



MMI CONFERENCE

Measurements & Metering Innovation

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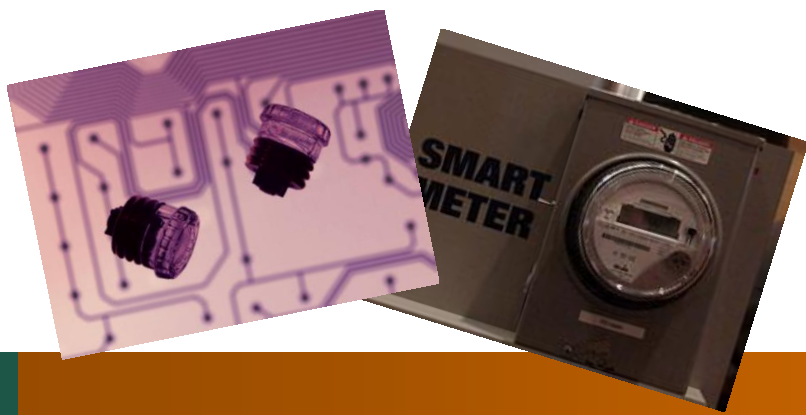
Malcolm Crompton

Privacy and the smart grid

Switching on high potential
information flows

Sydney
20 May 2011





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Smart meters

- The Consumers' Friend
 - More effective electricity supply
 - Saves money for consumers (and the industry)
 - Reduces carbon foot print
- Always?



SMART METER



**DO NOT INSTALL
SMART METER HERE**

Smart Grid Data: Too Much For Privacy, Not Enough For Innovation?

But beyond the technical and cost questions, there's the looming question of what to do with the data in order to protect utility customers from having their information used against them.

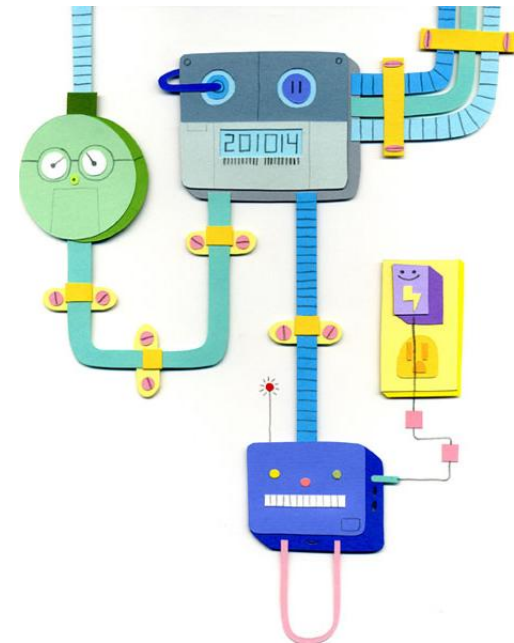
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Smart meter data

- Smart meters have potential to generate enormous amounts of useful data
- But useful:
 - To whom?
 - For what?
 - When?



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Smart meter data – what is it good for?

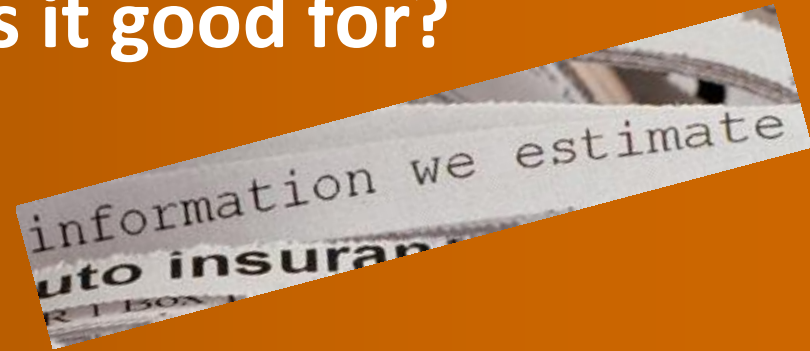
- Time of use pricing
- Fault detection
- Understanding customers' needs

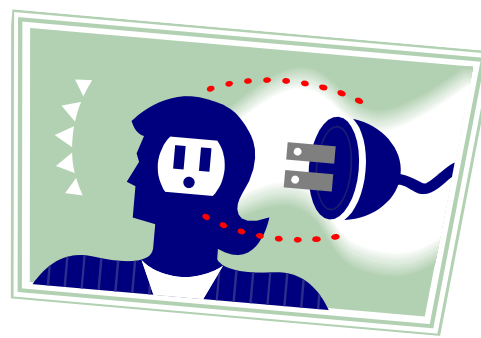
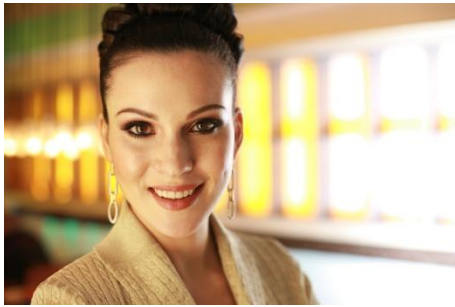
— *“We can use all of those data flows in a very systematic but also in a very smart way, we can actually make our business earn a helluva lot more than it currently is.”*

