

Calgary Energy Efficiency Innovation Lab

Council Innovation Fund Final Report

Calgary Energy Efficiency Innovation Lab

- Designed to advance energy efficiency opportunities in Calgary
- Council Innovation Funding: \$120,000
- Approved by Council: 2013 March 18

Project Context:

Calgary Community Greenhouse Gas Reduction Plan

- Approved by Council in late 2011
- Reduction target:
 - 20% below 2005 emissions by 2020
 - 80% below 2005 emissions by 2050
- Identified opportunities in four broad categories:
 - Provincial electricity grid
 - Energy efficiency
 - Distributed energy
 - Land use and transportation choices

Project Context:

Why focus on energy efficiency?

- Energy efficiency opportunities represent ~25% of the reduction required to meet our 2020 target
- Energy efficiency opportunities typically have a positive return on investment
- Programs are needed to overcome other barriers to implementation

CEEIL Project Objectives

1. Research and publish the current state of energy efficiency in Calgary
2. Identify opportunities for increasing energy efficiency in Calgary
3. Quantify the expected costs and benefits of energy efficiency opportunities
4. Pursue the development of high priority opportunities

Results:

Advancing Energy Efficiency in Calgary

Through research and analysis, six primary energy efficiency opportunities were identified

- Incentives for energy efficiency upgrades
- Consumer feedback systems
- Requirement for energy audits of large industrial facilities
- Requirement for energy labelling of houses at time of sale
- Requirement for southward orientation of new residences
- Regulations for higher energy efficiency in buildings and industrial facilities

Options were then prioritized using seven criteria

- Potential GHG emissions reductions
- Cost of implementation
- Potential cost savings
- Timeline of implementation
- Perceived ease of approval
- City authority
- Alignment with Council priorities

Home energy reports (a type of consumer feedback systems) were selected as the opportunity to pursue

Results:

Home Energy Reports

- **Benefits:**

- Are one of lowest cost ways to reduce GHG emissions
- Save citizens more money than they cost
- Benefit all households – including low and fixed income, renters and owners

- **Estimated impact in Calgary:**

- Energy savings of 45,900 MWh a year, or approximately 2% of current residential energy demand
- Greenhouse gas savings of 38,556 tonnes of CO₂e per year
- Cost savings for residential customers of approximately \$4.5 million per year

Home Energy Report

Home Energy Report

Account number: 1234567890
Report period: 02/01/11 - 03/01/11

We are pleased to provide this personalised report to help you save energy.

The purpose of this report is to:

- Provide information
- Help you track your progress
- Share energy efficiency tips



This information and more is available at

ADAM P. SMITH
141 50TH AVE SE
CALGARY, AB, T2G 4S7

Last Month Neighbour Comparison

You used **26% MORE** electricity than your neighbours.



* kWh: A 100-Watt bulb burning for 10 hours uses 1 kilowatt-hour.

How you're doing:
You used more than average.
Turn over for easy ways to save.

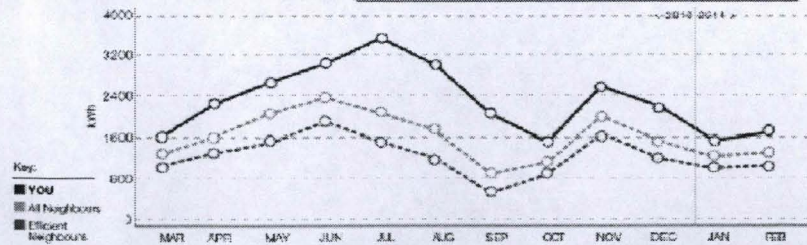
Who are your Neighbours?

All Neighbours: Approximately 100 occupied, nearby homes that are similar in size to yours (avg. 955m²) and have similar local

Efficient Neighbours: The most efficient 20 percent from the "All Neighbours" group.

Last 12 Months Neighbour Comparison

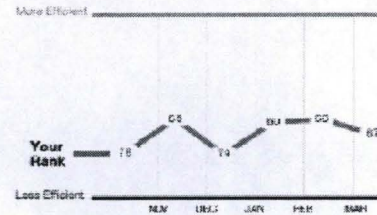
You used **62% MORE** electricity than your efficient neighbours. This costs you about **\$501 EXTRA** per year.



Turn over for savings →

Neighbour Efficiency Rank

Your energy efficiency rank out of 100 neighbours:



Your rank is calculated each bill period. See the Neighbour Comparison section for details about your neighbours.

Your Rank Last Month

#67 out of 100 neighbours
#1 is the most efficient

Your rank is declining.
Looking for ways to improve?
Enmax.com/energyreports

Warm up this winter | Personalised action steps to save this winter

IN OUR REGION SPACE HEATING ACCOUNTS FOR 50% OF A TYPICAL HOME'S ENERGY USE and water heating accounts for another 17%. Preparing your home for the colder weather can result in significant savings to you—and improve your comfort at the same time.

Lower your water heater temperature

- Reduce your hot water temperature to 48°C — most households find this temperature to be sufficient and helpful for preventing scalding
- Note that if your dishwasher does not have a booster heater, a water temperature of 55°C to 60°C may be necessary—consult your owner's manual for information.

SAVE UP TO
\$55
ANNUALLY

Install a programmable thermostat

- Choose the settings and schedule to fit your comfort level and convenience
- Change your home temperature to an energy saving level when your home is not occupied or when you are sleeping
- Remember to adjust your programmed settings when you go on vacation
- Save 8 to 10% on heating by lowering thermostat by about 3°C for about 8 hours a day

SAVE UP TO
\$245
PER YEAR

Maintain your heating system

- Regular maintenance of your heating system will improve its efficiency and extend its life
- For heat pumps: Have a professional service the unit every year in the fall or early winter
- For furnaces: Schedule the maintenance every other year; have your contractor check for carbon monoxide leaks during the visit.

SAVE UP TO
\$230
PER YEAR

ADMINISTRATION RECOMMENDATION

- Administration recommends that the Priorities and Finance Committee recommend that Council: Receive this report for information.