

Exploring the Value of AMI

Customers First

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President

TOU Pilot Program

The Concept

- **Smart Pricing Pilot**

- Does load management work – and how fast?
- Will customers participate and how?
- Measurable results?

- **Utility Toolset**

- Meaningful data - historical and current for analysis of results
- Full function systems

- **Customer Toolset**

- Real Bills and “Shadow” Bills
- Load management aids and incentives
- Education and understanding



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The Utility Toolset

- **Data**
 - 500 smart meters installed in spring 2005
 - 200 smart meters installed in spring 2006
- **Collected 30 minute interval reads for > 1 year**
- **Full Function Systems**
 - Billing system (CIS) Time-of-Use capable
 - Contracted 'Stop-Gap' MDR services
 - AMI to MDR, MDR to CIS interfaces
 - MDR to web presentment



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The Customer Toolset

- **Time of Use Billing**
 - Bill calculation uses Ontario Energy Board approved “Time of Use” rates.
 - Detailed time of use consumption report with bill
 - Web presentment
- **Controllable, Programmable Thermostat**
 - Web programmable Energy Star thermostat
 - Allows utility A/C control
 - Cycles A/C to achieve $\sim 1^{\circ}$ per hour temperature rise



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The Customer Toolset

- **Critical Peak Price Rebate Incentive**
 - Specific hours on specific days
 - Consumer notification by phone, email or text message
 - Combination of “Day Before” and “Day Of” notification
 - Energy use projected using data from MDR
 - Rebate of 30¢ per kWh for difference between projected and actual energy use



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Monthly TOU Report



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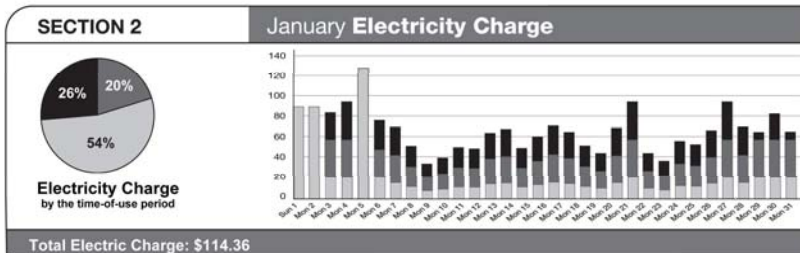
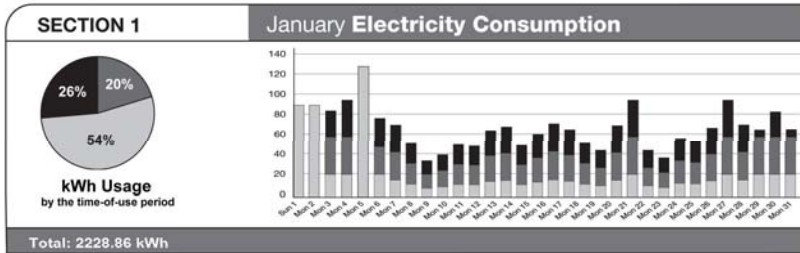
Customer Information

Name Account Number

Service Address



A monthly Smart Report on electricity use.



