2007. Large parts published as Special issue on EMF. Blank M, editor, Pathophysiology, Volume 16/2,3, pp. 67-248, August 2009. Update April 2011.
- Council of the European Union, Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz), July 12, 1999.
- Dehue T, The Depression Epidemics (De Depressie-epidemie), Amsterdam 2008.
- Deventer E van, The WHO International EMF project, World Health Organisation, presentation Lima, Peru, 19 June 2006.
- EurActiv.com, EU news and policy debates, 'Tackling health inequality could boost economy', 11 January 2010.
- EurActiv. Costs of Disorders of the Brain in Europe, European Journal of Neurology. Volume 12, Suppl 1. June 2005.
- European Academy for Environmental Medicine (EUROPAEM), International Appeal from Würzburg. April 25 2010.
- European Brain Council, Costs of Disorders of the Brain in Europe since January 2012, media information 2010. European Commission, Scientific Steering Committee, Opinion on possible health effects from exposure to electromagnetic fields (0 Hz - 300 GHz) - Report and opinion at the meeting of the Scientific Steering Committee of 25-26 June 1998.



References IEMFA

Madrid 17 May 2012 (2)

European Commission, Scientific Committee on Toxicity, Ecotoxicity and the Environment (CSTEE), Opinion on Possible effects of Electromagnetic Fields (EMF), Radio Frequency Fields (RF) and Microwave Radiation on human health, expressed at the 27th CSTEE plenary meeting; Brussels, 30 October 2001.

European Commission, Electromagnetic fields, EU Actions, last update October 4, 2011.

European Commission, EMFs at work, Employment, Social Affairs & Inclusion, Second stage social partner consultation on electromagnetic field legislation, 20 May 2010.

European Commission, FP7 call ENV.2011.1.2.2-2 'Exposure to electromagnetic fields (EMF): investigations of mechanisms to support risk assessment and reduce uncertainty, July 2010.

European Commission, Special Eurobarometer 73.3, Electromagnetic fields. June 2010.

European Council, Council recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz); 1999/519/EC.

European Environment Agency (EEA), Late lessons from early warnings: the Precautionary Principle 1896 - 2000. Environmental Issue Report No 22, 2001.

European Environment Agency (EEA), Evaluating and Communicating Scientific Evidence on Environment and Health Issues, Report of the workshop at the European Environment Agency, Copenhagen 28th and 29th of May 2008.

European Environment Agency (EEA), EMF: Evaluating evidence and use of the precautionary principle. Presentation D Gee, Science, Policy, Innovation, Copenhagen, March 2009.

European Environment Agency (EEA), J McGlade. Statement on mobile phones for conference on cell phones and health: science and public policy questions, Washington, 15 September 2009.

European Fast Response Team on EMF and Health; European Commission Framework Program 6 Coordination Action EMF NET, Effects of the exposure to electromagnetic fields: from science to public health and safer workplace. Fact sheet on the interpretation and risk assessment initiatives on EMF and health, September 18, 2007.

European Federation of Allergies and Airways Diseases Patients Associations (EFA), Manifesto of the European Allergy Patient, 2002.



References IEMFA

Madrid 17 May 2012 (3)

European Parliament, Resolution 'Health concerns associated with electromagnetic fields', 2 April 2009.

EUROSTAT, Populations and social conditions, Statistics in focus, 63/2009.

Fragopoulou A, Grigoriev Y et al. Scientific panel on electromagnetic field health risks: consensus points, recommendations, and rationales, Scientific meeting Seletun, Norway, November 17-21, 2009. Reviews on Environmental Health, Volume 25, No.4, 2010.

Gale Encyclopedia of Public Health. Multifactorial diseases, 2011.

Graham Ch, 'Biological effects of ELF exposure: human laboratory studies' In: Matthes R, Bernhardt JH, Repacholi MH editors. Proceedings of the International seminar on biological effects of static and ELF electric and magnetic fields and related health risks, Bologna Italy June 4 and 5, 1997:171-186.

Hajer M, The energetic society, PBL Netherlands Environmental Assessment Agency, 2011.

Handbook Genetics Home, U.S. National Library of Medicine, part of the National Institutes of Health, an agency of the Department of Health and Human Services, 2011.

Health Council of the Netherlands, 'Health Effects of Low level Exposure' (HELLE), 1998/18.

Health Council of the Netherlands, The chronic fatigue syndrome, Advisory report with executive summary in English, 2005/2.

Hulme M, Why We Disagree About Climate Change; Understanding Controversy, Inaction and Opportunity. University of East Anglia, 2009.

International Commission on Non-Ionizing Radiation Protection (ICNIRP), Guidelines for limiting exposures to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz), Health Physics, Volume 24, No 494-522, 1998.

