

# W e l c o m e !

Please **turn off** all your cellular phones and  
other wireless devices.

Thank you

# Electropollution: the inconvenient truth

presented by

**Farren Lander, M.A.**

HealthyHomes Environmental

Citizens for Safe Technology Society



HEALTHY HOMES  
ENVIRONMENTAL



CST

# Our presentation:

Naturally occurring Electromagnetic Frequencies (EMF)

Electropollution: an overview

- Man made EMF

- Electrical fields

- Magnetic fields

- Dirty Electricity

- Wireless technologies and Smart Meters

Negative impact on health and daily living

Home assessment

- Simple Solutions for good health

- Body voltage assessment

- Practical solutions for prevention and reducing effects

# Electromagnetic Fields: au naturel

The “Schumann Wave or Resonance” 7.83 Hz (DC) 1952

This is the same frequency as the human brain.

Energized by lightning strikes 200x/sec. Ionosphere (90km)

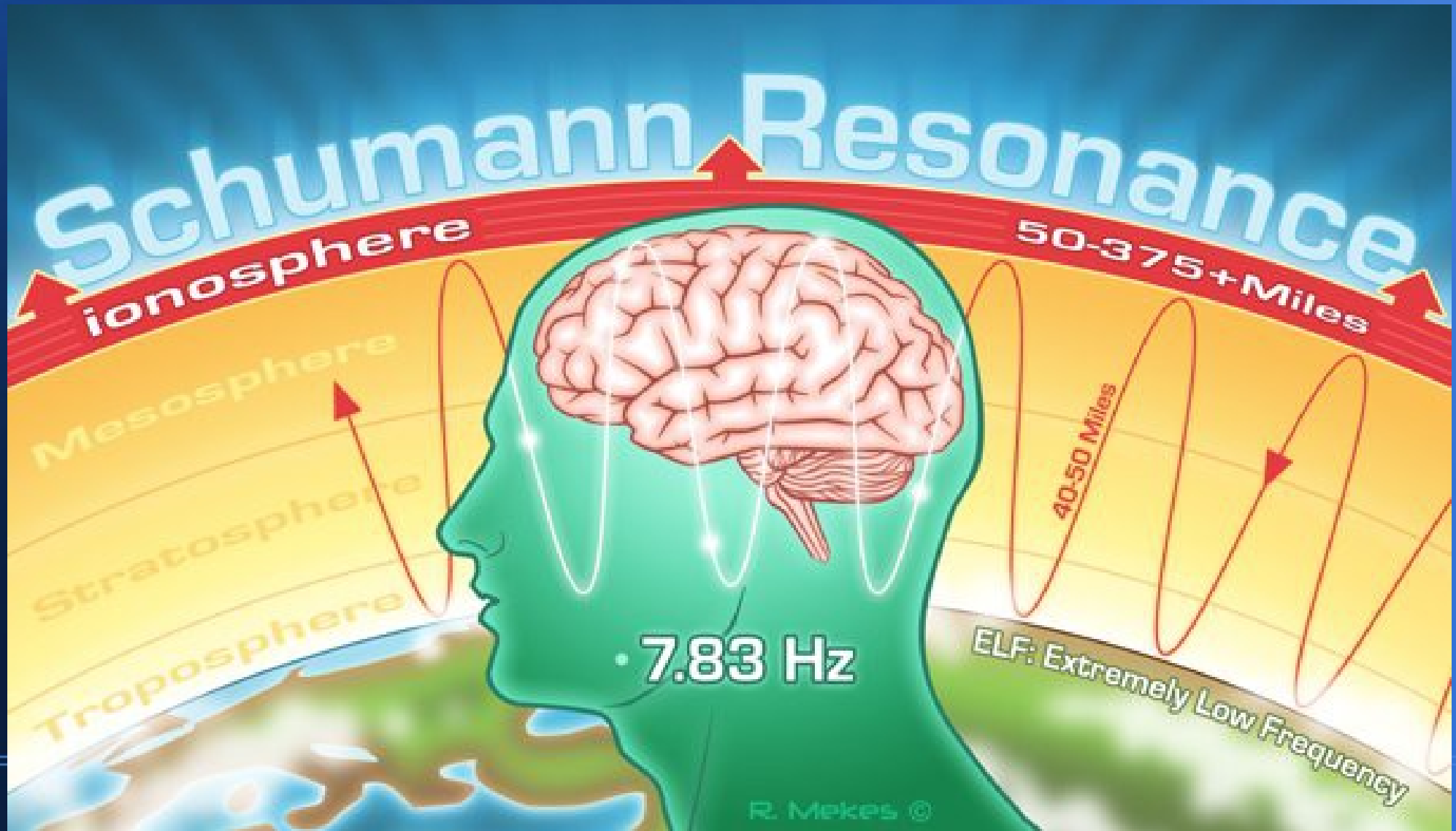
*Scientists consider this to be the “Heart beat of the earth”  
man adapted to these natural frequencies.*