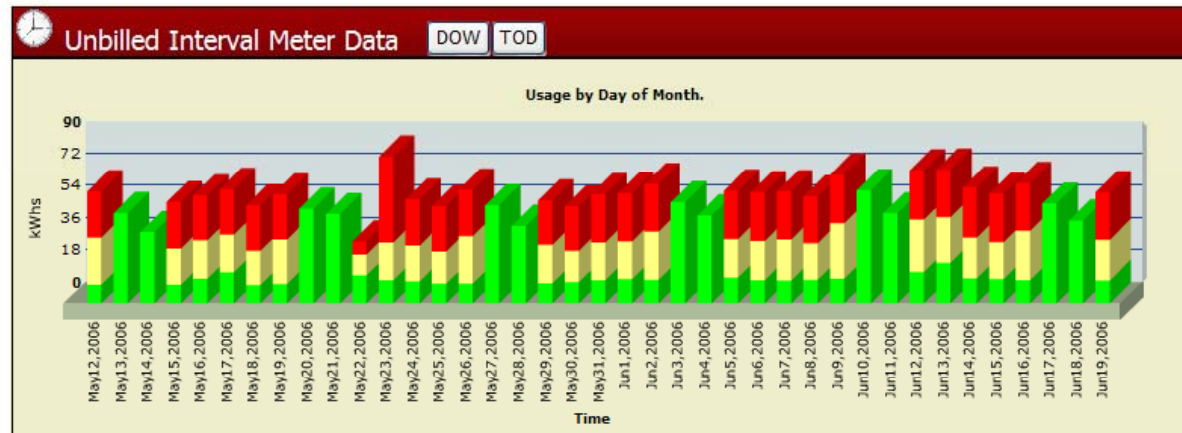
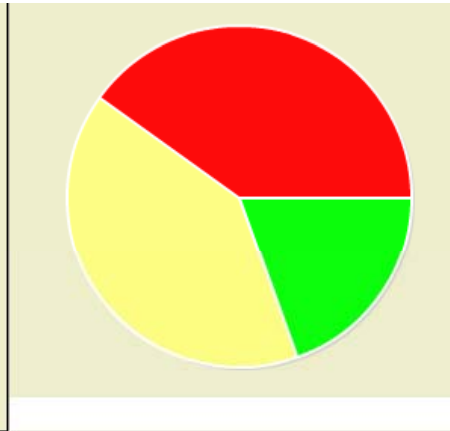
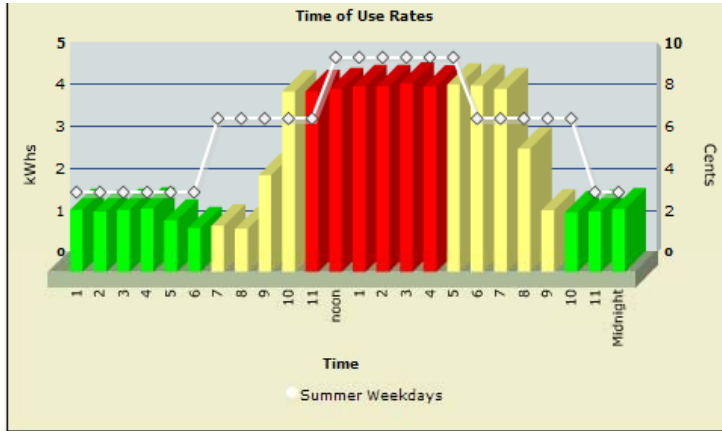
On-peak @ \$
 Weekdays 7am-11am & 5pm-8pm

