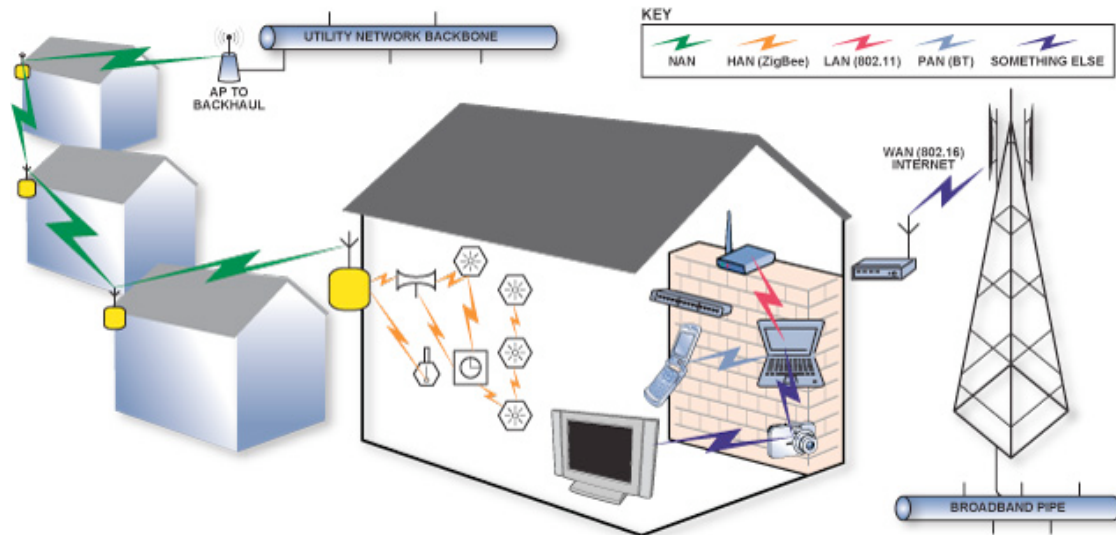
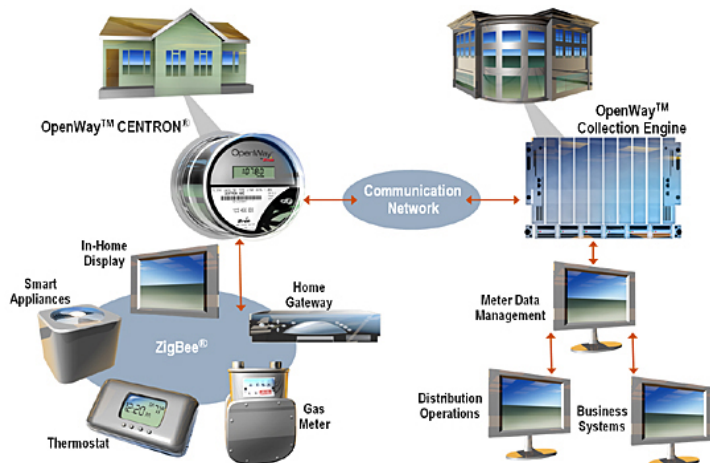


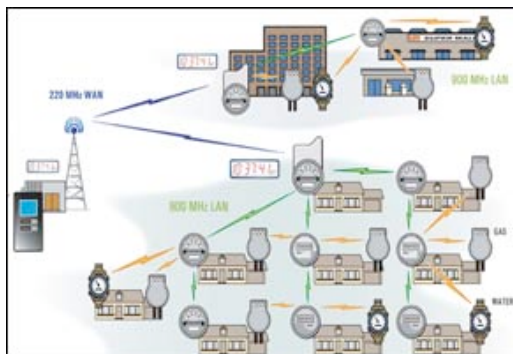
**RESEARCH - SMART METRES - SMART METERS using WIFI & WIMAX**  
 Please send back any new data to [emraofbc@yahoo.ca](mailto:emraofbc@yahoo.ca)



[http://www.analog.com/library/analogDialogue/archives/43-01/AD43\\_01\\_FIG-06.jpg](http://www.analog.com/library/analogDialogue/archives/43-01/AD43_01_FIG-06.jpg)



[http://vangogreen.com/images/article\\_tantalus.jpg](http://vangogreen.com/images/article_tantalus.jpg)



[http://www.goingwimax.com/wp-content/uploads/2009/10/ge\\_wimax\\_smart\\_grid\\_solution\\_ge\\_wimax\\_smart\\_meter.jpg](http://www.goingwimax.com/wp-content/uploads/2009/10/ge_wimax_smart_grid_solution_ge_wimax_smart_meter.jpg)

# GE WIMAX METRE



<http://www.gedigitalenergy.com/GEsmartgrid.htm>

[http://www.ge-energy.com/prod\\_serv/products/metering/en/index.htm](http://www.ge-energy.com/prod_serv/products/metering/en/index.htm)

<http://www.greentechmedia.com/articles/read/ge-offers-wimax-smart-meter-solution-5969/>

<http://www.wimax360.com/profiles/blogs/wimax-in-grid-nets-smart-meter>

<http://earth2tech.com/2009/09/11/utility-interest-in-wimax-for-smart-grid-growing/>

## GE Offers WiMax Smart Meter Solution

**General Electric will deploy WiMax radios as part of a smart meter project by utility CenterPoint Energy. GE is also partners with Grid Net, which has technology for putting WiMax Internet routers in smart meters. Could this be the first glimpse of a WiMax-enabled smart grid?**

**General Electric** thinks 100 kilobits per second might be fine for reading electric meters. But 1 to 2 megabits per second is what's needed to make the split-second automation of the electricity distribution grid a reality. That's what GE expects its new WiMax-based wireless communication system will be able to achieve for utility **CenterPoint Energy**.

In a contract announced Monday, GE will install a network of its WiMax-based **MDS Mercury 3650 radios** to link the utility's "backhaul" communications systems to collection points. Those collection points will aggregate data from millions of so-called "smart meters" that CenterPoint is installing for its 2.4 million customers in the Houston area.

Whether or not this marks a new trend in using WiMax for smart meter deployments – something that **Intel** and GE-backed startup **Grid Net** wants to see happen – remains to be seen (see this **Green Light** post).

Like almost all the other "smart meter" deployments in the country so far, CenterPoint's smart meters themselves – built by

meter manufacturer **Itron** – have radios with lower bandwidth to connect with each other in a mesh and transmit data to and from collection points. In general, utilities have opted for lower-bandwidth, lower-cost wireless technologies for this "neighborhood area network" communications, since sending energy usage information and simple instructions to and from meters don't require high-bandwidth systems (see **Smart Grid: A Matter of Standards**).

But when it comes to distribution automation – using high-speed digital communications to control equipment that keeps the grid from breaking down – it's likely that utilities will need a lot more bandwidth, said Larry Sollecito, president and CEO of GE Digital Energy. That's because, "If you're talking about doing distribution automation, you're talking about very fast response times, and you cannot miss a read on a communication," he said. Without that speed and reliability, "you'll damage a transformer, you'll break a generator, and you may even have a safety concern."

While GE is among the top smart meter makers in the country, this is the first smart meter deployment that includes its WiMax-based communications technology, Sollecito said. And GE's system will be self-contained, rather than using WiMax networks being deployed by **Sprint** and **Clearwire** around the country.

"CenterPoint is actually the first [U.S. utility] that's put a stake in the ground around WiMax," said Rick Nicholson, vice president of research for IDC company **Energy Insights**.

Intel, **Google**, **Comcast**, **Time Warner Cable** and others last year invested about \$3.2 billion in a **Sprint-Clearwire partnership** aimed at building a nationwide WiMax network.

But that Sprint-Clearwire partnership has had its struggles, and is a second go-around for the two companies, which first announced a partnership in 2007 only to **terminate it later that year**.

Utilities – which are already known for being reluctant to use public communications networks (see **Your Electrical Meter Becomes a Cellphone**) – may be reluctant to try out WiMax for smart grid communications until the Sprint-Clearwire efforts play out, Nicholson said. Still, backers of WiMax for smart grid may see this deployment as a way to test the proposition that the wireless technology is perfectly suited for a broad range of tasks.

"Utility customers are actively interested in the WiMax solution," said Judith McGarry, spokeswoman for San Francisco-based Grid Net, which has developed technology for installing WiMax Internet routers in smart meters.

