

Tonight we have residents from different communities in Richmond all gathered here, because we DON'T want Smart Meters in our homes, but BC Hydro and the Provincial Government are forcing these meters on us.

Smart Meter kills! First of all, it kills democracy.

The BC Utilities Commission was set up to protect the interest of the public, but the BC Liberals Government gave a special "exemption" to Smart Meters so that they don't have to be reviewed or monitored in any way by the Commission. Its costs, effectiveness, and most importantly, safety were never scrutinized. Also, the 73-million-dollar installation contract went to a company owned by a BC Hydro director. How that happened we don't know, because this billion-dollar project was launched with no accountability, no transparency and no public consultation. BC Hydro refused to answer citizens' questions face to face*, but instead, chose to spend tons of money, our money on massive TV commercials and advertising.

BC Hydro's information on Smart Meter is misleading and confusing. The Clean Energy Act through which these meters were introduced did not mandate, nor even mention anything about Wireless. And, according to the Act, for Smart Meters to be installed in a "Private Dwelling", the consent of the owner is required. But now, Hydro is telling customers we don't have a choice. That is wrong.

They have also been misleading in their data on radiation levels. BC Hydro claimed that Smart Meters only communicate one minute a day, but during actual measurement, the radiation that these meters sent out spiked every 5 seconds, continually. That means close to 20,000 spikes of radiofrequency a day. The BC Centre of Disease Control conducted testing on a single Smart Meter. That report indicated radiation levels that are 10 to 25 times higher than what BC Hydro claims in their PR literature. We have requested BC Hydro for proof (independent test reports) to substantiate their numbers, but so far, nothing has been forthcoming.

Smart Meter kills Privacy.

Smart Meters are surveillance devices which collect data of detailed energy consumption. Such data can be sold to or intercepted by third parties, and the nature of wireless transfer make them vulnerable to industrial computer hackers. Those who have access to these data would know whether the house is vacant or not, and what kind of activities take place inside -- even down to which TV program you are watching, according to a study in Germany. B.C.'s Information and Privacy Commissioner called this "a real issue" and investigation is still in progress. Worst of all, with Smart Meters, BC Hydro, or any hacker, also has the ability to disconnect our power supply remotely. These are risks that consumers don't want.

Smart Meter kills our Wallets.

BC Hydro and the Provincial government tell us that spending One Billion Dollars saves us money. In Ontario after the installation of Smart Meters, the Ontario Energy Board received over 1,700 complaints just between April and June last year. On top of that, their Minister of Energy quietly approved a new tax called Smart Meter Service Fees, collecting another 33-million-dollars per year from taxpayers. South of us, the California Public Utilities Commission received over 1,200 complaints on over-billing with Smart Meters last year, and Two class-action lawsuits have been launched in California and Texas over this same problem. Here in Richmond, before Smart Meters are even functioning, we have residents' appliances being destroyed by the power surge and repeated cases of complete and extended power outage, while BC Hydro continues to deny any responsibility. These Meters also cause interference with medical equipment, and Smart Meter explosions and fires have been reported in some cities. Also, the "convenient in-home monitoring" which BC Hydro says customers can do to see real-time energy consumption is not

free. "Optional" monitoring device, programmable thermostats, and energy management software products need to be purchased from the store. And when BC Hydro say that they will work out a solution with individual customers with medical and other concerns, e.g. by re-locating the meter, the cost is to be paid by the consumer.

Last but not least, Smart Meter kills life.

In May this year, the World Health Organization classified Radiofrequency Electromagnetic Fields as Type 2B Possible Carcinogen to Humans, in the same category as Lead, DDT and HIV virus. Thousands of scientific studies have shown that this type of energy can cause adverse biological effects in humans and animals, including DNA damage leading to cancers and tumours; damage to the blood brain barrier, brain function, the heart, thyroid and fertility. Just a week ago, Health Canada issued a new warning, urging parents to reduce children's exposure to radiofrequency.