Brain wave activity (4 – 30 Hz)

Heart rate (1 – 2 Hz)

Pineal gland – Melatonin (10 Hz) – Sleep Meds

# Schumann Resonance



# Electromagnetic Fields: man made

## Electricity: alternating current (AC)

Hydro electricity dams, Nuclear power plants

Coal Fired power plants, Wind Power Turbines

Solar Panels, IPP's Independent Power Production

Distribution: High tension power lines

Hydro sub-stations, Local Hydro Distribution Systems

# Electropollution: Overview

**Invisible electrical fields:** indoors / outdoors

**Alternating Current (AC) generated by:**

Improper house grounding; house wiring & lighting in walls, ceilings and floors; extension cords; TV's; home appliances; computers; electric hybrid cars; hydro power lines.

# Electropollution: Overview

**Invisible magnetic fields:** indoors / outdoors

Alternating current (AC) generated by:

Motors; fans; electrical panels; power transformers;  
heaters; electric blanket; power inverters (SMPS);  
home appliances (blender, kettle, electric stoves, etc.);  
office equipment, fax and copiers, etc.



# THE ELECTROMAGNETIC SPECTRUM

SELF DC 3Hz    ELF 3KHz    VLF 30KHz    LF/ MF/ HF/ VHF/ UHF    SHF 3GHz    EHF 5GHz 300GHz 430-750THz 30PHz 3EHZ 300EHZ

non-ionizing

ionizing

wavelength

$$f \text{ (frequency)} = \frac{C \text{ (speed of light)}}{\lambda \text{ (wavelength)}}$$



geomagnetic & sub ELF sources    extremely low frequency    very low frequency    radio frequency spectrum

**EMF Sources**

microwaves

infrared    visible    ultra violet

x-rays    gamma cosmic rays



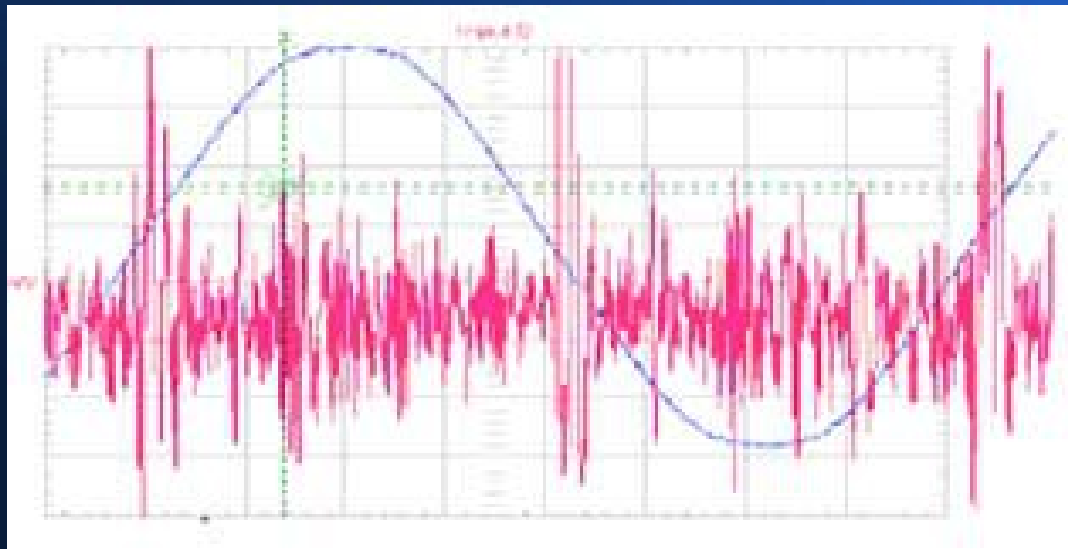
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# Electropollution: an overview

## Invisible electrical fields: indoors / outdoors

**Dirty Electricity:** harmonic noise on wiring, CFL's, wiring, dimmer switches, “green” appliances, low voltage lighting, etc.