The company has licensed that technology to GE, which is **now testing out the WiMax smart meters** with **SP AusNet** and **Energy Australia**, two utilities in Australia, McGarry said.

GE is also talking with U.S. utilities **American Electric Power** (AEP) and **Consumers Energy** about testing WiMax smart meters, and could announce a commercial deployment using the Grid Net technology in the next few months, she said.

**Both the Australian utilities are using public WiMax networks**, McGarry noted. Australia's WiMax coverage is far greater than in the United States.

But utilities can always build their own communications networks. Nicholson said he wouldn't be surprised if GE continues to seek to build utility-owned WiMax networks like the one it's doing for CenterPoint as a way to support Grid Net-enabled smart meters in the long term.

"WiMax is one of many options," he said. "It's hard to predict if there's going to be a winner – or, more likely, there will be multiple options out there."

<http://www.grid-net.com/wimax>

## **WiMAX network: secure, high-bandwidth, cost-effective, FCC-licensed spectrum.**

A key differentiator of Grid Net's technology is the integration of fourth-generation (4G)

**WiMAX communications into its Smart Grid solutions**. The next-generation WiMAX communications standard, the

Institute of Electrical and Electronics Engineers (IEEE) 802.16.e - 2005, is an open communications platform currently being deployed throughout the world. Connecting **Smart Grid devices via the 4G, all-IP WiMAX network** offers multiple benefits, including:

- The most robust, standards-based wireless networking security available today.
- Government-licensed spectrum that is protected from unauthorized congestion from third parties.
- Guaranteed Quality of Service (QoS) algorithms, which can be provisioned (for example) for distribution supervisory control and data acquisition (SCADA) and voice over Internet protocol (VoIP) applications.
- Enhanced capacity and non-line of site coverage through the use of smart antennas and Multiple Input Multiple Output (MIMO) technology.
- Versatility: WiMAX can be also **used as its own high-speed, tower-to-tower backhaul**.
- Flexible deployment: Utilities can implement Smart Grid networks using WiMAX across a variety of population densities, from dense urban areas to suburban or more rural areas.
- A massive increase in network bandwidth to accommodate delivery of new energy services.
- Support from a vibrant, extensive ecosystem of WiMAX technology providers. WiMAX products are backed by the **WiMAX Forum** <http://www.wimaxforum.org/>, an industry consortium of more than 500 technology leaders who are making big investments to advance WiMAX technology and standards throughout the world.

<http://www.smartmeters.com/the-news/418-obama-team-consults-ibm-on-plan-for-smart-grid.html>

## Obama team consults IBM on plan for smart grid

Wednesday, 07 January 2009 01:46

In considering their planned economic stimulus package, President-elect Obama's transition team pondered how beneficial the plan would be if information technology were highlighted. Instead of consulting government bureaucrats or even academic experts at leading universities the team went to IBM – still the world's leading information technology firm. According to an article appearing in December in the Wall Street Journal, IBM chairman and CEO Sam Palmisano presented information directly to Carol Browner, coordinator of climate and energy policy for the incoming administration, and Julius Genachowski – a technology adviser to the president who is rumoured to be in the running for the newly created position of United States chief technology officer. In the presentation, Palmisano explained how a \$30 billion information technology stimulus would create jobs. As part of the technology stimulus, IBM recommended three areas of primary focus:

**increased broadband Internet access** throughout the country, continued **computerization of medical records**, and rolling out the **smart grid** to revolutionise the country's power distribution system. IBM worked with the Information Technology and Innovation Foundation think tank based in Washington D.C. to come up with the focus areas.

According to their study, IBM found that a \$10 billion investment to boost America's smart grid infrastructure would create 239,000 new jobs. IBM would stand to benefit considerably from any IT investment but would particularly within these focus areas. Big Blue figures prominently in the healthcare digitisation process as well as smart grid technology.

In his presentation to the Obama transition team, Palmisano said that small businesses would create more than half of the new jobs as a result of so-called "network effects." For example, economic activity would naturally increase from a higher presence of broadband Internet. Rolling out the smart grid would bring a wealth of new energy technologies online. Some countries have made major strides installing smart grids. Italy, for one, blanketed the country with the money and energy-saving devices several years ago. Power providers around the world are realising that their power infrastructure is at or past its useful age and that the time has come to make the technological leap. Typically, transformers in North American power substations are designed to last 40 years, but the average age of these devices is 42 years. How much of the advice will be incorporated into the stimulus package that lawmakers and the Obama team are working on remains to be seen. At the end of December, Obama aides said that part of the two-year plan would include spending on traditional infrastructure, including highways, and reduced taxes.

Palmisano was also asked by the Obama team what steps the administration could take without

congressional approval. The CEO suggested an executive order be issued that required data centres in government offices be upgraded to energy-efficient data centres within a three year time limit. According to Chris Caine, vice president of **government programs at IBM**, the Obama team approached IBM directly for analysis on whether computer infrastructure investments would create jobs. "There are lots of econometrics on the number of jobs from traditional infrastructure investments," said Caine in an interview with The Wall Street Journal. "There aren't any metrics for these kinds of calculations."

Typically, businesses view information technology as a way to streamline operations in a way that increases efficiency while requiring fewer employees. However, by taking a major initiative such as installing a smart grid nationwide would create untold numbers of jobs because of the new industries created with the new technology.



[http://www.cepro.com/article/8\\_million\\_smart\\_meters\\_already\\_deployed\\_study\\_finds/K18](http://www.cepro.com/article/8_million_smart_meters_already_deployed_study_finds/K18)

## **8 Million Smart Meters Already Deployed, Study Finds**

Parks Associates says 6 percent of all meters in the U.S. are smart meters.

By Jason Knott

July 16, 2009

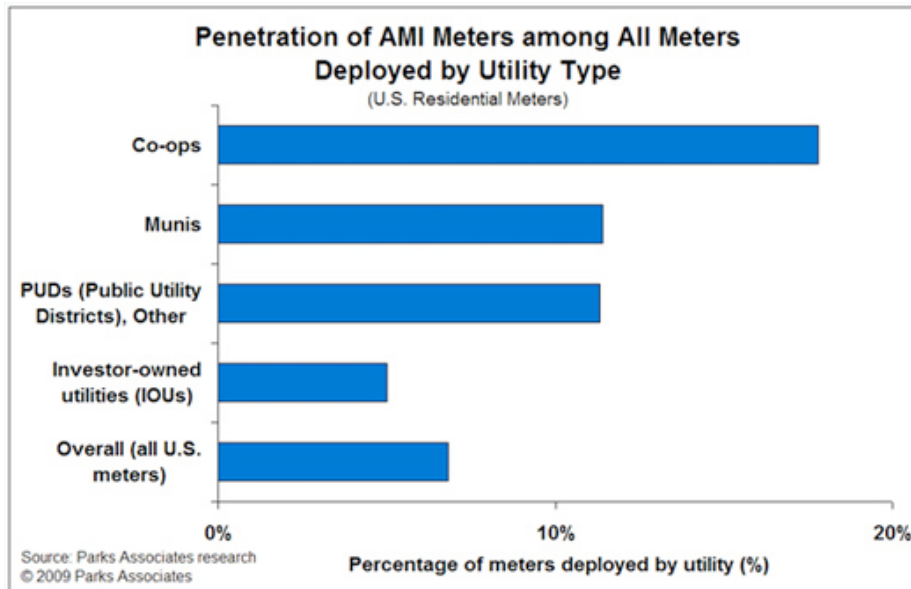
If you are sitting on the fence about whether or not to include energy management in your control systems, this new study from Parks Associates might change your mind.

There are already more than **eight million smart meters deployed** in the United States. According to Parks Associates, the residential energy management (REM) market has already taken significant steps in deploying Smart Grid technologies and advanced meter infrastructure (AMI) on a broad scale.

Public, private, and consumer factors are all driving this growth.

**The Federal stimulus bill allocates \$11 billion for smart grid initiatives through 2010.**

"Already over **6 percent** of all U.S. meters are smart meters, and utilities throughout the U.S. are announcing new deployments and pilot programs daily," says Bill Ablondi, home systems research, Parks Associates.



## AT&T and ROGERS

[http://www.smartsynch.com/pdf/SSI\\_Networks\\_e.pdf](http://www.smartsynch.com/pdf/SSI_Networks_e.pdf)

[http://www.smartsynch.com/pdf/Transaction\\_Management\\_System\\_e.pdf](http://www.smartsynch.com/pdf/Transaction_Management_System_e.pdf)

Wireless Network Optimization ( 2009, SmartSynch Inc )

As a pioneer in wireless smart metering technology, SmartSynch built TMS specifically for wireless networks.