If Smart Meters are installed and turned on in every home in Richmond, they will not only send signals to BC Hydro's collection antennas, these meters communicate with each other every few seconds and form a radiating grid. This is a health hazard for all of us, but in particular, residents in condos and townhouses who live close to the electrical rooms could be subject to the radiation from 20, 30 or more wireless meters, day and night. The Mayor of Fairfax, California said, I quote "Smart meter is an unforeseen health risk." and "For people who are sensitive to electromagnetic radiation, it's going to be a living nightmare." Councillors, Please, think about our elderly, our children and those with medical conditions. Even BC's Green Party went public with their opposition to this so-called Green project, because it's unacceptable to force this kind of toxin in people's homes.

According to Bill 23-2008 of the British Columbia Public Health Act, section 83 (1), a municipality must Take action when it learns of something that could be harmful to its residents. It must notify the Minister of Health or take immediate action.

19 other city councils in British Columbia (including Langley, and our Capital city Victoria), as well as the BC Union of Municipalities have voted in favour of a moratoriums on wireless smart meters.

Tonight, Mayor and Councillors, we are asking you, our elected officials, to please fulfill your responsibility under the Public Health Act by: (1) writing a letter to the Minister of Health about health risks associated with wireless smart meters, which is of grave concern to your constituents; and (2) by requesting the Provincial Government for a moratorium on the mandatory installation of wireless smart meters until the major issues and problems identified are independently assessed, and acceptable alternatives are made available to the consumer at no added cost. In other words, we want our democratic right to opt out. We understand that the City Council cannot "order" a moratorium because this program is in provincial jurisdiction. However, that being so does not relieve the municipal government of the responsibility to bring the potential danger to the Minister's attention, and to request for action that ensures the safety of our residents.

Thank you for receiving our delegation.

* I and another citizen group's representative were invited to AM1320 radio station for a 1.5-hour interview on Smart Meters on Oct 7, 2011. Original plan of the programme was to have all three parties present, in order to share our concerns face to face. When BC Hydro found out we were invited, they backed out last minute and changed their part to only a 30-mins interview on the phone. Also specified to the host that they would not answer any question from the citizens.

Problems Associated with Wireless Smart Meters

Lack of Accountability, Transparency and Democracy

Unlike what BC Hydro claims, this billion-dollar project is an unnecessary financial burden to BC taxpayers. It offers negligible impact on the consumption of electricity. The cost and benefits of this project were never debated in the legislature. The public (we - the paying customers) were never consulted. The Provincial Government even "exempted" this expensive project from any review or oversight by the BC Utilities Commission (the public watchdog). Furthermore, questions have been raised regarding conflict of interests. The first \$73 million installation contract of Smart Meters was awarded to Corix, a subsidiary of CAI which is owned and managed by BC Hydro's own Director Tracey McVicar. This is also the same company where BC Liberal-appointed David Emerson serves as Investor and Senior Advisor.

<http://theyee.ca/Opinion/2011/03/07/SmartMeterProfits/>

<http://www.caifunds.com/mcvicar.html>

http://www.caifunds.com/media_coverage/dowjones_privateeo_nov2408.html

<http://www.caifunds.com/portfolio2.html>

Health and Safety Concern:

Contrary to BC Hydro's PR statement that "*Smart meters communicate using radio frequency signals 4 to 6 times a day-for a total average of one minute per day*"

<https://delta.civicweb.net/Documents/DocumentDisplay.aspx?ID=57946>, during actual measurement of installed smart meters and Hydro's collection antennas, the electromagnetic radiation that they emit spiked every 5 seconds continuously. <http://www.youtube.com/watch?v=vNrRIFkiHKM> California nuclear expert Daniel Hirsch pointed out in his analysis that when the units of measurement are corrected, the cumulative radiation emitted by "smart meters are at least 100x more powerful than cell phone..."

http://www.committeetobridgethegap.org/pdf/110212_RFrad_comments.pdf Once these meters are installed and turned on in every home in our city, not only will our city be covered 24/7 by yet another mesh of radiofrequency and microwave by the "grid" created, our residents in **condos and townhouses** who live close to the electrical rooms will be subject to an alarming level of exposure with **a concentration of up to dozens of these wireless meters**.

http://www.stopsmartmetersbc.ca/html/wp-content/uploads/2011/09/SmartMeters_NeighbourhoodHandout.pdf

On May 31, 2011, Radiofrequency Electromagnetic Fields "emitted by wireless communication devices" was classified by the World Health Organization's IARC (International Agency on the Research of Cancer) as **Type 2B Possible Carcinogen to Humans**, in the same category as lead, DDT, phthalates and car exhaust. This is the first time in history that a World Health Organization Class 2B possible human carcinogen is being forced on every family in British Columbia, and citizens are deprived of any choice to opt out.