**The big offender:** Smart Meter (SMPS).



An example of an oscilloscope reading of typical high frequency microsurges on top of a 60 Hertz standard waveform as with electrical power lines. (source: Havas/Stetzer)

# Electropollution: an overview

## Invisible electrical fields: indoors / outdoors

### More sources of dirty electricity:

Electronics, neighbours, fluorescent lighting, low voltage lighting, compact fluorescent s, CFL bulbs), dimmer switches, energy efficient appliances, faulty wiring, arcing, shorting, arc fault circuit interrupters, power tools, tree branches rubbing on power line leading to your house, hydro sub-stations, major industries and manufactures

### Sources:

Dirty Electricity by Dr. Sam Milham, M.D.

[magdahavas.com](http://magdahavas.com) – Dr. Magda Havas

[greenwavefilters.com](http://greenwavefilters.com)

# Wireless - Radio Frequency Radiation

Ultra-high frequency (UHF) radio-frequency radiation

Super-imposed on the UHF is an extremely low frequency (ELF).

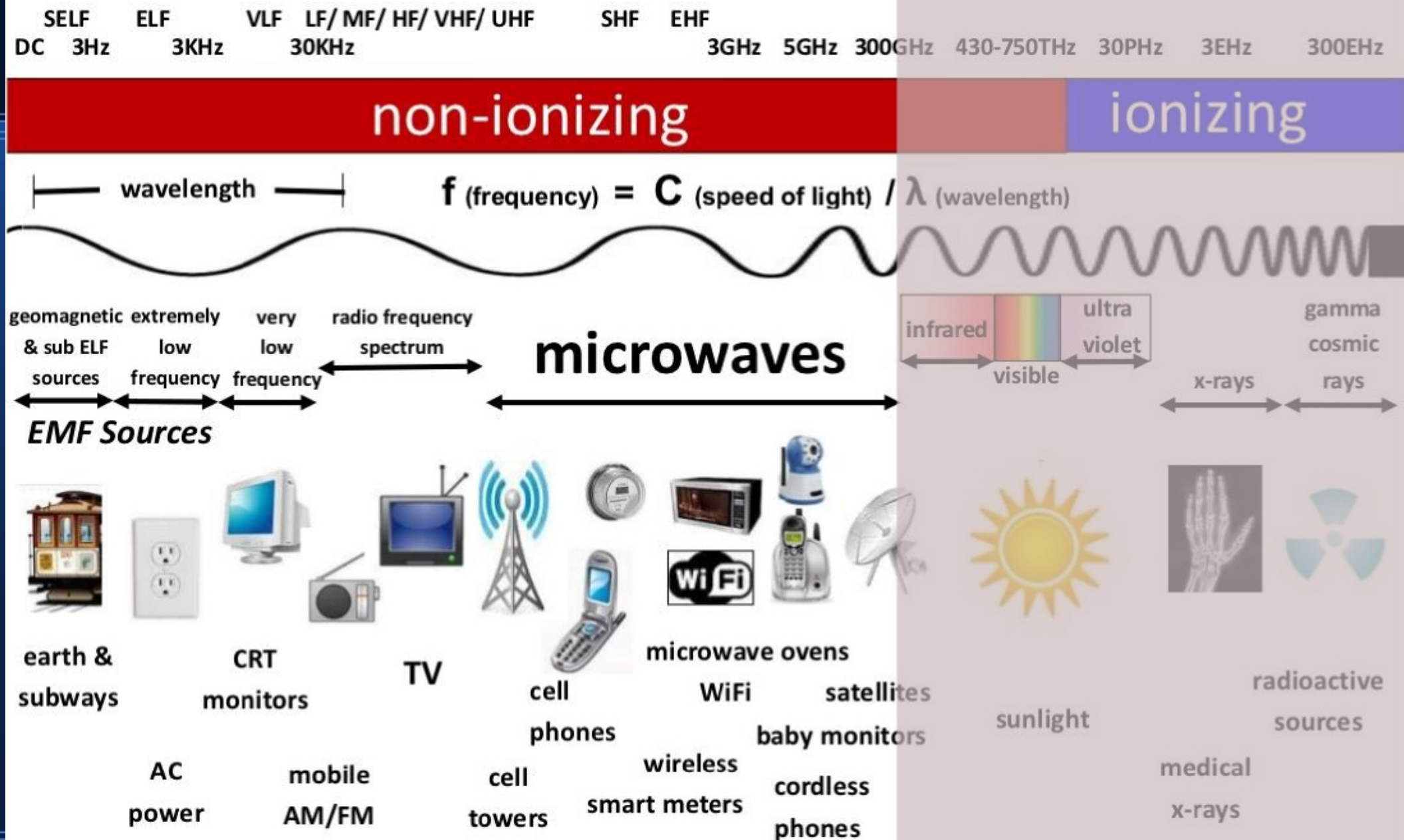
ELF is “pulsed information carrying radio waves” or ICRW .