Many other systems were originally built for HARDWIRED, drive-by or hand-held systems.

## VARIOUS BRANDS / Specs

[http://appmesh.com/SmartSynch\\_smartmeter.htm](http://appmesh.com/SmartSynch_smartmeter.htm)

<http://www.tropos.com/partners/wholeproductpartners.html>

## GRID ROUTER may be an option to LINES

<http://www.gridrouter.com/>

<http://www.gridrouter.com/demo.html>

<http://www.gridrouter.com/pdfs/earth2tech.pdf>

## ITRON BRAND SPECS

[www.itron.com](http://www.itron.com)



View Products by:  
[All](#) | [Electric](#) | [Gas](#) | [Water](#)

## Measure: **Electricity Meter Technology**

From innovative solid-state residential meters built for both AMR and AMI applications, to sophisticated meters developed for every tier of commercial and industrial customer, Itron has the metering solution for your industry need. Extraordinary precision ensures that each and every meter offers the ultimate in dependability and affordability. We also offer high quality instrumentation transformers to ensure the accuracy and reliability of your electricity network.



### ▶ **CENTRON® Meter**

With its exceptional accuracy and reliability, our innovative meter has become the market leader in solid-state metering. It offers an integrated automatic meter reading (AMR) platform for the future at a cost that makes sense for today's residential market.



### ▶ **CENTRON® Polyphase Meter**

Building on the exceptional performance of the CENTRON product line, the CENTRON Polyphase has the solid-state accuracy you expect from the CENTRON, and all the advanced functionality you need to meet the demands of low- to mid-tier commercial and industrial customers.



### ▶ **OpenWay® CENTRON® Meter**

The OpenWay system delivers the first truly smart meter for the residential mass market. Itron engineers have built upon our proven CENTRON solid-state platform to deliver an advanced meter that provides open-standards architecture, modular design for flexibility in communications, and extensive feature/functionality to support the most demanding AMI business requirements both today, and well into the future.



### ▶ **SENTINEL® Meter**

Our solid-state, multi-measurement polyphase meter offers superior accuracy and voltage quality monitoring for use in high-tier commercial and industrial locations. Industry-leading communications capabilities and a wide range of software options let you view critical C&I data in the form you need.



### ▶ **QUANTUM® Q1000 Meter**

Easy to integrate into existing systems, this is the most sophisticated meter on the market for supplying intelligence about the generation, transmission, and distribution of energy to metering applications.



### ▶ **Metering and Instrumentation Transformers**

As the demand for electricity continues to grow, so does the emphasis on dependable energy delivery. Itron's line of instrumentation transformers can help ensure the reliability and safety of your electricity network.

----- Original Message -----

**Sent:** Thursday, April 02, 2009 8:56 AM

**Subject:** Utility "smart meters" harm health.

**Below is my letter to the editor of our small local paper. So far, he's printed every letter I've written, so I hope this will inspire some other folks to refuse the meters. And to think about their other wireless exposures.**

To the Editor,

Residents in our area are receiving a postcard from We Energies informing them, in small print, that We Energies personnel will be by soon to attach a radio-broadcasting "smart meter" to our homes. The purpose of this is to save WE Energies personnel from having to get out of their vehicle when they occasionally come by to read our electric meter, as they will be able to cruise a neighborhood and pick up the radio-broadcast information right from their vehicle.

The meters emit a pulsed signal every 14 seconds, continually, that will saturate your body, your home and also your neighborhood, as they have a range of 1/4 mile. This in spite of the fact that only very occasionally will a truck drive by and pick up the information. This may appear "smart" to We Energies, but residents who allow these meters will pay a hidden price, as their health will be affected.

Epidemiological studies from Israel, Germany, Netherlands and Spain document a greater risk of cancers and symptoms classified as electrosensitivity (ES) for people who live within 400 meters of cell phone antennas. The frequencies for cell phone antennas range from about 800 MHz to 2 GHz and overlap with those of "smart meters," which operate at 920 MHz.

Symptoms include cognitive dysfunction, such as poor short-term memory, difficulty concentrating and problem-solving; as well as dizziness, vertigo, tremors, facial flushing, skin rashes; chest pressure, rapid heart rate or disturbed cardiac function, depression, anxiety, irritability, frustration, insomnia, fatigue, body aches, headaches, and tinnitus.

Pulsed transmissions are the type that most actively disrupts brain function. For more information, please see <http://tinyurl.com/55286a> and also download Professor Andrew Goldsworthy's executive summary of the biological effects of electromagnetic fields at [www.radiationresearch.org/research.asp/](http://www.radiationresearch.org/research.asp/). Some important points include:

1. Well-replicated studies show that weak electromagnetic fields remove calcium ions bound to the membranes of living cells, making them more likely to tear, develop temporary pores and leak. (This "binding" is electrical in nature. This is why EMF and RF can disrupt it, disrupting calcium metabolism.)
2. DNAase (an enzyme that destroys DNA) leaking through the membranes of lysosomes (small bodies in living cells packed with digestive enzymes) explains the fragmentation of DNA seen in cells exposed to mobile phone signals. When this occurs in the germ line (the cells that give rise to eggs and sperm), it reduces fertility and predicts genetic damage in future generations. This leakage can have all sorts of unwanted biological effects totally unconnected with their so-called thermal effects. These include allowing foreign materials, such as toxins, carcinogens and allergens to enter cells more easily. Also, the leakage of digestive enzymes through their internal membranes can damage the DNA, leading to the formation of genetically aberrant cells. When this occurs in the sex organs, there is a loss of fertility. Also, genetically damaged cells in any part of the body can be carcinogenic, although this may not become evident until later in life when the natural ability of the immune system to deal with them deteriorates.
3. Leakage of calcium ions into the cytosol (the main part of the cell) acts as a metabolic stimulant, which promotes the growth of tumors.
4. Leakage of calcium ions into neurones (brain cells) makes them more inclined to transmit nerve impulses. This makes the brain hyperactive so that it is more difficult to get to sleep and we may get stress headaches, pain and other neurological symptoms. It also degrades the signal-to-noise ratio of the brain making it less likely to respond adequately to weak stimuli. This may cause attention deficit hyperactivity disorder (ADHD)

in children. In adults, it may be partly responsible for the increased accident rate when people use cell phones while driving. You are four times more likely to have an accident, even with hands-free types. Another effect of brain hyperactivity is to speed our reaction times to outside stimulation. However, because some of the nerve impulses are false, it tends also to cloud our thinking; we lose concentration and become more easily distracted.

Although electrically sensitive individuals experience symptoms upon exposure, others are likely to experience them gradually, as the biological effects of exposure are cumulative. We will have to pick up the pieces as people's health deteriorates, their ability to do work that requires concentration declines and learning disability problems in children increase. It will be much more costly in the long run to deal with the health problems than it would be to take our time and consider a way to lessen exposures of this kind, such as by having these systems report over the phone line, via fiber optics or (at the very least) have the transmitter turn on only when the mobile data-collecting unit is at work in the area, then turn off again.

No one wants to be put at a greater risk of developing cancer and people with ES certainly don't want to be exposed to more radiation. The money We Energy saves won't be worth the price we will pay.

We Energies does not have a right to summarily inform us that they are about to fasten a radio-broadcasting unit to our home. They ought to be requesting permission. And we have every right to refuse.

I called the 800 number on the card we were sent and was told that we "had to" have this unit attached to our home. When I replied that we certainly do not have to, I was put on hold. After a few minutes the employee returned and informed me that they will not attach this broadcaster to our home, but will read our meter as usual.

In the best interest of your health, you may wish to do the same.