ActewAGL manager

www.itnews.com.au/Tools/Print.aspx?CIID=238891

- **So, why the resistance elsewhere around the globe?**





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Consumer attitudes

- Consumers are sophisticated
- Price is not their only concern
- Other concerns include:



→ privacy → security → health (radiation)



- *“the critical question of how to achieve positive community and consumer attitudes to Smart Grids which are key prerequisites for sustained behavioural change in energy usage.”* SmartGrid Australia: Maximising Consumer Benefits www.smartgridaustralia.com.au/uploads/documents/VIC060411_Consumer_Working_Group.pdf

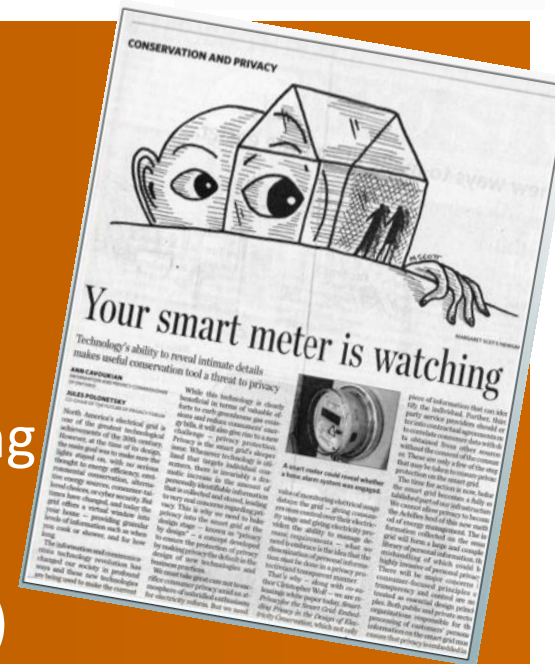


How utilities will profit from your data
Information about what you do at home is the next gold seam for cash-strapped utilities.

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Consumer worries

- Security, hacking
- Fraud – someone might steal my electricity
- Behaviour tracking, and unwanted marketing
- Function creep (eg collect data for peak load planning, and use it also for marketing)
- Information could be available for subpoena for court
- Add it all up: “your home is your castle”
- Loss of Control !
 - Choice to opt in/out

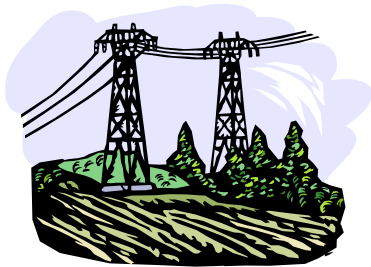




So how are Smart Meters travelling ?

- The Netherlands – public outcry changes position: ‘the Smart Energy Meter will not be compulsory’
- USA
 - Maine: consumers pay to opt out?
 - California: government CPUC overseeing privacy
- UK – consumer groups challenging smart grid roll out
- Canada – Toronto Hydro & Hydro One using PbD
- Australia – under way, but time to learn
 - Victoria: smart meters mandatory by 2013
 - NSW: Smart Grid Smart City in Newcastle
 - WA: pilot project





*Energy meters could
make burglars smarter*
The Australian November 22, 2010

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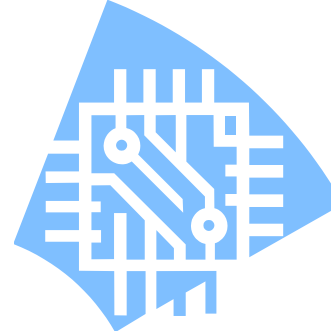
Smart meters may be here!

- But, are they here to stay?

Due to recent high-profile consumer information leaks (such as leaks of credit card details) in other industries, there is already a level of mistrust in consumers' minds and this concern for privacy hinders adoption of and engagement in energy efficiency enabled by Smart Grids. In other smart meter programs, consumer backlash over privacy fears has led to calls for the halt to smart meter roll-out²⁵.