Pulsed ICRW is emitted in regular bursts (2 milliseconds) long.

No historical reference to ICRW - these signals are foreign invaders to the human body and do not exist in Nature.

**Radio Frequency Radiation:** wireless devices, cellular phones, cordless phones, cellular towers, Wi-Fi, X-Box, Wi-MAX, Smart Meters.

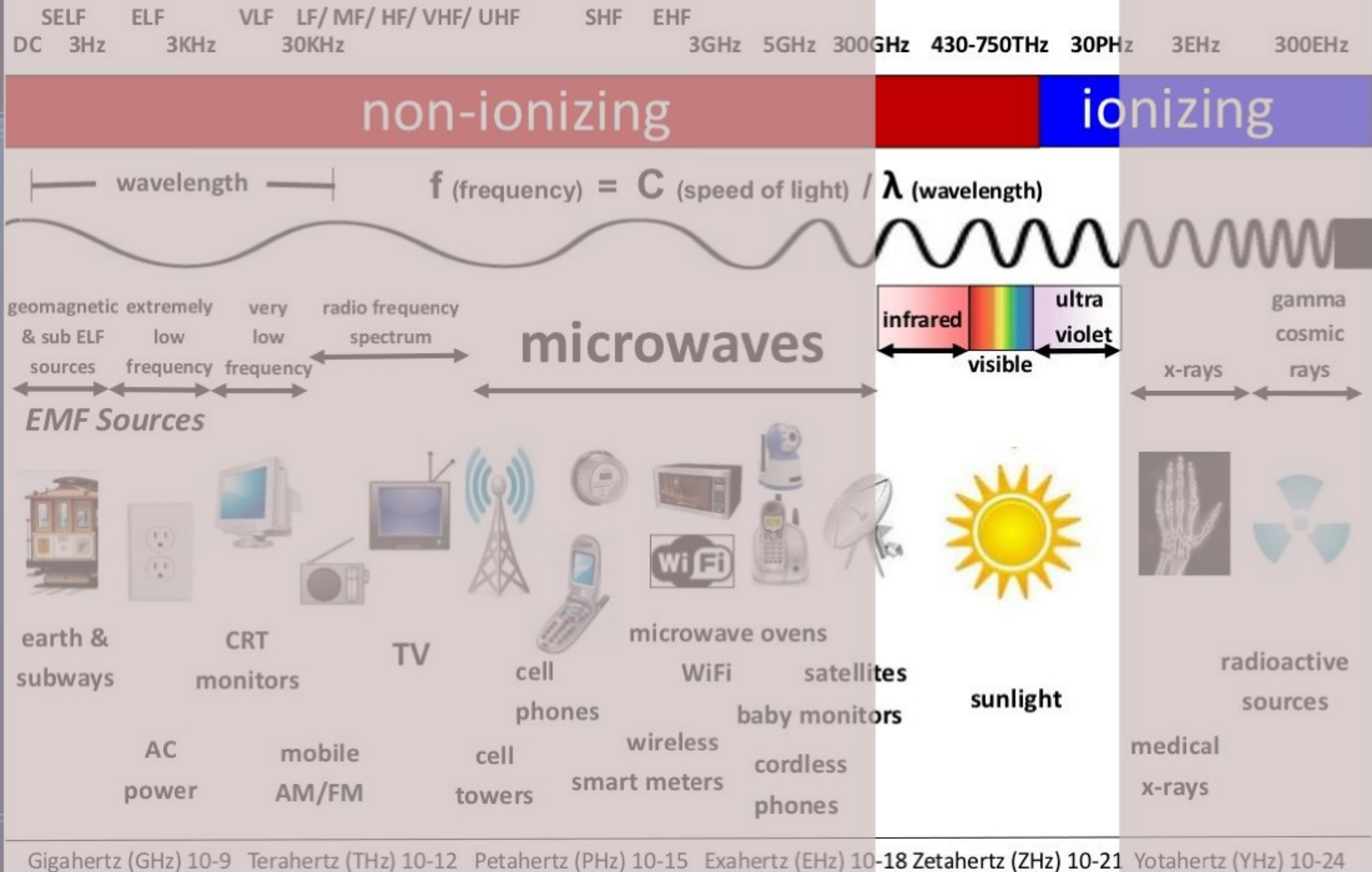
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# Microwave oven effect

Lets connect the dots by considering signals from other wireless devices.