Shivani Arjuna  
[www.LifeEnergies.com](http://www.LifeEnergies.com)

AT&T part of Digital Angel network - press release date FEB 7, 2001  
"Applied Digital Solutions forms Strategic Alliance with **AT&T Wireless** for its Digital Angel **Delivery System**" (WIMAX)

AT&T pulls out as cell phone industry was in question after CNN Brain Tumour coverage, trying to avoid a connection to the chips, which also use **radio frequency** ( Electromagnetic radiation ) AT&T splits in two new names, then returns after dust settles. Smart Grid next deadly step - AT&T SmartSynch (microwaves)

**AT&T smartsynch.com**  
[http://telephonyonline.com/residential\\_services/news/att-smartsynch-smart-grid-technology-0317/](http://telephonyonline.com/residential_services/news/att-smartsynch-smart-grid-technology-0317/)

**SmartSynch Releases Wi-Fi-enabled SmartMeters**  
<http://www.wi-fiplanet.com/news/article.php/3707041>

**ITRON** - manufactures Smart Metre  
<http://www.itron.com/pages/index.asp>

**SIEMENS**  
<http://w1.siemens.com/entry/cc/en/>  
<http://www.usa.siemens.com/answers/en/index.htm?section=smartgrid&stc=usccc021681>

<http://www.smartgrid.com/smartgrid.htm>

ECHELON <http://www.echelon.com/products/transceivers/ft/>

### Wireless Broadband over Powerlines

BPL - Alabama USA

<http://www.bpl.coop/>

### Austria - Radio effected by BPL

<http://www.youtube.com/watch?v=fGA4MCNeN7c>

<http://www.youtube.com/watch?v=bkp561RMQAw>

[http://www.ambientcorp.com/press\\_releases/pr\\_2009\\_0304\\_JMA.html](http://www.ambientcorp.com/press_releases/pr_2009_0304_JMA.html)

### Qualcomm, Verizon Plan Smart Grid Services as Part of New JV

<http://broadbandoverpowerlines.blogspot.com/>

<http://www.dslreports.com/shownews/Broadband-Over-Powerline-BPL-Stumbles-94078>

<http://www.dslreports.com/r0/download/1303297~a71ed84c8db81f6394bd280bf41bebe6/BPL.gif>

### IBM

[http://www.ibm.com/smarterplanet/us/en/smart\\_grid/ideas/index.html?re=spf](http://www.ibm.com/smarterplanet/us/en/smart_grid/ideas/index.html?re=spf)

[.Skip to main content](#)



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A Smarter Planet  
Energy

## Smart Grid

Electricity has always powered the work of computers. Now, with smarter grids, computing is returning the favor.

### Tab navigation

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Ideas  
- selected tab,

Perspectives

Examples

Next steps

## Smart Grid

**Power in numbers: The eleven-member Global Intelligent Utility Network Coalition advances**

## the smart grid worldwide

In 2007, IBM formed a coalition of innovative utility companies to accelerate the use of smart grid technologies and move the industry forward through its most challenging transformation. The Global Intelligent Utility Network Coalition wants to change the way power is generated, distributed and used by adding digital intelligence to the current systems to reduce outages and faults, manage demand, and integrate renewable energy sources such as wind and power.

Today the Coalition comprises eleven members serving nearly 100 million energy customers worldwide. Each utility company brings a unique expertise to the table. For example, DONG Energy of Denmark is a leader in renewable energy, sourcing 20% of their power from wind and working toward generating 50% of their energy with Co2-neutral resources by 2020. And NDPL of India offers the perspective of providing power to an emerging market, where reliability and full access to electricity are still a challenge.

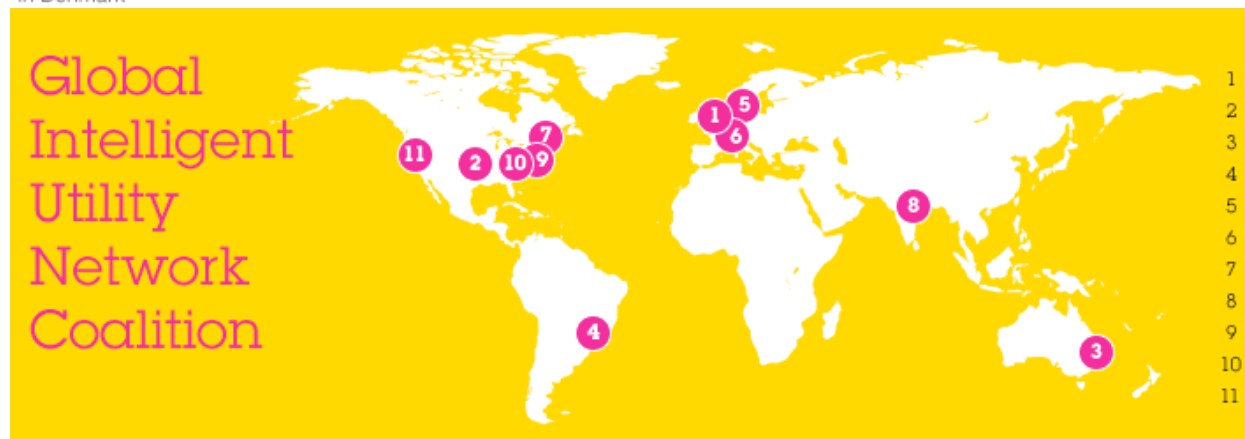
The Coalition shares ideas and best practices through in-person meetings and virtual interactions, benchmarks their efforts, shares knowledge on critical issues and undertakes collaborative initiatives. For example, the successful CenterPoint Energy Smart Grid Demonstration Center gave Country Energy the insight they needed to create their own center in Queenbeyan, Australia.

The Global Intelligent Utility Network Coalition's first collaborative effort was the creation of a [Smart Grid Maturity model](#), which has been used by over 60 utilities from around the world to assess where they are and plan their own smart grid program. It was recently donated to Carnegie Mellon's Software Engineering Institute for use by the industry. Other collaborations are focused on the impact of the smart grid on climate change, consumer perspectives, standards and interoperability and possible future regulatory models.

"As part of the IUN

Coalition, we collaborate  
and share experiences  
with the best worldwide  
to achieve our goals:  
optimizing the usage of  
wind energy, improving  
energy efficiency and  
reliability, and making  
smart grid investments  
while ensuring low cost."

.....  
**Jens Jakobsson**  
Vice President Power  
Distribution, DONG Energy  
in Denmark



### **Alliander** (Arnhem, Netherlands)

Alliander, the largest network company in the Netherlands, is paving the way for increased adoption and usage of electric vehicles by working with other companies in their ecosystem to provide 10,000 charging points throughout the country by 2012.

### **CenterPoint Energy** (Houston, TX)

CenterPoint Energy Houston Electric is a transmission and distribution company serving approximately 2.2 million consumers in the Houston area, the fourth largest city in the U.S. and operates in an electric deregulated market. The CenterPoint Energy demonstration center was one of the first in the world to show the smart meter and outage restoration benefits that can be realized through smart grid technologies.

### **Country Energy** (Queenbeyan, Australia)

Australia's largest power supply network, they manage supply across 95 percent of New South Wales' land mass. Country Energy's innovative Intelligent Network (IN) Demonstration Center showcases the benefits of a smart grid through real examples such as energy storage and vehicle to grid.

**CPFL** (Sao Paulo, Brazil)

CPFL is the largest private company in the Brazilian electric sector and the first company to negotiate carbon credits.

**DONG Energy** (Copenhagen, Denmark)

DONG Energy is one of the leading energy companies in the Nordics, with activities in the whole energy value chain. They are breaking ground with work on projects to time vehicle charging with the intermittent wind.

**ERDF** (Paris, France)

ERDF, the distribution arm of EDF and the largest electricity distribution network in the European Union, is working to capitalize on advanced meter management capabilities to improve network operations, control, maintenance and development.

**IBM** (New York, NY)

IBM is helping clients around the world to deliver on the vision of a smart grid through its comprehensive approach of end-to-end solutions, informed policy and regulatory initiatives, and broadening awareness of critical areas such as standards. IBM's solutions address the entire energy value chain, water, and gas, and are an important part of the smarter planet initiative.

**NDPL** (Delhi, India)

NDPL, a joint venture between Tata Power and the Delhi government, created innovative initiatives that significantly reduced energy loss and pioneered substation automation in India. NDPL is also taking a leadership role in policy advocacy for smart grid initiatives in India.

**PHI** (Washington, D.C.)

PHI is one of the largest energy delivery companies in the Mid-Atlantic U.S. with consumers in three states and the District of Columbia. PHI is helping energy customers understand how smart grid technologies and energy efficiency programs will benefit them through their innovative "Day in the Life Of" video segments on their Web site.

