



Commercial Energy Efficiency

The Carbon Footprint Symposium

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Overview

1. Fuel choice and trends
2. Developing energy awareness
3. Commercial programs
 - a. Commercial Boiler Program
 - b. Commercial HVAC Program
 - c. ecoEnergy Retrofit for Buildings and Industry
4. Emerging technology

Current Trends - Gas

Less heat required for buildings:

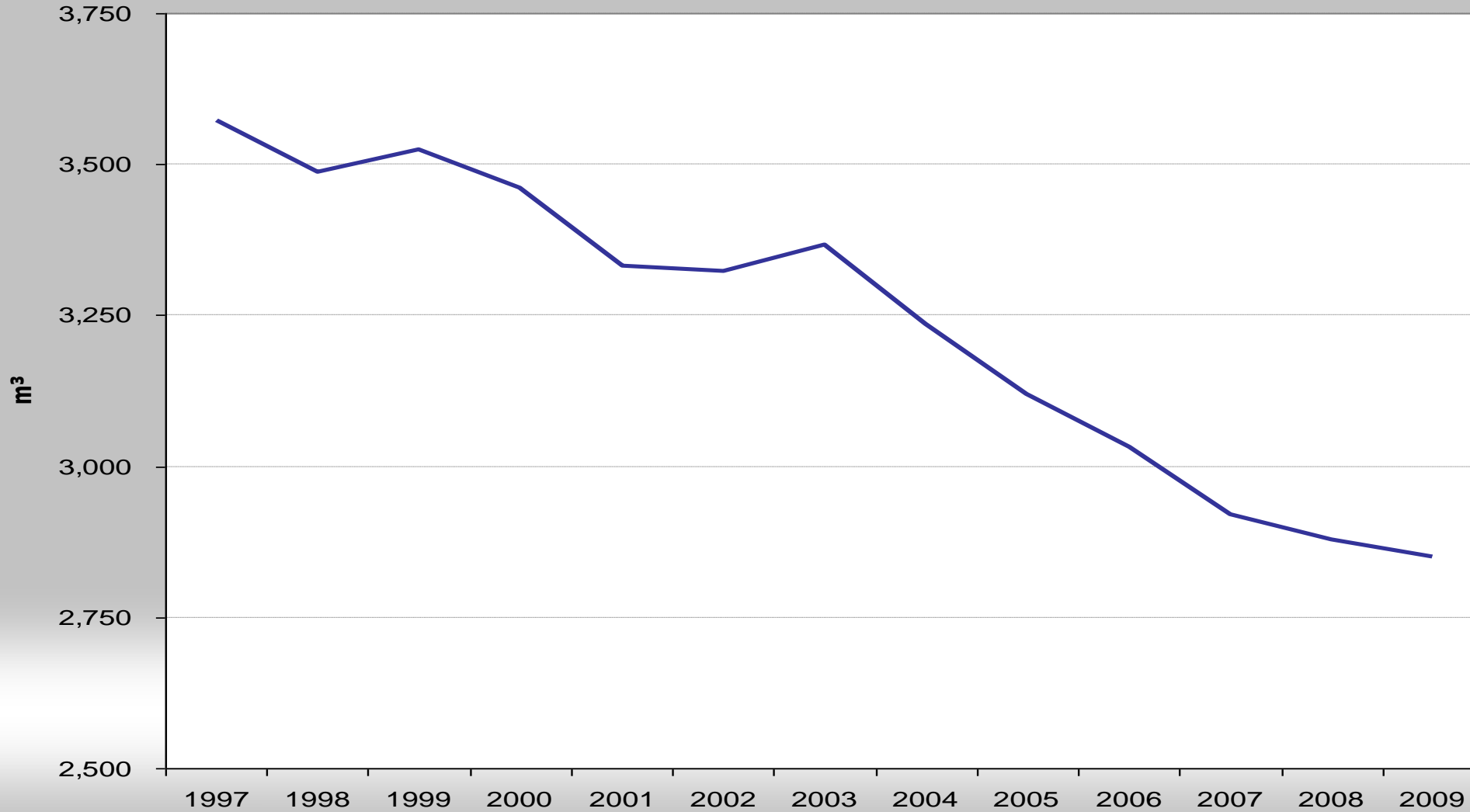
- existing buildings are becoming more airtight and better insulated (less heat required)

More efficient equipment and systems:

- space conditioning systems are designed to optimize efficiency
- gas equipment has higher combustion efficiency

Decline in Residential Gas Use

Weather Normalized Average Natural Gas Use per Residential Customer in Saskatchewan



Current Trends

- SaskPower is actively managing the growing demand for electricity
- SaskEnergy is promoting natural gas heating equipment as the better cost and environment option than electric heating (water heating, ranges, dryers etc.)

Choose the right fuel for the application

Residential water heating example:

Fuel	Annual cost	Annual tonnes of CO ₂ e (GHG)
Natural Gas	\$195	1.4
Electricity	\$455	3.7

Developing Awareness

Businesses can take action to reduce energy consumption by understanding their building/operation better:

- Customers are encouraged to have audit conducted or review billing history
- Natural Resources Canada (NRCan) offers excellent courses to help business owners take action

NRCan Programs

NRCan's Dollars to Sense programs :

- [Energy Management Planning,](#)
- [Spot the Energy Savings Opportunities,](#)
- [Energy Monitoring,](#)
- [Energy Efficiency Financing.](#)

“You can't manage what you can't measure.”

SaskEnergy Programs

- SaskEnergy offers a suite of residential and commercial programs
- Commercial Programs are also available from Natural Resources Canada (NRCan)

Commercial Boiler Program

- SaskEnergy's Commercial Boiler Program has been offered since 2006
- Incentives cover close to 20% of the installed cost of boilers (on average)
- Incentives ranged from \$6,400 per building up to \$50,000

Commercial Boiler Program

- Average savings for customers is 21% when compared to previous gas usage
- The annual greenhouse gas savings for the average building has been 26 tonnes
- The GHG savings considering all installations since 2006 are estimated to be 4450 tonnes/yr

Commercial HVAC Program

- Launched March 1, 2010
- SaskEnergy and SaskPower have partnered to reduce energy required for space heating and cooling
- Incentives available for high efficiency boilers, furnaces, and rooftop units
- Details at saskenergy.com

Commercial HVAC Program

- Target market is small to mid-sized commercial buildings that are not served by the Commercial Boiler Program or EnerGuide for Houses

Federal ecoEnergy Retrofit Incentives

For commercial buildings and industry:

- up to 25 percent of eligible project costs
- pre-project energy audit of building required
- maximum of \$50,000 per application

New Technology

- SaskEnergy is actively evaluating new technology that has been successful in other jurisdictions
- SaskPower, SaskEnergy, and CANMET are evaluating combined heat and power technologies for use in Saskatchewan
- Saskatchewan Research Council is managing this project

Combined Heat and Power Sample Case Study

- 10 story office tower in Canada
- 140 kW of electricity from CHP
- 700,000 Btu/hr waste heat from electricity production
- Savings of 500-700 tonnes of CO₂e/yr
- Estimated 5 year payback
- Ongoing electricity savings

Combined Heat and Power

Opportunities to watch for:

- Regarding connection to SaskPower's grid, this project will serve to evaluate the opportunities to interconnect CHP units in Saskatchewan through net metering
- SRC – opportunities so watch their web site if interested in demonstrations

Questions?