

Presentation
to
Ontario Energy Board's
Smart Meter Vendor Day

by
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Introduction

- **Now that we have the what (technology)...
we need the how (implementation)?**
- **Thinking Outside the Box**
 - **the Wholesale Market in Ontario – a case study for the implementation of smart meters**
 - **Retail market segmentation (residential and C&I)**



About Rodan



Your metering and energy management professionals

Mississauga, Ottawa, Sarnia, Sudbury, Timmins and Thunder Bay



Ontario's wholesale marketplace

- Over 250 Market Participants
- Approximately 1800 metering installations
- Average lead time to upgrade each metering site 2-6 months



Ontario's wholesale marketplace

Requirements for upgrade

- Between 2003 and 2008 all metering installations must be upgraded to IMO compliance
- Upgrade must be completed at Measurement Canada seal expiry (staged approach)
- Penalties for non-compliance
- IMO licensed Metering Service Provider must commission, register and maintain metering installation



Ontario's wholesale marketplace

Regulatory Framework

- Dedicated IMO Metering Group that regulates MSPs and MMPs
- Hardware Standard (including standard communication requirements)
- Regulatory framework to ensure compliance
- Settlement and Operations by IMO
- Annual rebate to avoid duplication for metering services and a one-time exit fee to cover the cost of stranded assets when ownership transferred



Ontario's wholesale marketplace

Customer Experience

- Choice and options available to market participant
- Lower cost of service
- Choice of technology to fit their energy management needs
- Lower system losses
- Leverage wholesale metering to provide value added services behind the revenue meter
 - enterprise energy management systems, submetering, dispatchable, aggregation and soon to come day ahead market



Parallel with Retail Market

- Staged upgrade based upon seal expiry
- Supervisory body that ensures compliance with upgrades, hardware standards and regulates service providers
- Provide LDCs with the options to outsource some or all their metering responsibilities.
 - Defined regulatory framework
 - Rate base revisions
 - Incentives for LDCs for compliance and efficiencies; and
 - Compensation to LDCs for any lost of revenue from lower rate base and stranded assets



Spectrum of Smart Metering Implementation Options

Fully Regulated			Fully Deregulated
<ul style="list-style-type: none">• LDC owns and maintains metering• No contestability for provision of assets or services	<ul style="list-style-type: none">• LDCs have option to outsource ownership and maintenance of metering	<ul style="list-style-type: none">• Partial contestability for greater than 50kW (consumer owns assets and selects licensed MSP to maintain)	<ul style="list-style-type: none">• Fully contestable for all consumers (consumer owns assets and selects licensed MSP to maintain)



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