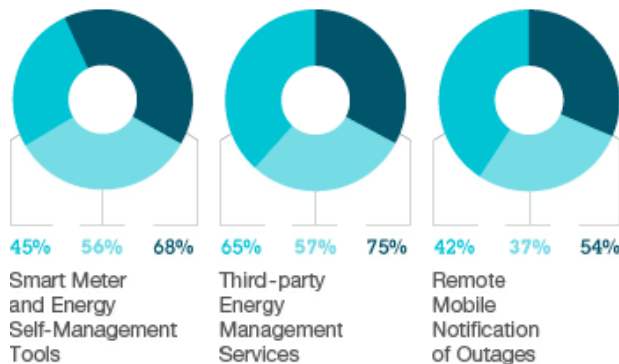
**Progress Energy** (Raleigh, NC)

Progress Energy is a fully integrated utility serving Florida and the Carolinas from generation to the consumer. Recently celebrating a century of service in 2008, they are working to improve the efficiency of power flow throughout their system through their work in voltage control and fault location.

**Sempra Energy** (San Diego, CA)

Sempra Energy is driving the progressive State of California metering initiative through its extensive smart meter deployment currently underway. All residential and business customers will have their meters replaced with a smart meter by the end of 2011. In addition, their work on microgrids, condition-based maintenance of substations and a state-of-the-art OMS/DMS system are advancing smart grid on multiple fronts.

The 18-24 age group leads in its willingness to pay for specific services.



■ 18-24 ■ Average (all age groups) ■ 65+

**For decades, power was something the average person did not think much about.**

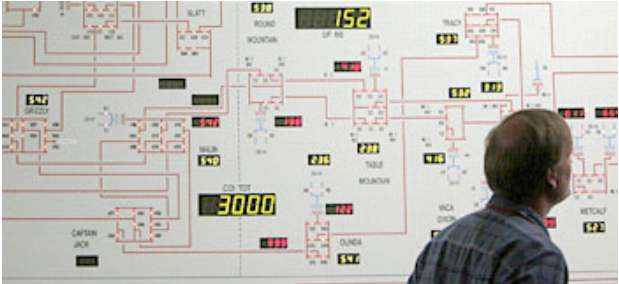
Until it went out. And then it was all you thought about... until it came back. Not any more.

Climate change, rising energy prices and technology advances are all forces that have been reshaping the collective mindset of consumers, turning many from "passive ratepayers" to highly informed, environmentally conscious customers who want a role in using power. And now, with the emergence of the technologies that make smart grids possible, companies can provide their customers with the information and control they need to actually change their behavior patterns and reduce usage and costs.

**Entering the digital age**

IBM is helping utilities add a layer of digital intelligence to their grids. These smart grids use sensors, meters, digital controls and analytic tools to automate, monitor and control the two-way flow of energy across operations—from power plant to plug. A power company can optimize grid performance, prevent outages, restore outages faster and allow consumers to manage energy usage right down to the individual networked appliance. "Smart" grids can also incorporate new sustainable energies such as wind and solar generation, and interact locally with distributed power sources, or plug-in electric vehicles.

Smart Grid feature stories



Grid insecurities

Get the latest thinking on strategies and solutions for securing the smart grid

Electric cars

The energy and auto industries are getting ready to take a road trip together toward e-mobility

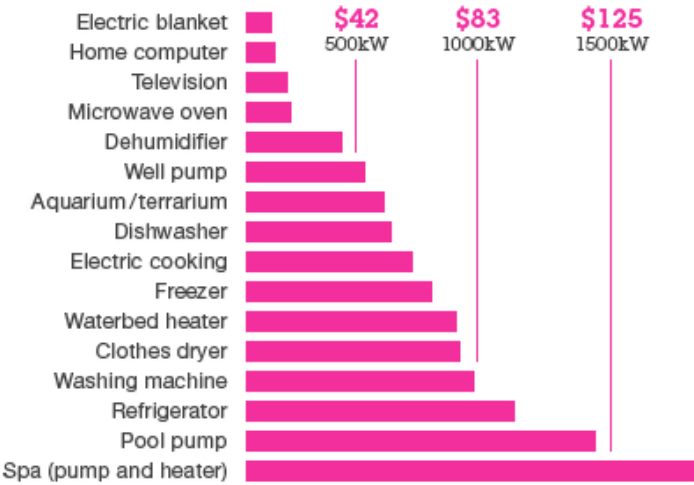
Powering the planet video

The electric grid was conceived in the age of Edison, designed in the age of Eisenhower and installed in the age of Nixon. It hasn't been upgraded since.

[Watch the smart grid](#)

Cost/Year

How much electricity do your appliances use?



U.S. Department of Energy

#### Smart Grid Podcast

Take 12 minutes: understand the next 5 years



With little or no intelligence to monitor power flows, enough e annually to power India, Germ for an entire year.



A ☐  
B ☐  
C ☐

#### What do you think?

How much more would you pay per month for green utilities?

Take our poll.

A Smarter Planet  
**Smarter Energy**  
Ideas

#### Info./advice request (To resist "smart" meters on homes.)

From : SARjuna

Date: Thu, Jul 2, 2009 8:55 am

American utility companies are in the process of attaching radio-broadcasting "smart" meters to every home in the country.

The ones our electric utility is busy installing locally, in SE Wisconsin,

broadcast every 6 seconds at 917 MHz.

The company is willing to discuss mounting the meter at some location on your property other than your house, but the signal would still come in on the wiring and be broadcast from it throughout the home, so this is no solution.

Some of us ES folks in the area are putting our heads together to come up with a way to successfully avoid being forced to have our homes rendered toxic to us by these meters. A court injunction appears to be a necessary first step, as we must act very soon. (The last time our electric meter reader came, he told me that he would no longer have that job in two weeks, because of the new meters, and that was a week ago.)

If you have any information/ideas that would help with this effort, we will much appreciate hearing from you.

Thanks,  
Shivani

**To prevent "smart" meter on your home....**

From : SARjuna  
To:  
Bcc:  
Date: Thu, Sep 10, 2009 1:02 pm

Electric, gas and water utilities in the USA and other developed nations are installing radio-broadcasting "smart" meters nation, replacing the present meters.

I've received calls and e-mails from electrically sensitive people who had these attached to their homes, who are experiencing debilitating symptoms corresponding in time with the placement of the meters. I certainly didn't want one attached to my own home, yet made no progress in conversation with We Energies, our electricity provider here in Wisconsin. Their attitude towards those of us protesting placement of these meters, included "If you don't like it, get your electricity elsewhere," and a threat that power would be turned off.

Catherine Kleiber, hostess of [www.electricalpollution.com](http://www.electricalpollution.com) suggested that I contact the local group of The National Council For Independent Living. The man I spoke with there assured me that he'd take care of that problem, no worry. To my surprise, he did.

At least, it seems so. He says that the utility company agreed to leave my present meter in place, and that if they bring the subject of a RF meter up again he will take care of it then, too.

American ES individuals who want to avoid placement of such a meter on their home, or get an already-installed one removed can call the National Council For Independent Living and ask for contact information of the nearest affiliate group in their own area.

It remains to be seen how well this approach will work for those who are concerned about how the radiation from the meter would affect them, but who have not had a "defining experience" regarding how EMR/EMF affects them personally. However, once a number of individuals have been exempted on grounds of health concerns, it certainly opens the door to others being exempted, as well. And there is certainly research showing good cause for concern regarding such exposure.

Please see Catherine's article, from her website, below.

And please let me know your experience if you work with your local affiliate of The National Council For Independent Living.

Shivani  
[www.LifeEnergies.com](http://www.LifeEnergies.com)

## Transmitting Smart Meters Pose A Serious Threat To Public Health

Transmitting smart meters are being installed nationwide on gas, water, and electrical services, driven in part by funding for the Smart Grid Program approved as part of the American Recovery and Reinvestment Act of 2009.

This is of great concern because the exposure to microwave and radiowave radiation from these meters is involuntary and continuous. The transmitting meters do comply with Federal Communications Commission (FCC) "safety" standards. However, those standards were initially designed to protect an average male from tissue heating (cooking) during a brief exposure. These standards were not designed to protect a diverse population from the non-thermal effects of continuous exposure to microwave and radiowave radiation. Therefore, these "safety" standards were not designed to protect the public from health problems under the circumstances which the meters are being used. The transmitting meters most often being used transmit continuously, every few seconds. This is picked up by a receiver and logged by the utility. You are exposed to the transmissions from all the meters within transmitting range. The meters often have a range of over 2 miles. Thus, the exposure is continuous and the "safety" standards the meters comply with are irrelevant to the situation. Please read this letter from the Radiation Protection Division of the Environmental Protection Agency (EPA) regarding the limitations of the FCC standards.