Glaring mis-information on safety level: In the BC Hydro PR materials, they stated that the radiation level was "less than 2 $\mu\text{W}/\text{cm}^2$ " (2 microwatts/cm²) which is even lower than Switzerland's "precautionary limit of 4.5 $\mu\text{W}/\text{cm}^2$ for highly sensitive areas" BC Hydro has been quoting the same figure in all of their publicity on smart meters.

http://www.bchydro.com/energy_in_bc/projects/smart_metering_infrastructure_program/faqs/radio_frequency.html

However, according to the Smart Meters testing report by BC Centre of Disease Control, the levels measured are 0.02-0.05 mW/cm², which means **20 to 50 $\mu\text{W}/\text{cm}^2$** (NOT 2 $\mu\text{W}/\text{cm}^2$!) - **10 to 25 times HIGHER!**

http://www.bccdc.ca/NR/rdonlyres/43EF885D-8211-4BCF-8FA9-0B34076CE364/0/June92011_BCCDCReport_BCHydroSmartMeters.pdf

mW/cm² means Milliwatts!! <http://www.unitconversion.org/power/milliwatts-to-microwatts-conversion.html>

One Milliwatt (mW) is 1,000 Microwatts (μW).

This means that the radiation from Smart Meters is not less than, but actually 4 to 5 times beyond the Swiss limit for sensitive areas which BC Hydro blatantly refers to.

Please take a look at our Canadian microwave exposure limit compared to other countries: ours is 100 to 10,000 times less stringent than many other countries' national maximums.

<http://tinyurl.com/5sthtd5>

According to the 2010 "Canadian Parliamentary Committee Report: An Examination Of The Potential Health Impacts Of Radiofrequency Electromagnetic Radiation", Canadian scientists admitted that there were "gaps in the existing literature related to long-term low-level exposure and brain functions and reproductive outcomes". They consequently recommended that more long-term studies were necessary.
<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=4834477&Language=E&Mode=&File=45#concern>

Yesterday (Oct 4, 2011) **Health Canada issued a new warning**, calling for reduced exposure for **children** to low-level non-ionizing electromagnetic radiofrequency, due to the fact kids are more sensitive to environmental pollutants. http://www.hc-sc.gc.ca/ahc-asc/media/advisories-avis/_2011/2011_131-eng.php

In fact, numerous **scientific studies** have already shown that low-level non-ionizing electromagnetic radiation (such as what's emitted by Smart Meters) result in biological effects which include single and double-strand DNA damage, cell mutation (leading to cancers and tumours); damage to the blood brain barrier, brain function, the heart, thyroid and reproductive ability; difficulty in concentrating and short-term memory-loss; weakening of the immune system; and deterioration in eyesight. Many of these symptoms are irreversible. Mandatory installation of 1.8 millions more wireless devices in the province including near-100,000 more units in Richmond is absolutely dangerous and irresponsible.
<http://www.safeinschool.org/p/scientific-studies.html>

Electrohypersensitivity (EHS): The World Health Organization defines EHS as "A phenomenon where individuals experience adverse health effects while using or being in the vicinity of devices emanating electric, magnetic, or electromagnetic fields (EMFs). . . EHS is a real and sometimes a debilitating problem for the affected persons".

http://www.who.int/peh-emf/publications/reports/EHS_Proceedings_June2006.pdf The numbers of people struggling with EHS are increasing worldwide just as more wireless infrastructure is rolled out in our communities. Symptoms include headaches, dizziness, insomnia, heart irregularities, nausea, digestion difficulties, memory and concentration problems to name a few. Electrohypersensitivity is recognized by the Canadian Human Rights Commission. No agency is protecting people from this risk, and misdiagnosis is rampant even though the Parliament Health & Safety Committee recommended that electrohypersensitivity be studied and there be a reporting system for those suffering from wireless exposure. Attaching a continuously radiating device onto people's homes will guarantee more people becoming ill for no apparent reason, and for some people, their homes will become unlivable due to the severity of their reactions.