Are we turning our homes into **microwave ovens**?

So far but not limited to the current industry...

- Smart meter to Smart meter channelled to Smart appliances

- Cordless phone = 900 MHz, 2.4 GHz, 5.8 GHz

- Cell phone = 900 MHz, 1800 GHz, etc.

- WI-FI / WI-Max = 2.4 GHz, 5.8 GHz

- X-Box, Wii = 2.4 GHz

- Super WI-FI = 700 MHz

- Microwave oven = 2.4 GHz

- Wireless security systems = unknown

- RFID / Meds tracking / Credit cards chips / Vaccination chips = unknown

# Then comes the “Smart Meter”

Wireless radio frequency “transmitter and receiver” at 2.4 GHz  
and “transmitter” at 900 MHz designed to replace conventional  
analog meter, used to measure hydro consumption !?!

## A Transmitter and a Receiver

Communicates within the home in a “network of appliances”  
fashion at the rate of 2.4 GHz similar to WI-FI, ZigBee chip.

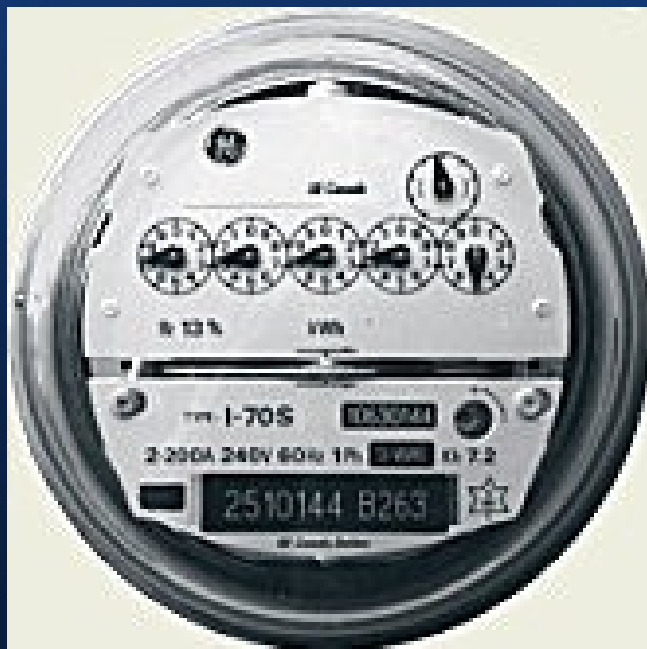
Communicates with a “network of smart meters”  
(daisy chains, collectors, local antennas) at the rate of 900 MHz.