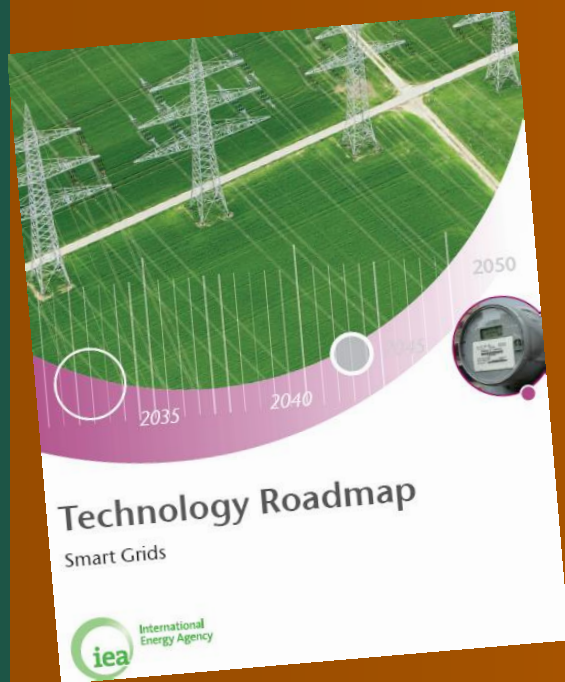


*“Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood”*
Robert Frost - The Road Not Taken



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We can choose which road we take with privacy



high
road

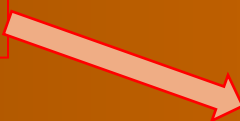


take consumers along
with us

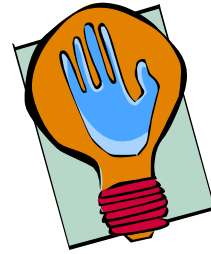
low
road



assume privacy is
not our issue



assume privacy will be
dealt with by privacy
law and regulators



Privacy and smart meters – what's it all about

Privacy is not

- Consumers wanting to keep everything secret
- Simply having something to hide

Privacy is

- Control – deciding what to reveal and when
- Creepiness factor – big brother, too much information, too intrusive
- Risk – who bears it ...



**Sony Hacked Again; 25 Million
Entertainment Users' Info at Risk**

“Layered defence”

▶ Control ▶ Trust ▶ Risk ▶ Accountability

Business
as usual

Law

Technology

Governance

Safety Net

Privacy?

We can increase community
trust and project success



Privacy by Design: Achieving the Gold Standard in Data Protection for the Smart Grid

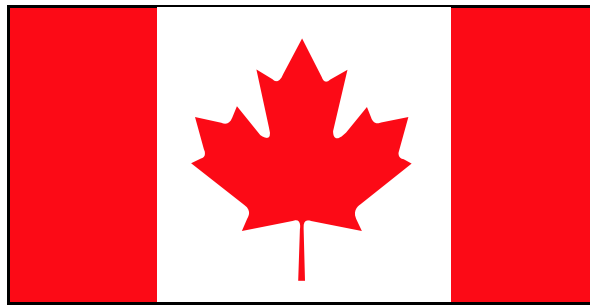
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Privacy by design: 7 foundational principles

1. feature privacy principles in overall project governance framework and proactively embed privacy requirements into designs
2. privacy is the default — the “no action required” mode of protecting one’s privacy
3. make privacy a core functionality in the design and architecture of systems and practices
4. avoid any unnecessary trade-offs between privacy and legitimate project objectives
5. build in privacy end-to-end, throughout the entire life cycle of any personal information collected
6. systems must be visible and transparent to consumers and business practices accountable
7. designed with respect for consumer privacy, as a core foundational requirement.



www.ipc.on.ca/images/Resources/achieve-goldstnd.pdf



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Privacy and smart grid in Ontario

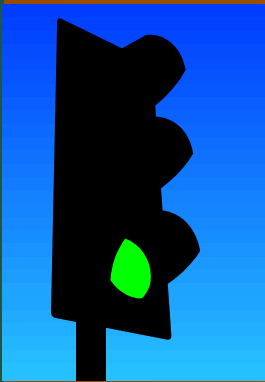
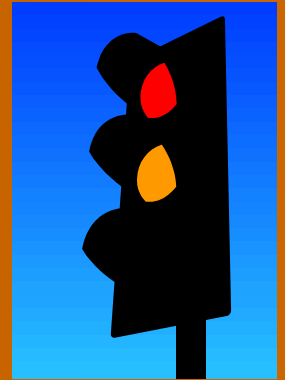
- Ontario is the first North American jurisdiction to have smart meters in all and businesses and homes (200 million homes)
- smart grid public investment \$390 M/year over next 5 years
- smart meters are mandatory
- comprehensive privacy laws
- Hydro One and Toronto Hydro
 - PbD embedded from the beginning
 - SmartPrivacy (Information and Privacy Commissioner, Ontario)



We have a choice:

Will your projects be 'red light' ?

Or 'green light' ?



Remember:

- The right way does not have to be the hard way
- Layered defence through PbD works
- In Australia we have the opportunity to get it right

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