

Workshop on the Energy Efficiency Technologies for Buildings - New and Retrofits

McMaster University

October 22-23, 2009

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Our Business

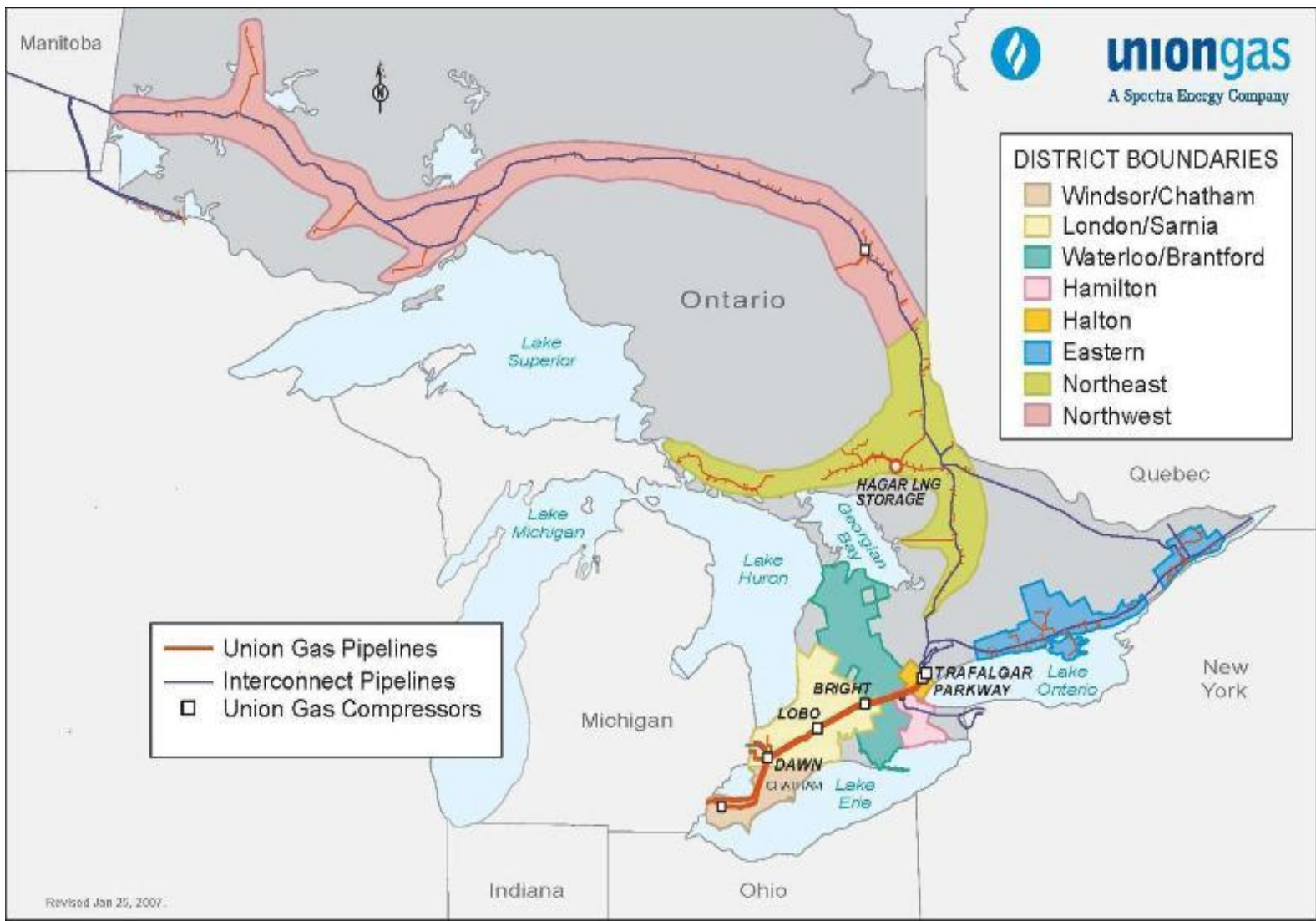
Demand Side Mgm't

Recent Results

Program Details



Union Gas service area



EnerSmart. For The Profit In Energy Efficiency.



- Union Gas Limited is a major Canadian natural gas storage, transmission and distribution company
 - 100 years of experience and service to customers
- We serve 1.3 million residential, commercial and industrial customers
 - More than 400 communities across northern, south western and eastern Ontario.
- Our storage and transmission business is centered around the Dawn Hub
 - The largest underground storage facility in Canada
- A Spectra Energy company, Union Gas has assets of \$5 billion and employs about 2,200 employees

Union Gas has been delivering energy efficiency programs for over a decade....

