



Electric and magnetic fields (EMF) from power lines and Smart Meter Are there public health concerns?

Electric and magnetic fields (EMF) from power lines and Smart Meter – Are there public health concerns?

Electric and magnetic fields (EMF) have become a common element in our daily lives. EMF are present anywhere that there is current flow, including: household wiring, lighting, power lines and any electrical appliance that plugs into a wall socket.

Researchers began to study the health effects of exposure to all types of EMF in the 1970s. Since then, an extensive body of scientific literature has been developed, which guides the Canadian Electricity Association's (CEA) position that: **Scientific evidence to date has not established adverse health effects resulting from exposure to power-frequency EMF, or smart meter RF EMF, at levels normally encountered in homes, schools and offices.** This position is informed by CEA's ongoing consideration of domestic and international guidelines, standards and scientific literature.

EMF originating from the power system are generally referred to as extremely low frequency (ELF) magnetic fields, as they operate in the 60 Hz (hertz or cycles per second) range (*See Figure 1*). Radio frequency (RF) EMF waves operate at a higher frequency of between 3 kHz and 300 GHz. These enable communication between a wide range of devices including wireless routers, mobile phone bases and Smart Meter. Although RF waves fall outside of the ELF band they are still on the lower end of the electromagnetic spectrum.

Though both ELF and RF are properly categorized as EMF, ELF EMF is more commonly associated with electrical power equipment, whereas RF waves are utilized by communication devices and Smart Meter.





Through the initiatives of CEA's Metering and EMF/RF task groups, utilities and leading members of the Canadian electricity industry continue to study these concerns, ensuring institutional policies are in line with both domestic and international standards.