Institute of Electrical and Electronics Engineers (IEEE), IEEE EMF Health & Safety Standards. PA Mason, MR Murphy, Ronald C Petersen, circa 2002.

Institute of Electrical and Electronics Engineers (IEEE), Developing standards for the safe use of electromagnetic energy, circa 2002.



References IEMFA

Madrid 17 May 2012 (4)

International Commission on Non-Ionizing Radiation Protection (ICNIRP), Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz), Health Physics, Volume 74, No 4, 494-522, April 1998.

International Commission on Non-Ionizing Radiation Protection (ICNIRP), General approach to protection against non-ionizing radiation. Health Physics. Volume 82, No 4, April 2002.

International Commission on Non-Ionizing Radiation Protection (ICNIRP), Factsheet on the guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz - 100 kHz) published in Health Physics 99(6):818-836; 2010

International Commission on Non-Ionizing Radiation Protection (ICNIRP), Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (1Hz to 100 kHz), Health Physics, Volume 99, number 6, December 2010.

International Commission for Electromagnetic Safety (ICEMS), eds. Guiliani, L and Soffritti, M, Ramazzini Institute, Non-thermal effects and mechanisms of interaction between electromagnetic fields and living matter, European Journal of Oncology Library, Vol 5, 2010.

International Committee on Electromagnetic Safety (IEEE/ICES), Approved Minutes of the IEEE/International Committee on Electromagnetic Safety TC95, Nokia House, 30 November 2007.

International EMF Alliance (IEMFA), Progressive stages in world-wide knowledge development regarding electromagnetic fields & health Developing conception of associated health effects. Discussion paper update July 5th, 2010.

International EMF Alliance (IEMFA), World health urgently needs lower EMF standards, international scientists say. Press Release to announce Scientific Consensus Statement, February 2011.

International EMF Alliance (IEMFA), Stenberg K, Opinion of the International ELF Alliance (IEMFA) on the Need for Independent and Credible Environmental Assessment, IEMFA, Strasbourg March 15, 2011.

International EMF Alliance (IEMFA), Call for transparent, Impartial and Pluralist Expert Assessment on health risks of non-ionizing electromagnetic fields, Letter to Commissioner John Dalli, Health and Consumer Policy, November 2011.



References IEMFA

Madrid 17 May 2012 (5)

- Johansson O, Open letter to whom it may concern. Karolinska Institute, Stockholm, January 17 2011.
- Kahneman D & Tversky A, Choices, values and frames. American Psychologist 39: 341–350, 1984.
- Kuhn ThS, The structure of scientific revolutions. University of Chicago Press 1962.
- Maes W, Building biology and environmental analysis, comparison electro-smog, Situation April 2003 (in German).
- Maisch D, The Procrustean approach, Setting exposure standards for telecommunications frequency electromagnetic radiation. An examination of the manipulation of telecommunications standards by political, military, and industrial vested interests at the expense of public health protection, PhD Thesis 2010.
- Maisch D, Conflict of interest & bias in health advisory committees: a case study of the WHO's electromagnetic field (EMF) task group. J.Aust.Coll. Nutr. & Env. Med. Volume 25 No. 1, p 15-17, April 2006.
- McGarity ThO, Wagner WE, Bending Science. How Special Interests Corrupt Public Health Research. Harvard University Press, 2008.
- Micheals D, Doubt is their product: How industry's assault on science threatens your health. OUP USA 1 May 2008.
- Nilsson M, Leading expert Anders Ahlbom linked to the telecom industry. Conflict of Interest at the WHO, Press release, 23 May 2011.
- Oreskes and Conway, Merchants of doubt, how a handful of scientists obscured the truth. Bloomsbury press 2010.
- Parliament of the European Union. Resolution on health concerns associated with electromagnetic fields. INI/2008/2211. April 2, 2009.
- Parliamentary Assembly of the Council of Europe (PACE), Committee on the Environment, Agriculture and Local and Regional Affairs, with co-operation of AKUT, Environmental Health and indoor Air Quality Association, Health and Environment Alliance and European Academy for Environmental Medicine. Environment and health indoor pollution and multisystem illnesses. Proceedings, Strasbourg, 5 December 2008.
- Parliamentary Assembly of the Council of Europe (PACE), The potential dangers of electromagnetic fields and their effect on the environment, Resolution 1815. PACE calls on governments to 'take all reasonable measures' to reduce exposure to electromagnetic fields, 27 May 2011.
- Qin X. What caused the increase of autoimmune and allergic diseases: A decreased or an increased exposure to luminal microbial components? World Journal of Gastroenterol 13(8): 1306-1307, 2007.