# Electricity meters compared

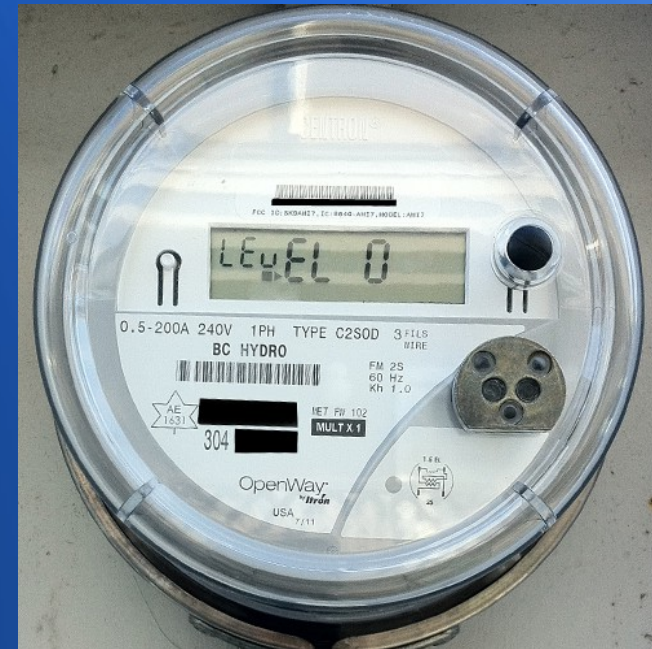
Analog



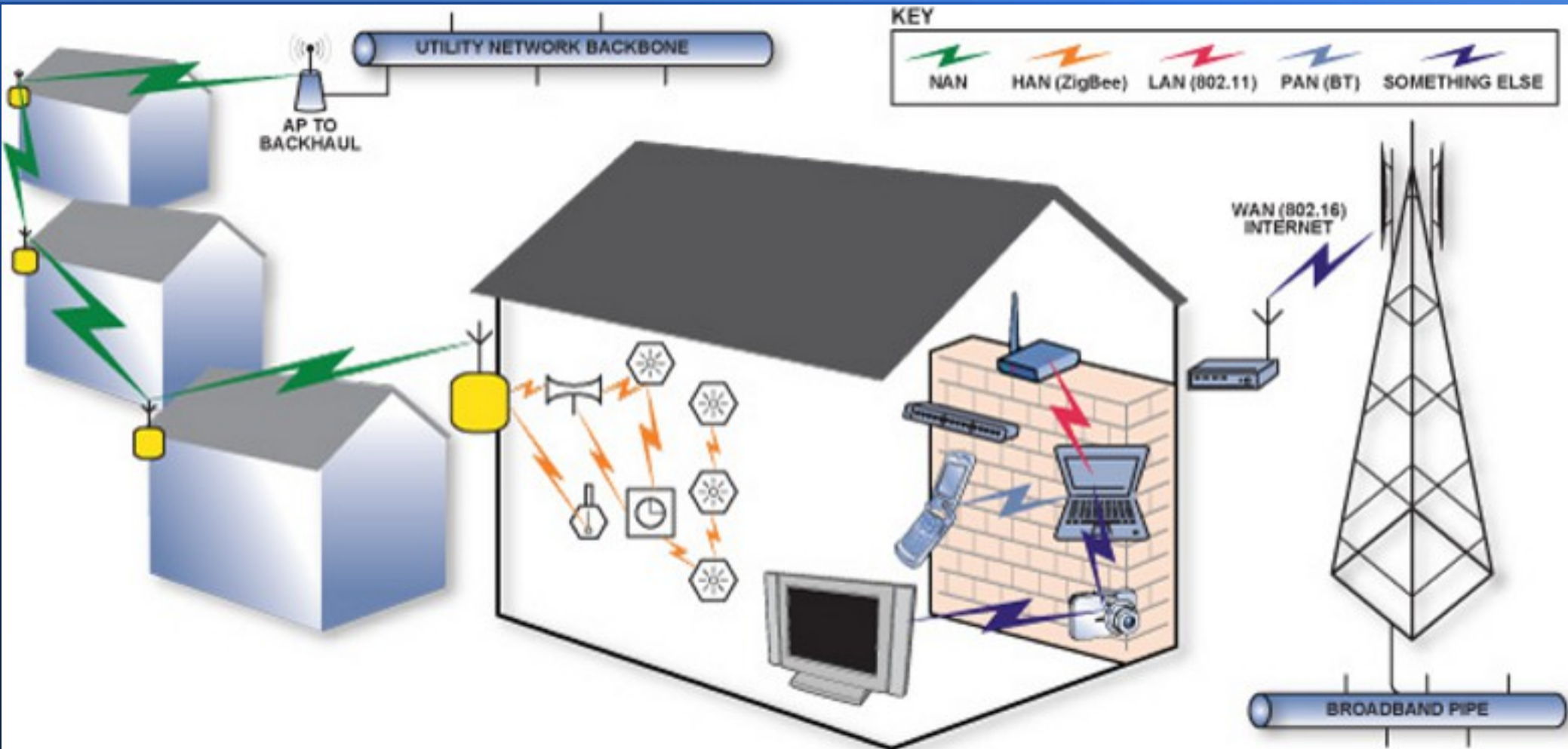
Digital ?



Smart Meter ?



# Smart Meters: the daisy chain



# What is said!

**THE MYTH:** BC Hydro says that “exposure to radio frequency during a 20 year lifespan of a Smart Meter is equivalent to the exposure during a single 30 minute cellular phone call.”

**THE REALITY:** Scientists consider that a cell phone is “head exposure” while a Smart meter is “full body exposure”. Therefore, it is not only your brain but your entire body receiving this pulse radiation by 100 times. - Dr. Daniel Hirsch, Nuclear policy expert

# Home Safety risk factors

## Risk from house fires started by Smart Meters:

If caused by arching electricity not covered by insurer.

