

Energy Efficiency in <community>

<Insert
community
photo or
logo>

A joint initiative brought to you by:
Ministry of Energy and Mines
BC Hydro
Developed and delivered by:
Quality Program Services

Introduction and Outline

- ◉ Why energy use should matter to you!
- ◉ Energy use and home structure
- ◉ Understanding your utility bills
- ◉ What impacts energy use
- ◉ Benefits of being energy efficient, for you and your community
- ◉ What can you do?

Why it Matters

- How energy use impacts community members:

- Utility bills
- Improve home comfort
- Home safety and health
- Protect the land



- Energy use is on the rise in BC, and our intent is to decrease energy consumption to take pressure off the system as a whole

General Energy Information

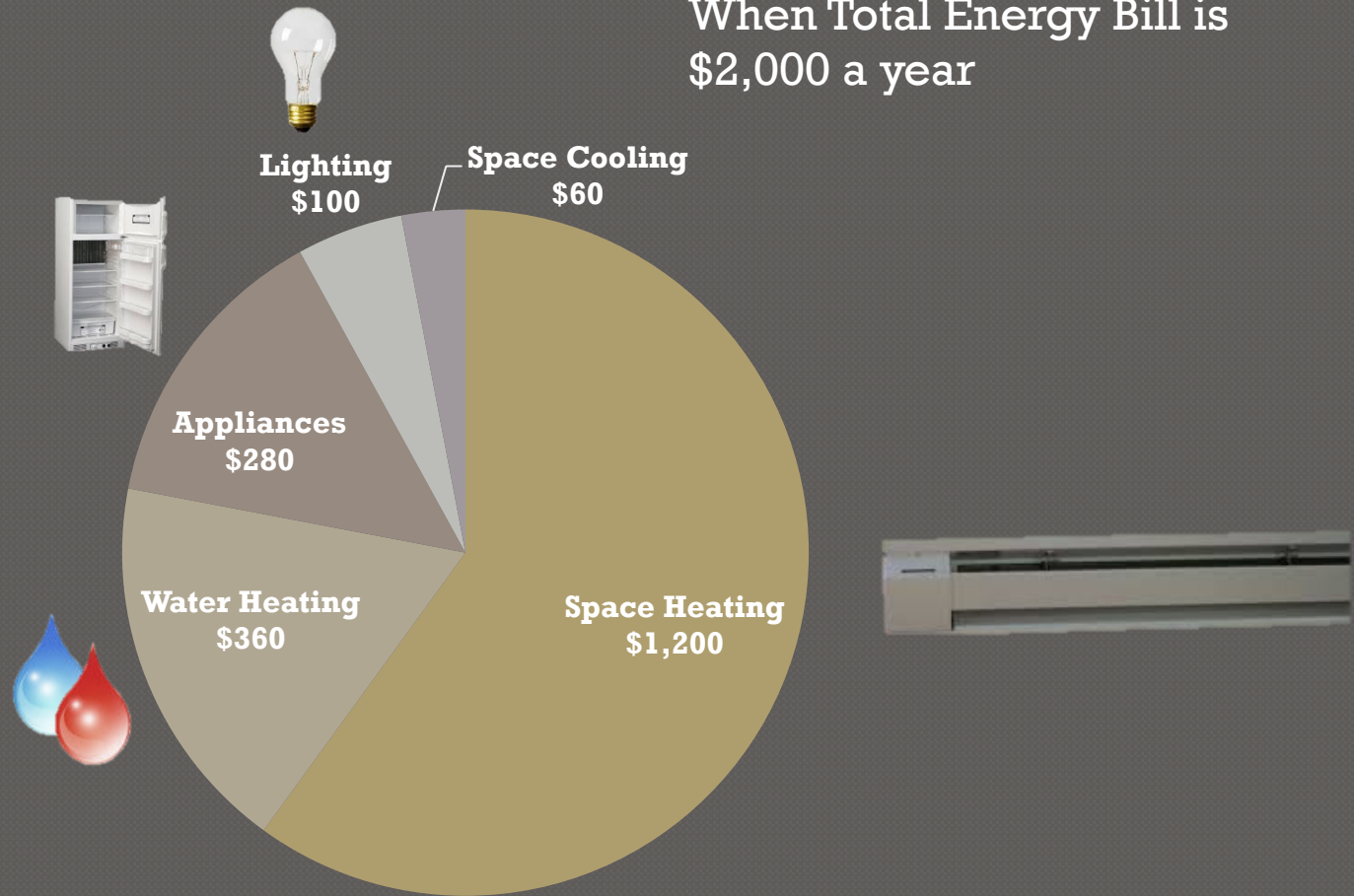
- The energy supply in <insert community> comes from:
 - Natural gas
 - Typically found above petroleum resources
 - Propane
 - Byproduct of natural gas processing and petroleum refining
 - Electricity
 - Hydroelectricity and/or diesel generation in remote communities
 - Wood
 - Locally sourced and used