Some transmitting meters transmit at less frequent intervals, however, they still seem to be causing health problems. This could be due to the still elevated levels of radiowaves and microwaves in the neighborhood because of all the neighbors transmitters. Remember, many, many meters are transmitting at these intervals. (One person with a meter transmitting hourly reports waking at the time it transmits.)

The transmitting meters can also put high frequencies directly on home and building wiring. This can happen deliberately through signaling to electrical loads or inadvertently through poor engineering. Poorly engineered meters can cause electrical pollution by putting the transmitted signal directly on home wiring or by the way they draw power to operate. Whether deliberate or inadvertent, studies are finding high frequencies on building wiring is related to a host of health problems. Milham and Morgan found a dose-response relationship between high frequencies present on building wiring and cancer. Removing high frequencies on building wiring has improved MS symptoms, blood sugar levels, asthma, sleep quality, teacher health, headaches, ADD, and numerous other health problems. (Visit Research page to see papers.) Technical papers provide a solid electrical and biomolecular basis for these effects. A recent paper by Ozen, showed that transients induce much stronger current density levels in the human body than does the powerline 60Hz signal. A technical paper by Vignati and Giuliani discusses the authors' findings that high frequency communication signals on power lines also induce much stronger electrical currents in the human body than a low frequency signal of the same strength. The induced currents disturb normal intercellular communications. This causes harmful short-term and long-term effects. Please see the Technical page for information about properly measuring the high

frequencies on building wiring that are causing health problems. There is also a simple meter that lay people can use to easily measure most high frequencies on building wiring.

The objectives of the Smart Grid Program can be accomplished without transmitting meters and without using other technology such as high frequency communication over power lines, which are also harmful to human health. It simply requires that meters be selected that are properly engineered to meet the needs of the program without using dangerous technology. Multi-rate billing and other sophisticated metering options do not require that the meter transmit. Models are available that download periodically on phone lines, dedicated communication lines, or are read by a reader the meter reader carries. Dedicated communication cables can be used to shut off or allow on certain power consuming electronics such as air conditioners. It is essential that only meters that do not transmit or put high frequency signals on building wiring are approved for the Smart Grid Program.

The un-safeness of the "safety" standards for the continuously transmitting smart meters is apparent from the reports of health problems ranging from headaches to poor sleep to heart palpitations that begin after their installation.

Transmitted microwave and radiowave radiation also have the potential for causing serious long-term health consequences, even for those who do not notice overt symptoms. The majority of independent studies report similar results: impairment of cellular communication, DNA breakages, increased stress proteins, etc. Studies targeting cellphone and cordless phone usage are finding increased risk of brain tumors. Children seem to be particularly vulnerable. A review of studies performed prior to 2007 is available at <http://www.bioinitiative.org>. A recent public health study provides particularly strong evidence that we should be concerned about continuous exposure to transmitted microwave radiation. It can be found in a paper published in Pathophysiology (Volume 16, Issue 1, June 2009, Pages 43-46) Apparent decreases in Swedish public health indicators after 1997-Are they due to improved diagnostics or to environmental factors?. The authors looked at trend lines in data collected by the Swedish government and found that the introduction of cellphone technology nationwide in 1997 coincided with the beginning of an accelerating deterioration of several health indicators. Specifically, the rates of prostate cancer, brain tumors, melanomas and lung cancers in the elderly all increased dramatically. So did deaths from Alzheimer's disease, traffic accident injuries, sick leave rates, and percentage of infants born with heart problems. This paper is short and well worth reading. We should resolve the public health questions before introducing further public exposure to microwave radiation, particularly involuntary continuous exposure.

Radiowave and microwave radiation are not just a problem for people,

they are causing serious problems for animals of all types. Please visit <http://www.hese-project.org/hese-uk/en/issues/emr.php?id=bees> and <http://www.hese-project.org/hese-uk/en/issues/> for more information.

I will be sending updates regarding the issue of transmitting smart meters out to my email list. You may join the list by typing "join email list" in the subject heading when you email the Webmaster at [webmaster@electricalpollution.com](mailto:webmaster@electricalpollution.com). I will also be updating the website.

If you do not have a transmitting smart meter and do not want one for health reasons, in addition to contacting your utility and Public Service Commission or Public Utility Commission, please do the following:

- Spread the word about the public health threat posed by transmitting smart meters. Link to <http://www.electricalpollution.com/smartmeters.html> on your Facebook or MySpace page, if you have one, or notify your friends online via email.
- Write George Arnold, National Coordinator for Smart Grid Interoperability. He has the power to set policy on meter qualifications for the Smart Grid Program. The program could, for instance, require non-transmitting and non-electrically polluting meters. However, he will have to be convinced of the public health threat they pose in order to do so.

(I am in the process of adding to this list. Please join my email list or check back for additional important actions you can take.)

If you already have a transmitting meter and it is causing you health problems, please file a complaint with both the agencies listed below and then send a copy of those complaints to the EMR Policy Institute at [info@emrpolicy.org](mailto:info@emrpolicy.org) with "Transmitting Smart Meter Complaint" in the subject heading so that they can independently compile the complaints. (Please be prepared to give product information, including manufacturer and model number, and health symptoms.)

- Food and Drug Administration - The FDA regulates electronic consumer products that emit radiation (such as microwave ovens and video monitors and cellphones). You can file a complaint through the Medwatch Program on their website at <https://www.accessdata.fda.gov/scripts/medwatch/medwatch-online.htm> or by calling 1-800-FDA-1088. The same program that regulates medical devices, regulates consumer products that emit radiation.
- Consumer Product Safety Commission - The Consumer Product Safety Commission is responsible for taking dangerous products off the market. You can file a complaint with the Consumer Product Safety Commission at 1-800-638-2772 or <https://www.cpsc.gov/cgibin/incident.aspx>.
- EMR Policy Institute - Please send a copy of the complaints filed with the FDA and the Consumer Product Safety Commission to the EMR Policy Institute at [info@emrpolicy.org](mailto:info@emrpolicy.org) with "Transmitting Smart Meter Complaint" in the subject heading so that they can independently compile the complaints. This is not a substitute for filing complaints with the FDA or the Consumer Product Safety Commission.

They will not stop installing these meters unless complaints are filed.

Check back or join the email list for further steps you can take.

You may join the list by typing "join email list" in the subject heading when you email the Webmaster at [webmaster@electricalpollution.com](mailto:webmaster@electricalpollution.com).

<http://www.cbc.ca/canada/montreal/story/2007/12/10/qc-hydrosmart1210.html>

## Hydro Quebec shelves smart meters

Last Updated: **Monday, December 10, 2007** | 12:11 PM ET  
CBC News

Hydro Quebec is backing away from a major government initiative that would have reduced electricity consumption in the province, CBC News has learned. The conservation plan — which hinged on smart meters to cut peak period hydro consumption — is too costly to deliver real savings, according to the Quebec power corporation. The smart meters, already common in Ontario, allow consumers to save money by monitoring their usage and consuming the bulk of their power at night when rates are lower, rather than during peak periods in the morning and evening.

But they are **expensive to install in residences** and that cost would inevitably be offset by raising electricity prices, said Hydro Quebec distribution president André Boulanger.

"In California, for example, smart meters make a lot of sense. A lot more sense than here. We have to evaluate the cost of it, and the benefit at the same time," he told CBC News. "Because we don't want to increase the bills of our customers."

The Quebec **Liberal government first floated the idea of smart meters in 2006** when it unveiled a nine-year, multi-billion energy strategy that included plans to increase electricity production and cut down on consumption. At the time, Premier Jean Charest said Quebec homes would be equipped with smart meters by 2009 to encourage people to use energy more efficiently. Quebecers are among the biggest hydro consumers in Canada, a habit that needs to change, according the premier.

"The golden rule about energy and the environment [is] it's the energy you do not consume that is the best investment you can make," he recently said. Hydro Quebec is still open to a pilot project testing smart meters, but is not prepared to introduce them on a wider scale, Boulanger said.

In Ontario, the province's power utility has installed more than 200,000 smart meters in recent years after a successful pilot project spearheaded by Ottawa's municipal utility.

The Hydro Ottawa Smart Price Pilot results revealed that, with conservation considered, "93 per cent of customers paid less than they would have under regular rates," said Hydro One spokesman Dave Watts. Lower energy use during peak times means less need for new generating stations, he said.