Not CSA / UL approved – Insure-ability concerns?

Potential for old wiring to need replacement.

Over 800 fires reported in California after installation.

Power surges may occur from the installation.

Damage caused to appliances and electronics.

Increased RFR exposure to you and your neighbours.

But wait there is more...

# What is said!

**THE MYTH:** Smart Meters communicate for a total average of one minute per day.

**THE REALITY:** If Smart Meters transmit one minute per day:

- 900 MHz daisy chains (smart meters to smart meters to transmission towers)

- 2.4 GHz in-house transmission:

  - Smart meter to Smart meter appliances in a round-robin way

  - Smart meter to appliances in a round-robin way

  - Appliance to appliance to Smart meter

    - Emissions are measured in milliseconds.

    - Each pulsed signal is 2 milliseconds long.

    - 1 min. = 60,000 milliseconds or 30,000 2 millisecond pulsed signals.

# How does this affects your health?

Blood brain barrier leakage

Irreversible Infertility

Calcium Ion release from cell membrane /  
DNA damage

Effects on cellular stress proteins

Effects on skin

Tinnitus / Hearing loss

Effects on eyes / Uveal Melanoma

Salivary gland tumours

Melatonin / Sleep disorders

Neuro-degenerative diseases

Increased cancer risk

Effects on honey bees, birds, plants, farm  
animals and critters



# No Health Safety Standards

for Non-Thermal Exposures in Canada

No Safety Guidelines to protect against **Non-Ionizing / Non-Thermal Biological Effects** which occur at exposure levels thousands to billions of times below our safety standards – Safety Code 6.

Currently, Safety Guidelines are for **ionizing Thermal Effects ONLY** based on a six minutes exposure for a full grown man (200 lb, 6 ft.).

# Where does Canada stand for thee?

STANDARDS FOR 1800 Mhz	
Exposure limits for RF fields	Country or Area
$0.1\mu\text{W}/\text{cm}^2$	Precautionary limit in Salzburg
$10.0\mu\text{W}/\text{cm}^2$ *	Precautionary limit in Paris
$10.0\mu\text{W}/\text{cm}^2$ *	Exposure limit in Russia
$10.0\mu\text{W}/\text{cm}^2$ *	Exposure limit in China
$10.0\mu\text{W}/\text{cm}^2$ *	Exposure limit in Switzerland
$10.0\mu\text{W}/\text{cm}^2$ *	Exposure limit in Italy
$10.0\mu\text{W}/\text{cm}^2$	Precautionary limit by Toronto Board of Health
<b><math>1000.0\mu\text{W}/\text{cm}^2</math></b>	<b>Exposure limit in Canada (Safety Code 6 1997)</b>
$1000.0\mu\text{W}/\text{cm}^2$	ICNIRP guideline against acute, thermal radiation



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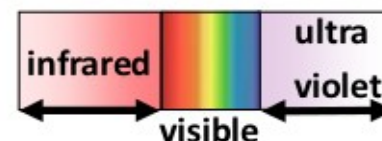
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# Who does it affect?

Children / Pregnant women / Elderly

Immune compromised / Cancer recovery

Pacemakers / Defibrillators / Brain implants

Epileptic seizures / Strokes / Heart conditions

People report onset of health problems where “wireless smart meters” are installed.

Apparent symptoms: migraines, sleep disorder, anxiety, fatigue, mood changes, memory lapses.

# Late lessons from early warnings

Thalidomide

Tobacco / Smoking

Asbestos & DDT

Tainted blood

Vioxx / Celebrex

Bisphenyl A / PCBs / Dioxins

Pesticides, Lead in paint

Silicone implants

Formaldehyde precursors

Food additives

Radio Frequency Radiation ???

1996 Telecommunications Act

Lloyds of London 2002

... and what else?

# There are some patterns: high risk factor

Multiple Chemical Sensitivity, Autism,

Mercury Amalgam fillings-antennas

Previous illness- cancer, major surgery

ALS, MS, Alzheimer, Dementia,

Parkinson's disease.





# RFR causes stress response in bees

Honey bees are sensitive to pulsed RFR.

Dr Reese Halter and Dr. Albert Mandeville, US Dept. Fish & Wildlife.

Exposure response for 30 min. after onset required 3 min. to recover. After 20 hours exposure, 12 hours or more required to recover.

Colony Collapse Disorder occurred within 5 to 10 days from exposure.

Professor Denis Henshaw references 8000 articles describing low-level radiation and its effects on animal navigation, plants and health of the animal kingdom.