<Insert community> -specific Energy Information

- Housing types and age
- Ask about typical bills
 - Community and individual
- Current programs or initiatives regarding housing and organizational structure
- Short and long term outlook for housing: new construction and upgrades

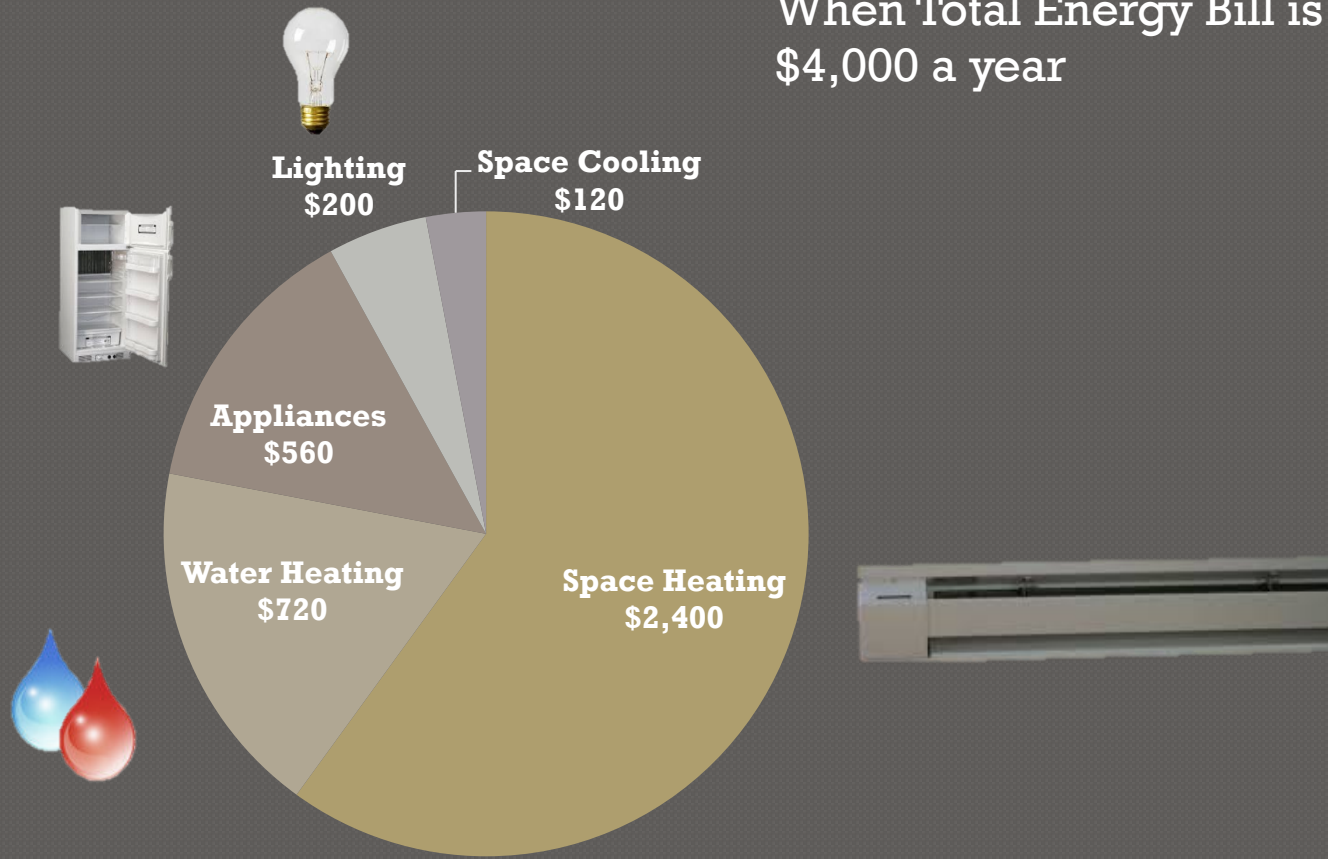
Where are your energy dollars going? A Breakdown of Average Canadian Home Energy Use