- Programs and services for residential, commercial and industrial customers
- Third party agents, channel partners and Union Gas Account Managers deliver these programs
- Programs include audits, equipment incentives, demonstration of new technologies and monitoring and targeting.

Why Demand Side Management



- A role in using energy effectively and in an environmentally responsible manner
- Good business for our customers
 - Continued competitiveness
- Good business for Union Gas
 - Ensures optimization of installed assets
 - Supports long term use of a finite resource

2008 Program Results



| | | |
|---------------------------------|------------------------|----------------|
| Incentives Paid | ~\$3,000,000 | |
| Reduced Natural Gas Consumption | 86,000,000 m3 | |
| Annual Gas Cost Reductions | \$31,000,000 | |
| Emission Reductions | CO ₂ | 166,000 tonnes |
| | NOx | 141 tonnes |
| Reduced Electrical Consumption | 3,000,000 kWh/yr | |
| Reduced Water Consumption | 6,678,079,379 litre/yr | |



enersmart™

CONSERVE • SAVE • PROFIT

Program Detail Review

Remember Two Things



- Investigation

- Funding provided to identify, quantify and estimate the cost and savings associated with potential energy efficiency projects
- Feasibility Studies
- Performance Testing
- Steam Trap Surveys
- Engineering Analysis
- Energy Audits

- Implementation

- Moving studies and proposals from plans to operating measures
- Equipment Incentives
- Demonstration of New Technologies
- Metering, Monitoring & Targeting

- Identifying where to look for energy conservation projects
 - Will the idea work
- Studies
 - 49 Projects / ~\$68K incentives
- Design Assistance Program (DAP)
 - Financial support at the earliest stages in a project
 - 13 Projects / ~\$52K incentives



HIGH PERFORMANCE
NEW CONSTRUCTION



- Working with Enbridge Gas Distribution to deliver the OPA High Performance New Construction Program
 - Goal
 - Reduce KW loads beyond current code requirements
 - Incentives available
 - Design and modelling
 - Implementation of conservation measures
 - Results
 - ~20 MW avoided

Identifying opportunities

50% up to \$10,000

Roadmap to a Better Bottom Line

A Union Gas Energy Audit at Stepan Canada Inc.'s Longford Mills plant identified opportunities to preheat boiler water with condensate return and to save steam with smart controls on waste lagoons. Implementing these projects helped make the chemical producer 2% to 3% more efficient.

“We are competing with low cost international producers; so we have to be really competitive to stay in business. If I can reduce gas use or keep it constant it helps my bottom line. That's the competitive edge.”



Adel Soliman
Maintenance Manager,
Stepan Canada
Orillia, Ontario

Equipping to save 10% up to \$30,000

“The rebates have helped us make continuous improvements. The energy savings keep our costs down while keeping us as efficient as we can possibly be.”

Paul Herman
Controller, Stackpole Limited
Stratford, Ontario



Custom Project Incentives



| Program elements | Funding guidelines |
|--|--------------------|
| Performance testing & steam plant audits | 66% up to \$20,000 |
| Steam trap surveys | 50% up to \$6,000 |
| Engineering analysis & energy audits | 50% up to \$10,000 |
| Process integration study | 50% up to \$20,000 |
| Equipment incentives | 10% up to \$30,000 |
| Demonstration of new technologies | 10% up to \$50,000 |
| Education & promotion | Available |
| <i>Total incentives cannot exceed \$250,000 a year per site.</i> | |

Prescriptive Program Incentives



| Measures | Funding Incentives (per unit) |
|------------------------------------|-------------------------------|
| Condensing Boilers | \$500-\$3,0000 |
| Demand Control Kitchen Ventilation | Up to \$2,500 |
| Destratification Fans | \$1,000 |
| Energy Recovery Ventilators | \$250-\$1,000 |
| Heat Recovery Ventilators | \$250 |
| High Efficiency Furnaces | \$100 |
| Low Flow Showerheads | Free |
| Low Flow Spray Valves | Free |
| Programmable Thermostat | \$40 |
| Rooftop Heating | \$100 |
| Infrared Heaters | \$100 |

Commercial & Industrial Markets Only

| Program | Incentives | Avoided Consumption |
|-----------------------|-----------------|---------------------------|
| Prescriptive Measures | \$1,887,423 | 4,559,249 m ³ |
| Custom Projects | \$1,383,762 | 50,097,034 m ³ |
| Total | \$3,271,186 | 54,656,283 m ³ |
| Emission Reductions | CO ₂ | 103,355 tonnes |



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