Even the BC Green Party has stepped forward to reject this "green-washed" project by BC Hydro:
<http://greenparty.ca/media-release/2011-07-27/bc-greens-say-smart-meter-health-concerns-demand-action>

Invasion of Privacy:

Detailed data of household usage can be sold to or hacked by third parties. Those who have access to the data would know whether the house is vacant or not, and what kind of activities take place inside the house. While this could be valuable information to criminals, some utility companies in the US have been found to have sold consumers' usage data to marketing companies as well.
http://www.stopsmartmetersbc.ca/html/?page_id=175

German Study shows that it is possible to use electricity usage data from smart electricity meters to determine which programmes consumers are watching on a standard TV set.
<http://www.h-online.com/security/news/item/Smart-meters-reveal-TV-viewing-habits-1346385.html>

University of California, Berkeley, School of Information explains the numerous unresolved privacy issues regarding Smart Meters:

Page 67

<http://www.riodelltimes.com/CityCouncilRioDellCalifornia/12.7.10Agenda/12.7.10CouncilPacketPart2.pdf>

Smart meters installed by man involved in wire tap crime

http://www.kitimatdaily.ca/show4908a/SMART_METERS_INSTALLED_BY_MAN_INVOLVED_IN_WIRE_TAP_CRIME

Ineffective:

Ontario: Premier Dalton McGuinty, having launched Ontario on a billion-dollar smart meter experiment, now admits the electricity pricing scheme that's supposed to make it all work, isn't.

<http://www.torontosun.com/comment/editorial/2010/09/17/15392101.html>

Connecticut Light & Power Co.'s plan to replace existing electric meters with advanced technology would be very expensive and would not save enough electricity for its 1.2 million customers to justify the expense, Attorney General George Jepsen said.

http://www.ct.gov/ag/lib/ag/press_releases/2011/020811clpmeters.pdf

Erratic Billing:

Higher than normal utility bills and overbilling from smart meters have lead to lawsuits, including two class-action lawsuits in Bakersfield, California, and Texas.

<http://canadafreepress.com/index.php/article/40922>

The Ontario Energy Board received 1,769 complaints on over-billing from Smart Meters during the period between April and June.

<http://www.torontosun.com/news/torontoandgta/2010/12/21/16635621.html>

(Page 2) Over 1,200 complaints by Californian consumers on over-billing after the installation of Smart Meters:

http://www.yarmouth.me.us/vertical/Sites/%7B13958773-A779-4444-B6CF-0925DFE46122%7D/uploads/Consolidated_Smart_Choices_About_Smart_Meters_doc1.pdf

MPP Randy Hillier makes a statement in the Legislature regarding the fact that his hydro costs at his constituency office have doubled from the same time period last year, yet the only change has been the installation of his smart meter. And the time of use has not even kicked in yet.

<http://www.citizensforsafetechnology.org/Smart-Meter-Tax-Machines.2.1213>

Interference with Medical and Household Appliances:

Richmond: Fridge blows after smart meter installed.

http://www.bclocalnews.com/richmond_southdelta/richmondreview/news/128323478.html

Richmond: Power cut after smart meter installed.

http://www.bclocalnews.com/richmond_southdelta/richmondreview/news/129820743.html

Richmond: Smart meter leaves owners dumbfounded with power outage.

http://www.bclocalnews.com/richmond_southdelta/richmondreview/news/130813303.html

Smart Meters have caused Wi-Fi, Netflix, security systems, appliances, and other equipment to malfunction and break. Interference with electronic devices (home office printers, fax machines, scanners, computers, television and cable settings, radios, cordless phones, baby monitors, and other household devices) has been reported after smart meter installation.

(Page 2) http://www.yarmouth.me.us/vertical/Sites/%7B13958773-A779-4444-B6CF-0925DFE46122%7D/uploads/Consolidated_Smart_Choices_About_Smart_Meters_doc1.pdf

Fires and Explosions:

Smart meter exploded. Worse, couple may have to pay for replacement:

http://www.torontosun.com/2011/10/04/pickering-smart-meter-explodes?utm_source=facebook&utm_medium=recommend-button&utm_campaign=Pickering+smart+meter+explodes

Smart Meter Blows Up At Business. Employees Question Safety.

http://www.turnto23.com/north_river_county/21601647/detail.html

Smart Meters cause fire in Houston.