When Total Energy Bill is
\$2,000 a year



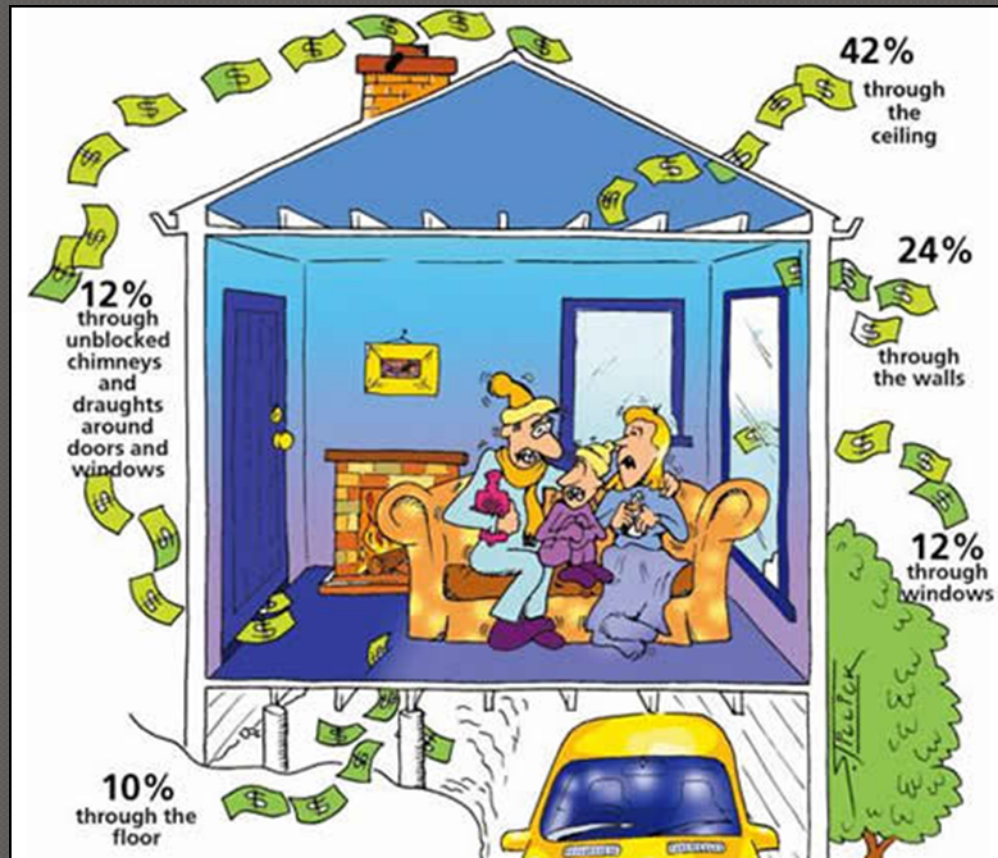
First Nation Energy Use and Cost can be Double*

When Total Energy Bill is
\$4,000 a year



*No statistical data available – based on anecdotal experience

Where Dollars Escape



Understanding Your Energy Bill

BC Hydro

Prepared For
JOHN DOE
 1234 ANYNAME ST
 ANYTOWN BC V6B 5A1

1 Billing Date: Sep 07, 2010
 Account Number: 1630 3248 701

2 Invoice Number: 109004677531
 Pay By: Sep 29, 2010
 Please Pay: \$227.38

3 **Meter Reading Information**
 Electric: Meter # 928347
 Jul 07 12349
 Sep 07 15024
 63 days 2675

4 **Next meter reading on or about Nov 04**

5 kWh Daily Average Usage per Billing Period

6 **Take action to save electricity and money.** Call 604 431 9463 or visit bchydro.com/powersmart

Other questions? Call the numbers displayed in the Customer Service area at the top of this bill.

