

Key Privacy Risks in the Smart Grid

Ken Anderson
Assistant Privacy Commissioner
Ontario

*Smart Grid Privacy 101:
Privacy by Design in Action – Power Morning
Jerusalem, Israel
October 25, 2010*

The Smart Grid: *What is it?*

A two-way flow of

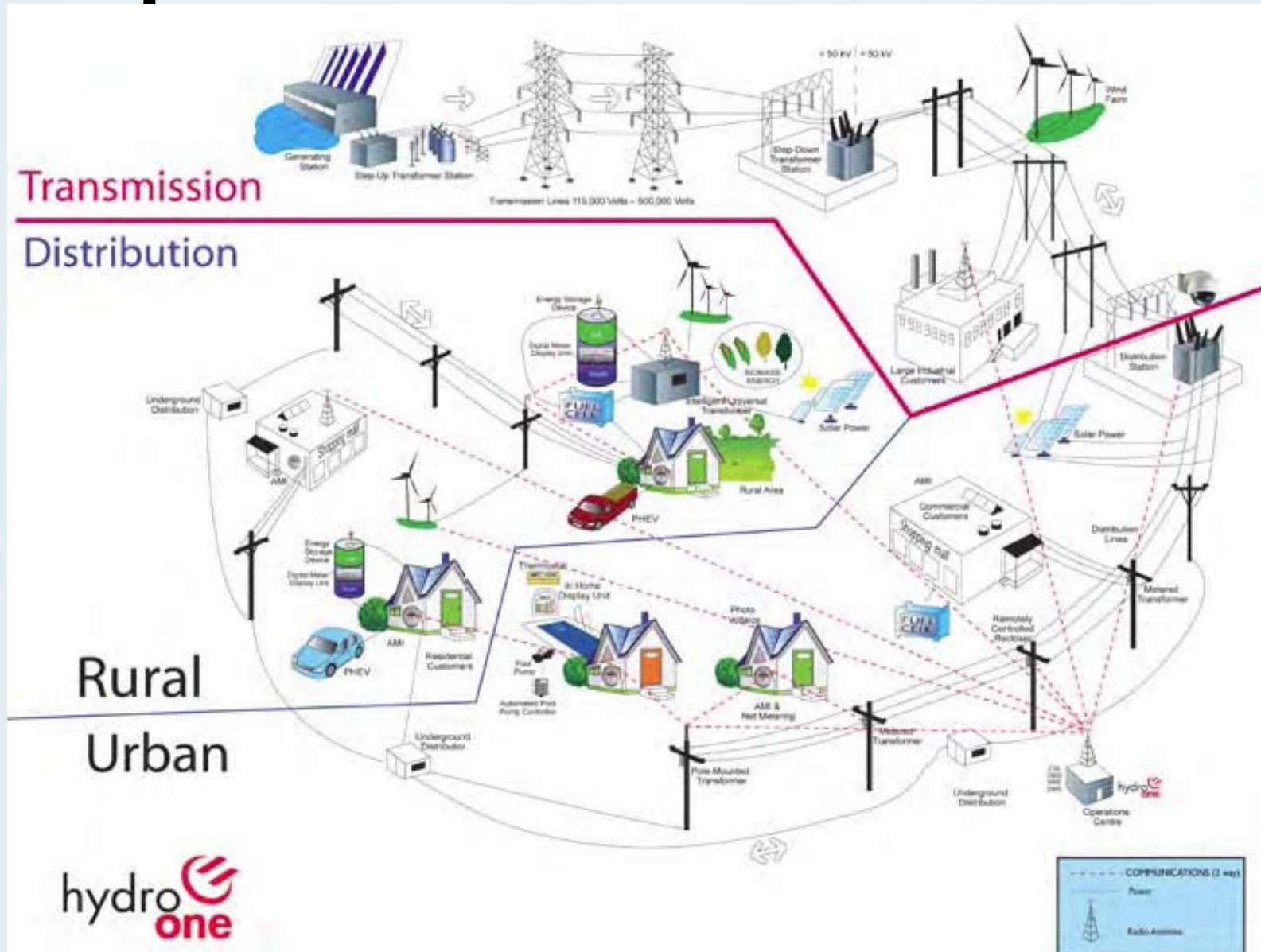
Information

and

Electricity

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Sample Smart Grid: Ontario



Imagining the Future: Elements of the Smart Grid

Smart Meters

Load Management

Smart Appliances

Dynamic Pricing

*Access to Energy
Information*

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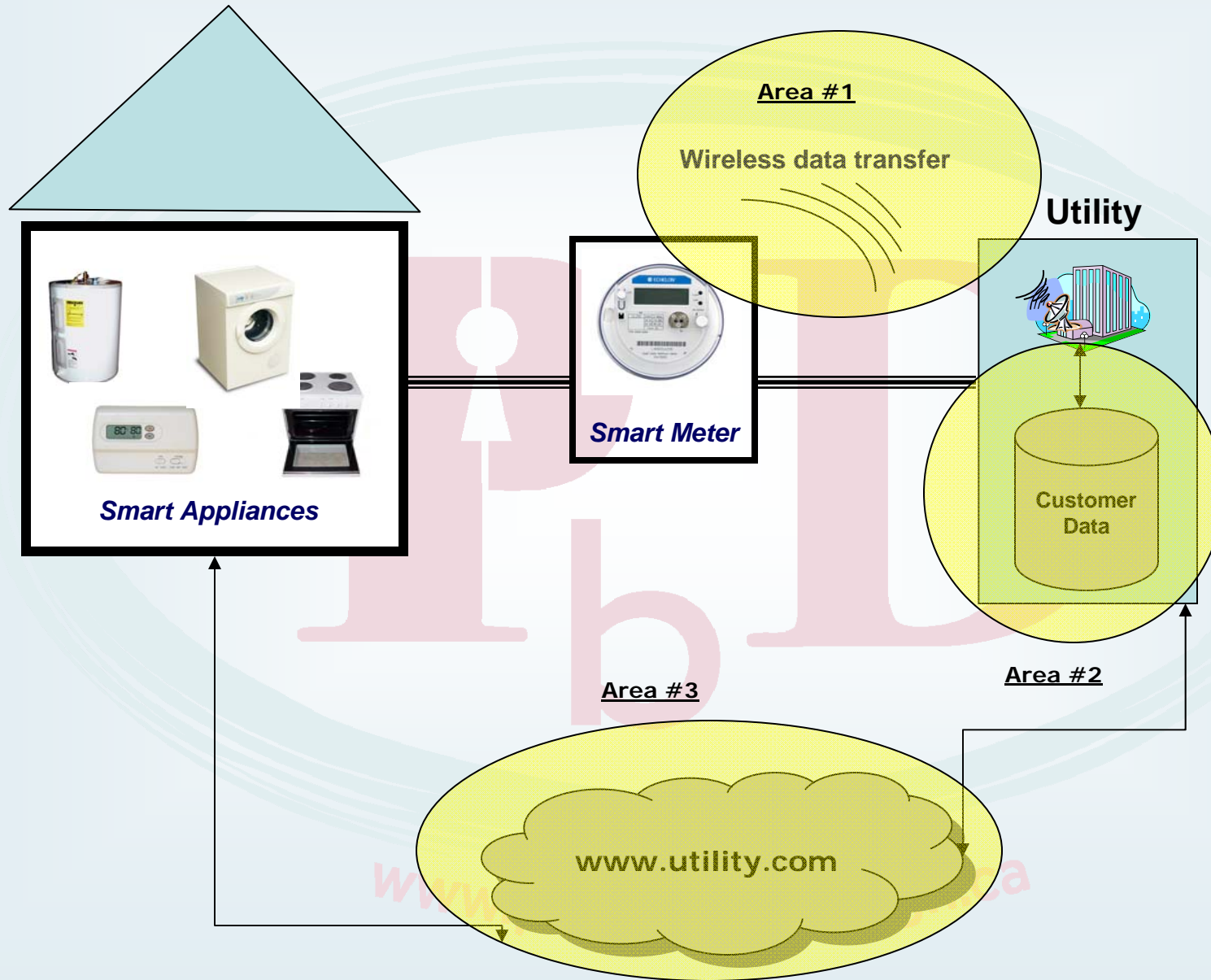
Key Feature: Smart Meters

- Two-way connection between the utility and the home
- Records and reports **detailed** electricity consumption information *automatically*
- Relays detailed information to the utility on a daily, hourly or *real-time basis*

Key Feature: Dynamic Pricing

- ***Time-of-use pricing:*** Energy prices are higher at pre-designated peak times and lower at others
- ***Critical peak pricing:*** Where the rate is set much higher for the most critical peak hours
- ***Real-time pricing:*** Where prices vary by the hour according to the utility's cost to purchase or produce the energy

Key Privacy Risk Areas



Benefits of Embedding Privacy at the Design Stage

- 1. Good business practice that enhances consumer confidence***
- 2. Supports conservation by removing barriers to consumer participation***
- 3. Cost-effective; offers significant savings over retrofitting privacy in later, once the system has already been designed***

Tools and Resources

- New *Privacy by Design* website at www.privacybydesign.ca for current news and resources
- Our two key papers at www.ipc.on.ca
 - *SmartPrivacy for the Smart Grid: Embedding Privacy into the Design of Electricity Conservation*
 - *Privacy by Design: Achieving the Gold Standard in Data Protection for the Smart Grid*
 - *Third paper coming soon!*
- *Modern Energy Review* article at www.modernenergyreview.com
- New *Privacy by Design Curriculum* included in your packages this morning