### WIMAX Based smart metering program - 01 Dec 2009

<http://www.smartgridaustralia.com.au/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=134&cntnt01returnid=15>

Motorola, Grid Net and GE Energy Services are among a number of partnering companies tapped to develop a WiMax-

based smart metering program in Australia. The program, which aims to bring smart meters to almost 700,000 homes and businesses in the state of Victoria, will be the first WiMax-based 4G smart grid solution, according to the companies. The plan developed by SP AusNet, an Australian energy delivery company, calls for the smart meters to be installed by the end of 2013. A communication network will also be set up enabling the smart meters to communicate with SP AusNet's smart grid network.

The project is part of a push by the Australian government to enable more than **2.2 million homes and 300,000 businesses** to better manage their energy needs and consumption.

In this initiative, **GE will provide the WiMax 4G-based meter communications** technology across the entire network, as well as half of the smart meters that will be installed. Grid Net will bring its PolicyNet network management software suite to help manage the meters, controllers, switches and other devices on the smart grid network, and Motorola is supplying its mobile broadband technology.

Motorola will deploy WiMax WAP 650 base stations, as well as its Access Service Network Gateway and new microwave systems to extend the WAN to new coverage areas.

This is the first time WiMax technology will be used in smart metering for an electrical utility company. The smart grid architecture will enable the utility to monitor the health and status of the smart grid devices in real time, and will allow SP AusNet to provide variable pricing throughout the day. With this capability, consumers will be able to manage their energy consumption and move their power-intensive activities to lower-cost off-peak hours.

**From:** Martin

**To:** W.E.E.P

**Sent:** Thursday, November 20, 2008 8:43:06 PM

**Subject:** Smart Meters - Pay for your electricity and get cancer! Dumb meters!

Hi All

Does this sound like a good government scheme? Pay for your electricity (about the same old price), get cancer and other illnesses from exposure to microwave radiation emitted by the meters?

Here is some more important information about 'Smart Meters'. The theory being provided to the public, is that they will be able to save electricity and money by using it at off peak times. If you review the figures and information below, you will soon understand that it is mostly a false pretense and citizens will likely be paying the same price as before, maybe even more!

Take a look at the electric oven energy costs printed in the table below. Most people will be cooking their meals in the late afternoon and early evening and they will be using electricity during the peak time or the mid peak time. In that case, the cost of using the oven will actually go up higher with the smart meters. In a family setting, lots of other electrical devices will also be used during the peak hours, televisions, refrigerators, furnaces, lights, computers. All these things are likely to cost more during the peak times and only limited savings are likely to be made during the off peak periods.

The expense of installing millions of these meters is going to be paid by home owners, forced to pay without any choice. We will be paying for the cost of removing and scrapping a perfectly good meter, the cost of manufacturing a new meter and the cost of installing a new meter. All this expense will be for little or no real savings and even more galling, we will be exposed to dangerous microwave radiation throughout the day and night. We may even be saddled with the cost of exchanging the Smart (dumb) Meters for the old type meters when serious health effects become apparent in the future!

We have often witnessed mistakes by governments, but this one by the Ontario Government is starting to look like one of the biggest blunders yet. Why is our health being placed at such great risk for a limited, or non existent benefit of a Smart Meter?

Martin Weatherall

[www.weepinitiative.org](http://www.weepinitiative.org)

## Electric Stoves

## <http://www.smartmetersontario.ca/index.cfm?page=HomeElectricityHogs>

Since an electric stove is also a heavy electricity consumer, it makes sense to maximize every hour of use. For example, try to plan meals that allow more than one dish to be cooked in it. Or, consider using another option like a microwave or toaster oven, whenever you can.

|                                   | Approx.<br>Wattage | Today per<br>kWh |                | TOU per kWh          |                      |                     |
|-----------------------------------|--------------------|------------------|----------------|----------------------|----------------------|---------------------|
|                                   |                    | Tier 1<br>5.0¢   | Tier 2<br>5.9¢ | Off-<br>peak<br>3.0¢ | Mid-<br>peak<br>7.0¢ | On-<br>peak<br>8.7¢ |
| Electric Oven                     | 5,000              | 25.00<br>¢       | 29.50<br>¢     | 15.00<br>¢           | 35.00<br>¢           | 43.50¢              |
| Electric Stove - oven + 4 burners | 12,500             | 62.50<br>¢       | 73.75<br>¢     | 37.50<br>¢           | 87.50<br>¢           | 108.75<br>¢         |
| Toaster Oven                      | 1,250              | 6.25¢            | 7.38¢          | 3.75¢                | 8.75¢                | 10.88¢              |
| Microwave Oven                    | 1,000              | 5.00¢            | 5.90¢          | 3.00¢                | 7.00¢                | 8.70¢               |

### Will I see a Smart Meter charge on my bill?

The cost of the Smart Meter initiative will be recovered through the electricity rates **paid by all customers** in the same way that costs for existing meters and services are recovered today.

### Will I see lower electricity bills?

With time-of-use rates, you'll see the results of your conservation efforts – and you'll save money **if you can** shift your heaviest electricity use to off-peak hours. Equipment like air conditioners, electrical heating, space and water heating as well as ovens, dryers and even lighting for example, can use a great deal of energy.

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## Smart Meters

- **Site Pages**
- [Smart Meters Home](#)
- [Net Metering](#)
- [Electricity Regulations Documents](#)
- [AMI Specifications - Version 2](#)
- [IESO Backgrounder, July 2006](#) **External Resources**
- [Energy Conservation Responsibility Act, 2006](#)

<http://www.energy.gov.on.ca/index.cfm?fuseaction=electricity.smartmeters>

To create a conservation culture in Ontario and become a leader in energy efficiency, the government is facilitating a number of key initiatives:

- introducing flexible, time-of-use pricing for electricity;
- targeting to reduce Ontario's projected peak electricity demand by five percent by 2007;
- committing to install a smart electricity meter in 800,000 homes and small businesses by the end of 2007 and throughout Ontario by 2010; and
- introducing legislation to enable implementation of the government's smart metering initiative and conservation targets.

The smart metering system includes an [Advanced Metering Infrastructure \(AMI\)](#) and Meter Data

Management and ([Meter Data Repository MDM/R](#)) functions. An AMI is the infrastructure within which date- and time-stamped hourly meter reads will be remotely collected and transmitted daily to a utility's control computer and, eventually, to a centralized MDM/R .

The MDM/R will provide a common infrastructure for receiving meter reads from all AMI in Ontario, process the reads to produce billing quality consumption data, store and manage data, and provide access to such data to interested parties. *The Energy Conservation Responsibility Act, 2006*, sets out the broad purposes and objectives for MDM/R .

Smart meters are different from net meters. You can obtain more information about net meters in the [Renewable Energy section of the Ministry of Energy's website](#).

## Smart Meters in Condominiums

Smart metering and smart sub-metering in condominiums is part of the government's smart metering plan. To enable smart metering and smart sub-metering in condominiums, the following two Ontario Regulations were made under the *Electricity Act, 1998* and the *Ontario Energy Board Act, 1998*, and are entitled:

- Installation of Smart Meters and Smart Sub-Metering Systems in Condominiums; and
- Licensing Sub-Metering Activities

### Installation of Smart Meters and Smart Sub-Metering Systems in Condominiums

- If a condominium's board of directors wishes to proceed, this regulation facilitates the voluntary installation of smart meters and smart sub-meters in condominiums without requiring an amendment to the condominium's declaration.
- This regulation also provides the Ontario Energy Board with the authority to set criteria or requirements for metering technology used in condominiums and to ensure that the technology is capable of measuring electricity consumption or use in accordance with time of use rates and minimally is capable of measuring electricity consumption or use in hourly intervals.
- This regulation applies to both existing condominiums and condominiums under development.
- Other than the authorization for the Ontario Energy Board to set criteria and requirements which is in force now, this regulation comes into force on December 31, 2007.

### Licensing Sub-Metering Activities

- To enhance consumer protection, and ensure appropriate safeguards are in place, this regulation requires commercial sub-metering entities that provide condominiums with smart meters, smart sub-meters, and any associated services to be licensed by the Ontario Energy Board effective December 31, 2007.

The regulations are available on our [Electricity Regulations page](#).

These regulations were a product of extensive public consultations over 2006 and early 2007 which included posting of [draft regulations](#)  on this web-site for public comment and receiving significant feedback from a wide range of stakeholders. [Please click here to view these comments](#) .