Customer Service Phone: 1-800-224-9376 Power Out? 1-888-769-3766
 Mail to: BC Hydro, PO Box 9501 Stn Terminal, Vancouver BC, V6B 4N1

13 **Previous Bill** Balance payable from your previous bill 93.69
 Thank you for your payment Jul 30, 2010 93.69CR

14 **Balance from your previous bill** \$0.00

15 **BC Hydro Electric Charges**

16 Jul 07 to Sep 07 (Residential Conservation Rate 1101)
 Basic charge: 63 days @ \$0.13410 /day 8.45*

17 **Usage Charge***
 Step 1: 1398 kWh @ \$0.06270 /kWh 87.65*
 Step 2: 1277 kWh @ \$0.08780 /kWh 112.12*

18 Rate Rider at 4.0% 8.33*
19 * HST 25.99
20 Residential Energy Credit 15.16CR

\$227.38

Your total consumption for the billing period is 2675 kWh and your Conservation Rate breakdown is as follows:

21 1398 kWh @ 6.27¢ **22** 1277 kWh @ 8.78¢
 Your Step 1 threshold of 1398 kWh is prorated based on 63 days

*For more information on the Conservation Rate visit bchydro.com/conservationrate

Taxes **23** The following is a summary of taxes billed to your account since your last invoice:
 HST at 12 % on 216.55 25.99

Balance payable **\$227.38**

FORTIS BC

Name: ANY COMPANY
 Service address: 12345 ANY STREET
 NANAIMO

Rate class: Large commercial
 Billing date: May 14, 2014

NATURAL GAS
 Customer Service: 1-888-224-2710
 7 am - 8 pm Mon - Fri, 9 am - 5 pm Sat
fortisbc.com

Account number	Due date	Amount due	Amount paid
555555	Jun 4, 2014	\$1,687.83	

Previous bill 1,036.60
 Less payment - Thank you 1,036.60 CR
 Balance from previous bill 0.00

Gas charges
 Basic charge (29 days at 2.0041 per day) 58.12
 Charge for gas used (97.9 GJ at 13.353 per GJ) 1,307.26
1,365.38**

Other charges and taxes
 Carbon Tax(97.9 GJ at 1.4898 per GJ) 145.85[†]
 Clean Energy Levy (0.40% of * amounts) 5.46
 GST (5% of * amounts) 68.27
 PST (7% of * amounts) 7.29
 95.58

Please pay **1,687.83**

Gas usage calculation (Meter RCT1673584)

Present reading	-	Previous reading	X	Conversion factor	=	Gas used in gigajoules (GJ)
May 14 '14	-	Apr 14 '14		0.1462810	=	97.9
6,954	-	6,285				

Point of delivery: 994022

Comparison to previous year

Billing period	Number of days billed	Average daily temp.	Average daily usage GJ	Total billing period usage GJ
May '14	29	15°C	3.38	97.9
May '13	29	12°C	3.81	110.6

Average daily gas usage over 13 months

MYHYDRO

SAVE ENERGY SAVE TIME SAVE MONEY

Using My Hydro

The screenshot shows the BC Hydro MyHydro account dashboard. At the top, there is a navigation bar with the BC Hydro logo and links for 'My Profile', 'Log out', and 'Ask a question'. Below this is a main menu with categories like 'Accounts & Billing', 'Power Smart', 'Energy in B.C.', 'News, Events & Media', 'In Your Community', and 'Safety & Outages'. The 'MYHYDRO' section is active, showing options for 'Billing and Payments', 'Moving and Electrical Connections', 'Electricity Rates and Energy Use', and 'Get Help'. The main content area displays 'My bill amount for Feb 23, 2015' as \$0.00, a bar chart for 'Consumption for the last 7 days' (ranging from 12 to 30 kWh), and 'Current billing period' from Feb 20 to Apr 22, 2015, with a cost of \$137 or 129kWh. There are also sections for 'View my balance', 'View detailed consumption', 'Join Team Power Smart', 'Electricity Doesn't Always Come with a Warning', and 'Go Paperless'.