References IEMFA

Madrid 17 May 2012 (6)

- Ramazzini Institute, Non-thermal effects and mechanisms of interaction between electromagnetic fields and living matter. An ICEMS Monograph edited by L Giuliani and M Soffritti, Eur J. Oncol. Library Volume 5, Italy 2010.
- Rampton and Stauber, Trust us, we're the experts. How industry manipulates science and gable with our future. Tarcher/Putnam NY 2002.
- Rayner, St; Business World, 22 June 2009.
- Resolutions and appeals of multidisciplinary oriented groups of life-scientists and medical doctors warning for long-term health risks of EMFs and stressing the need for precautionary principle, presented to authorities, governments and the wider public; 2002 - 2011.
- Russian Ministry of Health, Sanitary Rules (Russian), SanPiN 2.1.8/2.2.4.1190-03 point 6.9.
- Russian National Committee on Non-Ionizing Radiation Protection, Electromagnetic fields from mobile phones: health effect on children and teenagers. Resolution, Moscow, April 2011.
- Russian National Committee on Non-Ionizing Radiation Protection, Russian committee urgently warns for risks of exposure to electromagnetic fields. Open letter of the Russian radiation committee, May 5, 2008.
- Scientists of the International Workshop on Non-Ionizing Radiation, Health and Environment on May 18 and 19, 2009, The Porto Alegre Resolution, September 15, 2009.
- Scientific Steering Committee of the European Commission, Opinion on possible health effects from exposure to electromagnetic fields (0 Hz - 300 GHz) - Report and opinion adopted at the meeting of the Scientific Steering Committee of 25-26 June 1998
- Scientific Steering Committee of the European Commission, opinion 1998
- Scientists of the International Workshop on Non-Ionizing Radiation, Health and Environment on May 18 and 19, 2009, The Porto Alegre Resolution. September 15, 2009
- Sham P, Bishop T and Bishop T, Analysis of Multifactorial diseases, Acedemic Press, 12 February 2000.
- The Steering Committee, European Commission EMF-NET Coordination Action - Effects of the exposure to electromagnetic fields: from science to public health and safer workplace. Comments on the BioInitiative Working Group Report (BioInitiative Report). October 30, 2007.
- Union of Concerned Scientists, Heads They Win, Tails We Lose – How Corporations Corrupt Science at the Public's Expense, February 2012.



References IEMFA

Madrid 17 May 2012 (7)

VanAsselt MBA (ed). Meta-analysis 'Late lessons from early warnings' (Ph Notten), in New risks into the picture? (Nieuwe risico's in het vizier?), Dutch Advisory Council for Research in Spatial Planning, Nature, and the Environment (RMNO) essays series, Lemma, The Hague 2004.

Vechia P, The view from ICNIRP. Presentation on workshop on EMF and health: science and policy to address public concerns. Brussels 11-12 February 2009.

Weiss Ch, Scientific uncertainty and science-based precaution - International environmental agreements: Politics, law and economics, 3: 137-166, 2003.

Weiss Ch, Communicating Uncertainty in Intelligence and other Professions, International Journal of Intelligence and CounterIntelligence, Volume 21, number 1, Spring 2008.

Weiss Ch, Scientific uncertainty in advising and advocacy. Technology in Society 24 (2002) 375 - 386.

World Health Organization (WHO), Environmental Health Criteria 137, Electromagnetic fields (300 Hz to 300 GHz), Published under the joint sponsorship of the United Nations Environment Programme, the International Radiation Protection Association, and the World Health Organization. Collective views of an international group of experts, not necessarily representing the decisions or stated policy of UNEP, IRPA, WHO. 1993.

World Health Organization (WHO), EMF Risk Perception and Communication, International Seminar on EMF Risk Perception and Communication Ottawa, Ontario, Canada. 31 August - 1 September 1998. Proceedings 1999.

World Health Organization (WHO), WHO framework for developing EMF standards. Proceedings of the international conference on non-ionizing radiation at UNITEN (ICNIR 2003). Electromagnetic fields and our health, Repacholi M, Van Deventer E. 20th-22nd October 2003.

World Health Organisation (WHO), Framework for developing health-based EMF standards, 2006.

World Health Organisation (WHO), Environmental Health Criteria 238 Extreme Low Frequency Fields. Collective view of international group of experts, not necessarily representing decisions or policy of ILO, ICNIRP or WHO; Joint sponsorship of International Labour Organisation (ILO), ICNIRP and WHO, 2007.

World Health Organisation (WHO); Fact sheet No 322, Electromagnetic fields and public health, Exposure to extremely low frequency fields; Based on above mentioned task group of experts sponsored by ICNIRP, ILO and WHO; June 2007.

World Health Organisation (WHO) and ADI, Dementia: a Public Health Priority; 2012