# The weight of evidence

**World Health Organization:** on May 30, 2011 – Radio-frequency Radiation (RFR) was reclassified as Group 2-B health risk – possible cause of cancer.

**Bio-initiative report of 2007 and what they found.**  
(2,000 scientific published, peer reviewed studies, replicated).

- Childhood and adult leukaemia & cancers

- Risk of Alzheimer's / Neuro-degenerative diseases

- Altered immune function including increased allergic and inflammatory responses

- Pathological leakage of the “blood brain barrier”

- Genotoxic effects (DNA damage)

# Home assessment

Typical home assessment using specialized meters:

**Electrical fields:** lighting, switches, plugs

**Magnetic fields:** fans, appliances, power transformers, power tools

**Dirty electricity:** low voltage lighting, dimmer switches, faulty wiring, arc fault circuit interrupters

**Wireless radiations:** home network systems, phones, games, neighbourhood sources

**Body voltage:** high levels above 500 mV are critical and must be addressed

# ASSESSMENT:

## Home and living environments

All too frequent case scenario:

**Symptoms:** Can't sleep, can't think straight, heart palpitations, please help!

**Test home for dirty electricity:** investigate sources (CFL, lighting, switches)

**Solutions:** install Greenwave filters, Electrical panel tune up, replace switches

**Test home for wireless devices:** TV, phones, Game boxes, Wi-Fi Network in house and in neighbourhood, Smart meter

**Solutions:** Disable wireless transmissions, Hard wire electronics, Shield walls, Swiss Shield Fabric integration, Window foil to block off emissions



# ASSESSMENT:

## Simple solutions for “good health”

Avoid extended exposure to electromagnetic fields

Daily Exercise

Epsom Salts & Baking Soda baths

Diet and nutrition, Daily supplementation

Planting of sappy (coniferous) trees near your home

Buddy system

Proper sleep sanctuary for restorative sleep, Blacked-out room

Consider holistic approach to your health management

Introduce laughter in your daily life

Forest bathing, Beach walking, Grounding / Earthing

# Earthing: try it, you'll like it!

Earth is loaded with **NEGATIVE ELECTRONS** which are good.

**Disconnection from the Earth** is BAD

Major source of disconnection are: rubber soles, synthetic carpeting, vinyl and wooden floors

Free-radicals are **POSITIVELY charged electrons** which create a **NEGATIVE electrons deficiency** leading to inflammation

Inflammation is a biological response: the body protective attempt to clear pathogens and irritants, injuries, sprains, diseases, etc.

Beware, **grounding sheets come with a warning** and may not provide as good a protection as **a walk in the forest** would.

# ASSESSMENT:

## Body voltage

How the human body attracts electricity:

Elevated body voltage is easily measured using a multi-meter ( > 500m/v )

Influenced by electrical wires in walls, floors and ceilings

Influenced by ungrounded appliances and/or lamps, extension cords

Elevated body voltage is an important factor affecting restorative sleep

Leads to increased OTC medications intake (60% of North Americans)

Leads to increased intake of melatonin supplements

Leads to adrenal exhaustion (symptoms may be waking up more tired than when you went to sleep)

# SOLUTION: for elevated body voltage

Simple solutions for better sleep and to make your bedroom safe:

No wireless devices, no electric alarm clocks

Turn off breaker to bedroom at night OR install demand switches

Lamps need to be grounded or unplugged, don't use CFL bulbs, replace dimmer switches, use land lines hardwired computers

NO LAPTOP on the bed, remove TV from room, NO ELECTRIC BLANKET, beware of grounding sheets.

Replace your metal bed with one made with natural materials

Black-out incoming external lights from windows.

Avoid drinking diuretic beverages before bed time.

# Precautionary measures

Applying the **Precautionary Principle** is in essence,  
applying the **principle of prevention**.

Hard wiring of all wireless devices including Smart Meters.

Sensitive siting of cell towers controlled by local government with public input.

Hard wiring of schools (WI-FI) and child centred locations.

Heed warning labels on cell phones use **BlueTube**.

Demand biologically-based public exposure standards NOT currently set by Health Canada, Institute of Building Biology Standards.

Pursue informed consent procedures for workplace or other long term exposures to wireless devices and other electromagnetic fields.

# Thank you!

*“Our lives begin to end the day we become silent about things that matter.”*

- Martin Luther King, Jr.

For more information

**healthyhomesenvironmental.com**

**citizensforsafetechnology.org**