The screenshot shows the 'Create a MyHydro Profile' page. It features a navigation bar with 'Log in' or 'Create a MyHydro Profile' and 'Ask a question'. The main heading is 'Create a MyHydro Profile'. Below this, there are three numbered steps: 1. 'PROVIDE YOUR MYHYDRO PROFILE DETAILS.' with a 'Submit' button; 2. 'VERIFY YOUR EMAIL ADDRESS BY CLICKING THE LINK IN THE CONFIRMATION EMAIL.' with a laptop icon; 3. 'IF YOU HAVE AN EXISTING ACCOUNT, LINK IT TO YOUR PROFILE USING INFORMATION FROM YOUR LAST BILL.' with a document icon. The 'Profile details' section includes input fields for 'First name', 'Last name', 'Email', 'Password', and 'Confirm password', with a note: 'We can't accept generic addresses (e.g. sales@company.com). Please use an individual address (e.g. john@company.com)'. The 'Security question' section has a dropdown for 'Security question' and an input field for 'Answer'. A blue sidebar on the right contains the three-step guide and a note: '*New customer? Create a MYHYDRO Profile to open a new account.'

Factors Affecting Energy Use

○ Construction

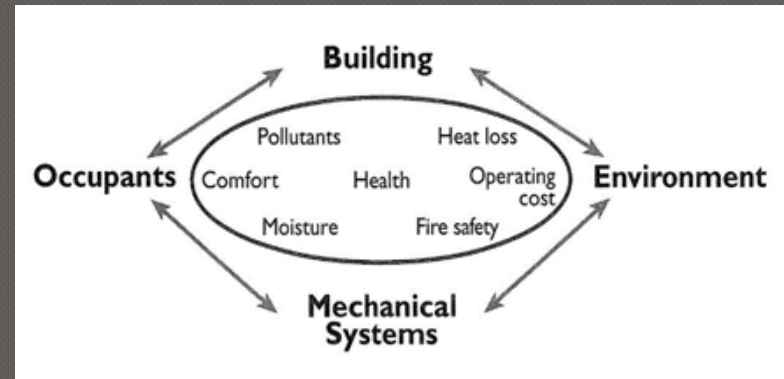
- Building code standards
- Installation and inspection procedures

○ Maintenance

- Materials procurement
- Procedures

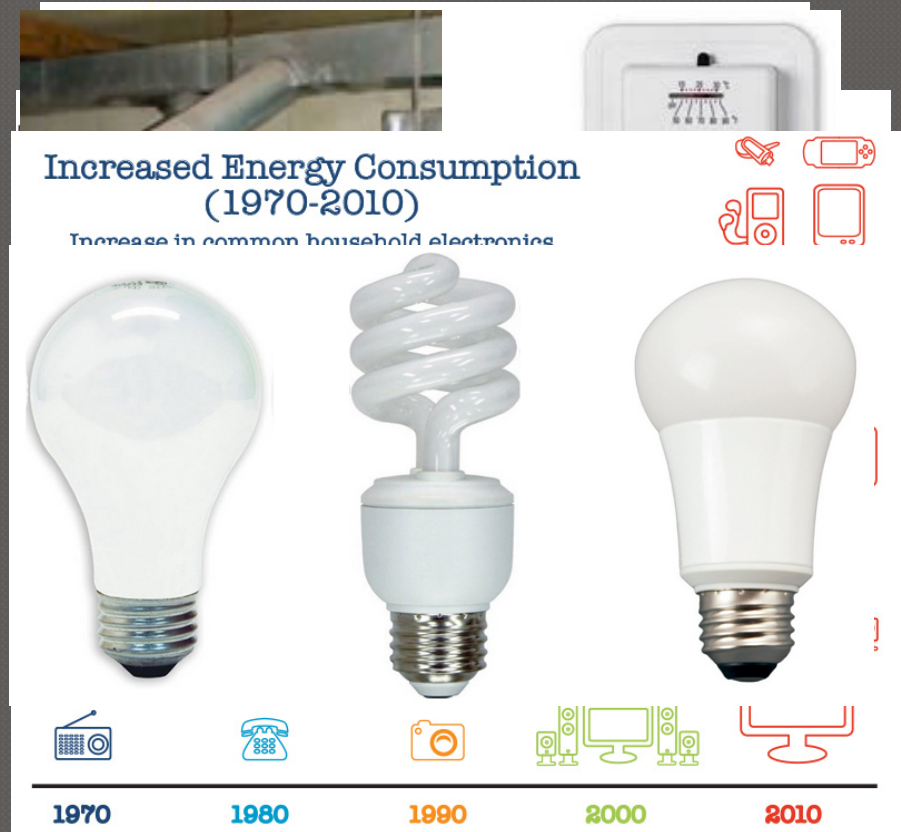
○ Energy awareness

- Knowledge
- Behaviours



Home Structure and Components

- Building envelope
 - Moisture and ventilation
- Heating systems
 - Controls
- Lighting
- Appliances and plug loads



Envelope Air Sealing – What does it cost?