Mid-peak @ \$
 Weekdays 11am-5pm & 8pm-10pm

Off-peak @ \$
 Weekdays 10pm to 7am & Weekends and Holidays

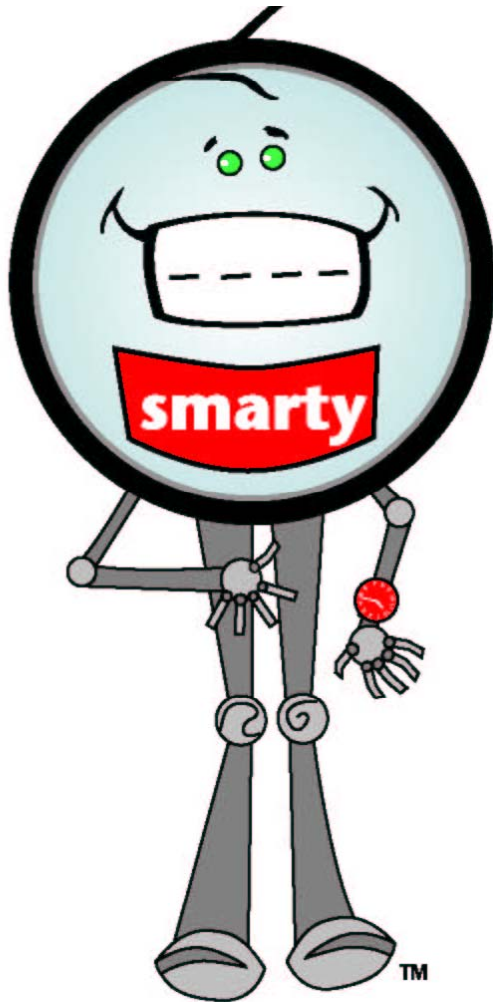
TOU Pilot Program

Web Presentment



TOU Pilot Program

Our Helpers

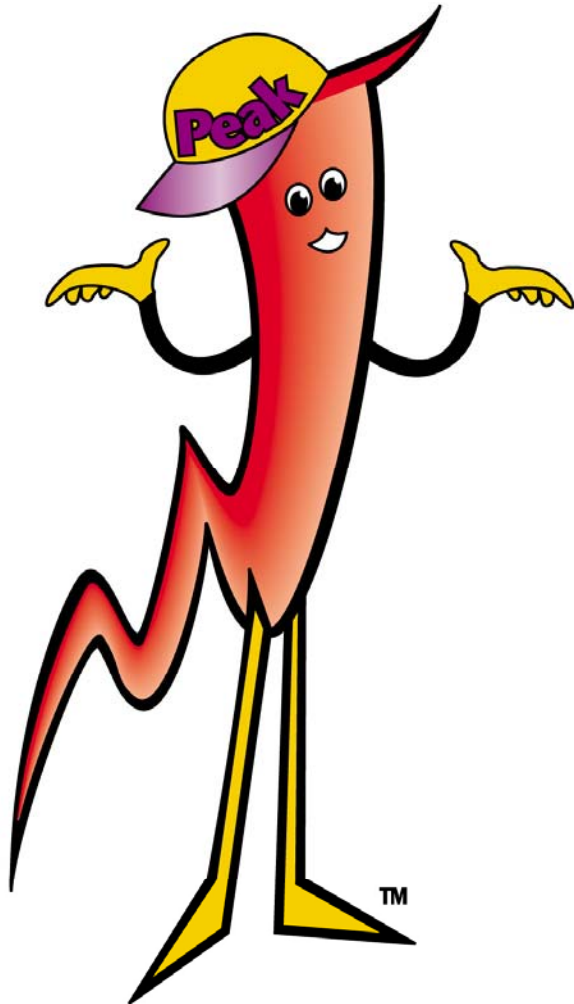


Smarty Meter

"Time is Money"

TOU Pilot Program

Our Helpers



Peak

“Mind Your Peaks and Pennies”

TOU Pilot Program

Our Helpers



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SuperStat

“Save by Degree”



TOU Pilot Program

The TOU Pilots

Real TOU Bill Pilot

“Smart Price Pilot”

- **Based on 500 smart meters installed in 2005**
 - 400 eligible customers
 - “On Choice” consumers excluded
- **250 customers enrolled**
 - 63% participation
- **Of the 250 enrolled customers**
 - 53% opted for thermostat
 - 68% eligible for CPPR



TOU Pilot Program

Smart Price Participation

Participating Customers	Time of Use Rates	CPPR	Enhanced Education	Thermostat
41	√			
45	√	√		
43	√	√	√	
40	√			√
40	√	√		√
41	√	√	√	√



TOU Pilot Program

The TOU Pilots

Shadow TOU Bill Pilot

“Smart Choice Pilot”

- **Based on 200 smart meters installed in 2006**
 - 144 eligible customers
- **Social (Assisted) Housing**
 - Two 100 unit townhouse complexes with baseboard electric heat
 - One complex has basements. Other slab on grade
- **Electric thermal storage heat trial**
 - Installed in three units in each complex

TOU Pilot Program

Looking Ahead

- **Smart Price Pilot will run through summer 2007**
 - **Expert Analysis of:**
 - **Customer behaviour**
 - **Customer tools**
 - **Acceptance**
 - **Cost/benefit**
 - **Value of load management vs. infrastructure**



TOU Pilot Program

Looking Ahead

- **Smart Choice Pilot will run through summer 2007**
 - **Preliminary winter results:**
 - **TOU with baseboard heat would reduce bills by 8 to 10%**
 - **Thermal storage and TOU would reduce bills by 25 to 30%**
 - **Acceptance of thermal storage units has been excellent**



TOU Pilot Program

Looking Ahead

Newmarket Hydro is a priority deployment area for Smart Meters

- **Approved by Ministry of Energy**
 - All eligible meter points equipped by June 2007
 - Introduction of time-of-use rates for all residential customers Fall/07 Winter/08