## Advanced Metering Infrastructure (AMI)

As part of the government's smart metering initiative, the Ministry of Energy engaged a Technical Advisor to lead the development of high-level specification for AMI . The specification was posted on the Ministry's website for a two-week period in late November 2005 to solicit comments from interested parties. The Ministry also held six public consultations sessions across Ontario on the draft specifications. In total, 184 participants representing 45 different entities attended. During the consultations, many questions were raised and helpful feedback was provided. Revisions to the draft high-level specification were made as a result of this consultation process as well as feedback received during the first wave of AMI procurement.

### Criteria and Requirements for Meters and Metering Equipment, Systems and Technology

- O. Reg. 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the *Electricity Act, 1998*, as amended to implement a change to the AMI

specification..

- The existing Functional Specification for an Advanced Metering Infrastructure dated July 14, 2006 has been amended to remove the requirement that potential AMI providers have 5,000 units deployed in the field. The new version is [AMI Specification Version 2](#) 
- This will ensure that the next round of AMI procurement is able to access the latest technologies that have received approvals since last summer.
- Distributors still have the obligation to ensure that any AMI procured is able to reliably comply with the AMI functional specifications. Requirements to be able to connect to the MDMR remain in place.

For copies of the amending regulations and the revised AMI functional specifications, please see our [Electricity Regulations page](#)

#### **Smart Meters: Cost Recovery**

- There are two new regulations amending O. Reg. 426/06 (Smart Meters: Cost Recovery) made under the *Ontario Energy Board Act, 1998*.
- The amendments make it clear that distributors can recover costs, subject to Ontario Energy Board approval, for Smart Metering Entity enrolment and connection requirements – in essence plugging into the MDM/R.
- Secondly the amendments provide clarity around recoverability of costs associated with conventional meters that are replaced as a result of the smart metering initiative.
- Finally, the amendments clarify that the first five distributors integrated with the Smart Metering Entity's MDM/R system will be able to recover costs, subject to Ontario Energy Board approval, relating to supporting the IESO's finalization of the design and requirements of the MDM/R.

The regulations are available on our [Electricity Regulations page](#)

In August 2006, the Ministry introduced regulations pertaining to smart metering that identify authorized metering activities, prescribe procurement principles that must be followed by distributors, govern the recovery of distributors costs relating to smart metering, and identify priority installations. The regulations are available on our [Electricity Regulations page](#).

#### **Meter Data Management / Repository (MDM/R)**

To further the government's smart metering initiative, the Ministry of Energy posted draft specifications for the MDM/R functions to solicit feedback. Interested parties were invited to send written submissions for a three-week period ending June 30, 2006. The Ministry appreciates the level of detail provided in the responses received. Public consultation sessions on the draft specifications were also held during June 2006 and a great deal of feedback was received. In all, over 75 people attended the four sessions; their participation is appreciated.

[Click here to read the feedback received through the consultations.](#)

#### **IESO Smart Metering System Implementation Program**

The Ministry of Energy has entered into an arrangement with the Independent Electricity System Operator (IESO) whereby the IESO will support the government's Smart Metering Initiative by coordinating and project-managing implementation activities. The IESO's Smart Metering System Implementation Program specifically pertains to the delivery of the MDM/R functionality, including all interfaces between the MDM/R and local distribution companies' AMI and customer information systems. The Background document describes the responsibilities of the IESO, Ministry of Energy, local distribution companies, and the overall project governance model. [Click here to read the Background](#) 

Be sure to monitor the IESO's website pertaining to this work at [www.smi-ieso.ca](http://www.smi-ieso.ca)

The Ministry expanded the IESO's objects to provide it with the authority to support the government's smart metering initiative as contemplated in the Background. This regulation is available for download on our [Electricity Regulations page](#).

Last update: February 21, 2008

## LEVETT INTERVIEW ON SMART METRES

<http://www.yourownhealthandfitness.org/topicsRadiation.php>

### Not-So-Smart Grid

KPFA broadcast date January 5, 2010

Science journalist Blake Levitt and electrical engineer Michael Neuert discuss the potential risks of the Smart Grid, the wireless electric utility metering and monitoring network imposed on us without our consent.

Resources: TURN (The Utility Reform Network) [article](#) and [petition](#); EMF Safety Network [petition](#); Blake Levitt's website [blakelevitt.com](http://blakelevitt.com); Neuert Electromagnetic Services [www.emfcenter.com](http://www.emfcenter.com); Resources on [radiation](#) and resources on [environmental health](#)

[http://www.yourownhealthandfitness.org/ZenCart/index.php?main\\_page=product\\_info&cPath=68&products\\_id=1236](http://www.yourownhealthandfitness.org/ZenCart/index.php?main_page=product_info&cPath=68&products_id=1236)

Science journalist Blake Levitt and electrical engineer Michael Neuert discuss the potential risks of the Smart Grid, the wireless electric utility metering and monitoring network imposed on us without our consent.

SHOW INTRODUCTION There is something sinister coming our way. It's, as usual, cloaked in benign, even environmental clothing. And it will use tax payer's money to line the pockets of some very wealthy corporations. If that doesn't sound sinister enough, it will also give these same people the ability to bounce radiation off of and into houses in your neighborhood whether you want it or not. AND it will monitor your power use and who knows what else. It's the Smart Grid and it's scheduled to arrive as soon as next month. This in the name of global warming. Funny how it smells of something else. And in case you've not already read Alex Cockburn's article in the Jan. 4th issue of the Nation Magazine, I suggest you do. He points out that the Climatic Research Unit at University of East Anglia was founded in 1971 with funds from, among others, Shell oil and British Petroleum. Global warming looks like it's becoming big business. So big that it's being manipulated into something that mandates trespassing on citizen's homes without consent, using tax payer's money. Many big powerful people get control of our energy and we pay. Does this sound like we are getting energy independence? Join us as we expose this not so smart grid.

## 300+ SIGNATURES AGAINST SMART METRES

<http://emfsafetynetwork.org/?p=125>

<http://www.petitiononline.com/EMFsafe1/>

To: Sonoma County Board of Supervisors and City Councils

Sebastopol and Sonoma County are slated by PGE to have a **new wireless grid installed in May 2010**.

Lampposts, buildings, and telephone poles will host the wireless repeater infrastructure to serve the new wireless PGE **Smart Meters**, which will be installed in every home and business. These devices will add yet another layer of radio frequencies (RF) to our homes and environment and will emit RF signals throughout the day and night. In light of the lack of FCC safety standards for chronic long term exposure to RF and in light of the call for the precautionary principle for wireless technology from global scientists, environmental agencies, advocacy groups and doctors, we, the undersigned request you:

1. Thoroughly investigate the PGE Smart Meter proposal and potential health risks of these devices by holding public hearings.
2. Require PGE to submit a characterization study of the smart meter

system planned for Sonoma County and Sebastopol.

3. Obtain the Smart Meter health and safety study PGE commissioned and make available to the public.

4. Allow customers to "opt out" of program.

5. Place a 6-9 month moratorium on all new wireless installations to allow time for a thorough scientific review.

Sincerely,  
[The Undersigned](#)

#### **Videos from Texas Instruments on Smart Grids and Smart Metres**

<http://e2e.ti.com/videos/m/microcontroller/tags/smart+grid/default.aspx>

<http://www.redlinecommunications.com/products/RedMAX3.65GHz.html?gclid=CJaxrPb70Z8CFQwpawodhEmJ0w>

[http://www.redlinecommunications.com/news/resourcecenter/whitepapers/WiMAX\\_wifi\\_June\\_2004.pdf](http://www.redlinecommunications.com/news/resourcecenter/whitepapers/WiMAX_wifi_June_2004.pdf)

#### **3.65 GHz RedMAX™ WiMAX Solution**

Since the launch of Redline's RedMAX™, RedCONNEX and RedACCESS FCC-approved 3.65 GHz systems, Redline has quickly become a leader in broadband network network deployments in this band.

Canadian network operators will soon have the opportunity to utilize Redline's 3.65 GHz products to establish broadband networks in more areas than ever before.

Since 2007, Redline's 3.65GHz broadband wireless solutions have been deployed by operators throughout the United States to bring true WiMAX and high-capacity backhaul and access services to business and consumers that demand the highest quality and most reliable broadband connections.

Each of Redline's 3.65 GHz products deliver the elements operators need to enable the profitable delivery of revenue-generating fixed and nomadic wireless broadband services.