<http://www.click2houston.com/video/28151896/index.html>

Additional Costs:

BC Hydro's "Convenient in-home monitoring of real-time energy consumption" requires additional purchase of monitoring device, and energy management software products need to be purchased from the store, at consumers' expenses.

http://www.bchydro.com/etc/medialib/internet/documents/smi/smi_business_case.Par.0001.File.smi_business_case.pdf Page 10

BC Hydro said they have received "a couple of thousand" complaints about the smart meters and has been trying to work with each customer to figure out a solution. The only solution they have offered so far is only to have the meter relocated – but consumer will have to pay for it. Also, for homeowners who do not live on a large lot, the impact of this is solution is negligible.

Ontario's Minister of Energy quietly approved a new tax called Smart Meter Service Fees, collecting another 33-million-dollars per year from taxpayers. <http://www.brantfordexpositor.ca/ArticleDisplay.aspx?e=3307015>
http://www.ieso.ca/imoweb/pubs/corp2/IESO_2011-2013-Business-Plan.pdf (Page 13)

Wired Options:

Following a landmark decision at the Maine Public Utilities Commission, people can opt out of the program by **keeping their existing, analog meters, or having a modified smart meter installed with its wireless transmitter turned off**, the PUC decided. Customers also have the option of moving a wireless smart meter to another location on their property.

<http://www.pressherald.com/news/PUC-approves-smart-meter-opt-out-options.html>

In Idaho and Italy, smart meters are wired. This takes care of the radiation aspect, but not big-brother harvesting personal data part. However, the chance of data being hacked by hackers on a wired connection is lower than on wireless. http://www.idahopower.com/ServiceBilling/Residential/Billing/AMR_QualitySecurity.cfm). The wired meters are even CHEAPER than wireless meters. Why would BC Hydro choose the more expensive and more risky, less secure and less reliable wireless model instead?

Reviews and Critiques on Smart Meters by International Scientists:

Dr. Daniel Hirsch - Nuclear Expert, UC Santa Cruz, USA.

http://www.committeefobridgethegap.org/pdf/110212_RFrad_comments.pdf

Professor Olle Johansson - Department of Neuroscience, Karolinska Institute (Nobel Prize), Stockholm, Sweden.

<http://www.scribd.com/doc/59738917/Dr-Johansson-s-letter-re-SmartGrid-Smart-Meter-dangers-to-CPUC-7-9-2011>

Bio: https://docs.google.com/viewer?a=v&pid=explorer&chrome=true&srcid=0B-QqwTHjR6LjNTJhZjY4ZTYtOTc2ZC00NjhlLWExOGEtMzVjMTA1NDI3YmRj&hl=en_GB

Dr. David O. Carpenter - Director, Institute for Health and the Environment, University at Albany, New York, USA. (Presenter to President Obama's Cancer Panel).

http://www.schoolmoldhelp.org/index2.php?option=com_content&do_pdf=1&id=2145

Bio: <http://tinyurl.com/3oogmzi>

Dr. Karl Maret - President, Dove Health Alliance, USA.

<http://sagereports.com/smart-meter-rf/?p=368>

Dr. Magda Havas - Associate Professor, Environmental & Resource Studies, Trent University Peterborough, ON, Canada.

<http://www.magdahavas.com/wordpress/wp-content/uploads/2011/01/Havas-Report-CCST-Smart-Meters.pdf>

De-Kun Li, MD, PhD, MPH Senior Research Scientist and Lecturer at Stanford University

http://www.dor.kaiser.org/external/De-Kun_Li/

<http://citizensforsafetechnology.org/Dr-DeKun-Li-Letter-re-Smart-Meter-Safety.25.1298>

Microwave Exposure Limits in $\mu\text{W}/\text{cm}^2$ (microWatts/ cm^2)

Canada	1,000
USA	1,000
BC Centre of Disease Control Report on Radiation from a Single Smart Meter (no test for multiple-meters situation)	20-50
China, Russia, Italy, Paris (France) Poland, Bulgaria, Hungary	10
Switzerland, Luxembourg, Lichtenstein	9.5
Switzerland Precautionary Limit for Sensitive Areas (Children, Elderly, Medically-challenged)	4.25
Brussels, Wallonia, Flanders (Belgium)	2.4
BC Hydro's Claim on Smart Meter's Radiation	<2
Vienna (Austria)	1
Salzburg (Austria)	0.1
Cosmic Background	0.000000000001

1 W(Watt) = 1,000 mW (milliWatts)

1 W(Watt) = 1,000,000 μW (microWatts)

1 mW(milliWatt) = 1,000 μW (microWatts)

1 m^2 = 10,000 cm^2



Hintergrund und experimentelle Ergebnisse zum Thema „Smart Meter und Datenschutz“

Arbeitspapier¹ – Technischer Report, Status: ENTWURF, Version 0.6, Greveler, 20. Sep. 2011

Labor für IT-Sicherheit der FH Münster: Prof. Dr.-Ing U. Greveler, Dr. B. Justus, D. Löhr MSc.
Forschungsprojekt DaPriM (www.daprim.de)

English Abstract: Advanced metering devices (smart meters) are being installed throughout electric networks in Germany (as well as in other parts of Europe and in the United States). Unfortunately, smart meters are able to become surveillance devices that monitor the behavior of the customers leading to unprecedented invasions of consumer privacy. High-resolution energy consumption data is transmitted to the utility company allowing intrusive identification and monitoring of equipment within consumers' homes (e. g., TV set, refrigerator, toaster, and oven). Our research shows that the analysis of the household's electricity usage profile does reveal what channel the TV set in the household was displaying. Moreover, the data being transmitted via the Internet is unsigned and unencrypted. All tests were performed with a sealed, operational smart meter used for electricity metering in a private home in North Rhine-Westphalia, Germany.

Smart Meter und erhobene Daten

Bundesweit und auch im europäischen Rahmen ist die Einführung von intelligenten Strommessgeräten (Smart Meter) geplant, die vorhandene Stromzähler ersetzen sollen. Stromkunden können mithilfe dieser Geräte detaillierte Informationen über den Stromverbrauch erhalten und sind in der Lage, Stromverbraucher zu identifizieren, Ursachen für hohen Verbrauch zu bestimmen und damit Abhilfe zu schaffen, d. h. insbesondere Stromverbrauchskosten zu senken (Förderung des bewussten Energieverbrauchs).

Für Stromverkäufer und Netzbetreiber sind granulare Verbrauchsdaten ebenfalls von Interesse, da diese zu Planungszwecken, Ausführung von Netzoptimierungen, Vorhersage von Lastspitzen und informierte Beratungen der Kunden herangezogen werden können. Die Energieeffizienz- und Energiedienstleistungsrichtlinie (2006/32/EG) sieht individuelle Zähler, die den tatsächlichen Verbrauch und die tatsächliche Nutzungszeit feststellen [Renner, 2011], vor. Mittelfristig ist daher damit zu rechnen, dass sich Smart Meter gegenüber bisherigen Stromzählern bei Neuverlegungen und dem Austausch alter Zähler durchsetzen.

Aufgrund der Aufzeichnung personenbezogener Verbrauchsdaten durch Smart Meter ergeben sich Anforderungen an Datenschutz und Datensicherheit. Abhängig von der Genauigkeit der Messung und der zeitlichen Auflösung können nach Auswertung der erhobenen Daten Rückschlüsse auf die Verhaltensweisen der sich im Haushalt aufhaltenden Menschen gezogen werden; die Granularität heute eingesetzter Geräte sieht Messpunkte im Abstand von einer Stunde, viertelstündig, minutlich bis hin in den Sekundenbereich vor.

¹ Aufgrund aktueller starker Nachfrage nach den Zwischenergebnissen der Forschungsarbeiten stellen wir diese Entwurfsversion als technischen Report mit einzelnen Vorab-Ergebnissen zur Verfügung. Eine wissenschaftliche Publikation der Ergebnisse in üblicher Form ist beabsichtigt.