Cost:
___/year

Cost:
___/year



Fans, Vents, and Ducts

Cost:
___/year



Plumbing and Penetrations

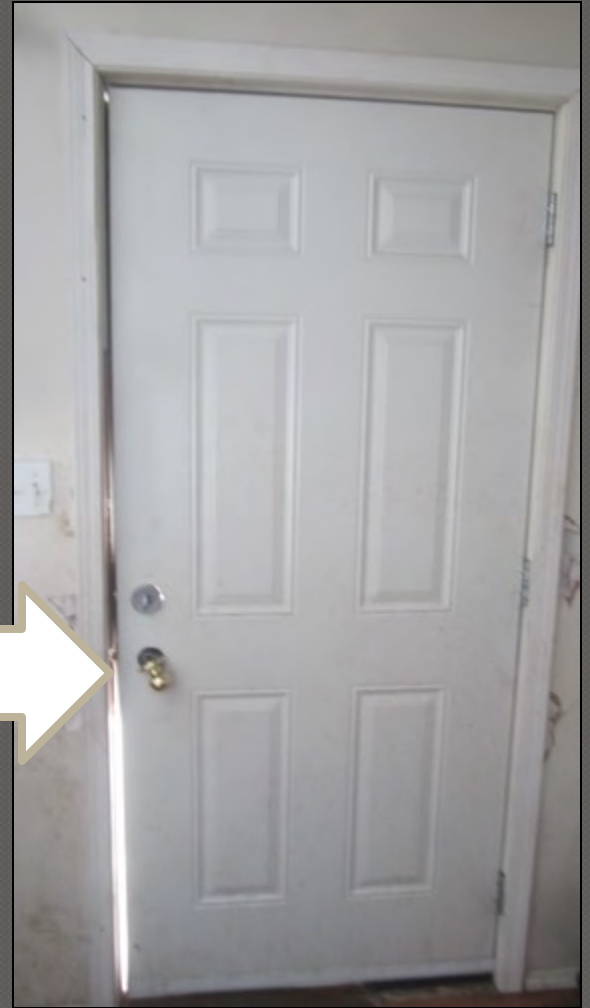
Cost:
___/year
for 3 pipes



Exterior Doors



Cost:
_ /
**door/
year**



Windows

Cost:
**___/window/
year**



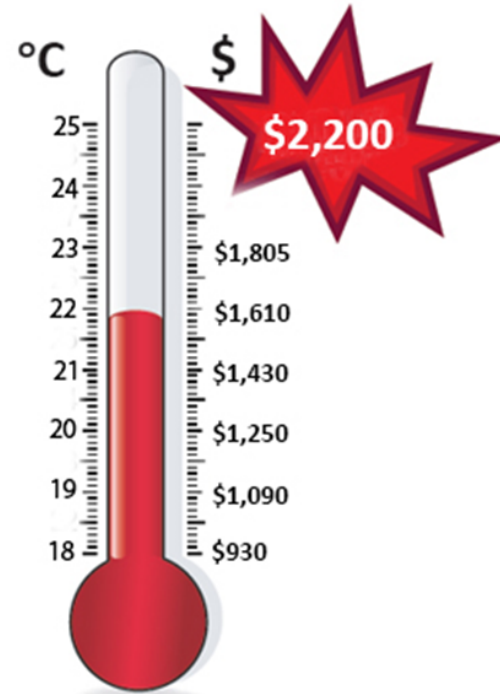
Cost:
___/window/year



Heating – What is the cost?

For every degree, annual costs can increase by \$190!

What does it cost you to turn up your thermostat?



Keep your thermostat low and use wood to heat your home!

What can Residents Do? Energy Efficient Actions

Air Sealing and Heating

- Reduce drafts
 - Seal obvious gaps and air leaks, especially around doors, windows, plumbing, and electrical outlets
 - Have broken or cracked windows and doors replaced
 - Use a door sock at the bottom of doors
- Open curtains to let the sun in and heat rooms during the day then close them at night to keep heat in
- Avoid using portable electric heaters
- Turn down your thermostat at night and during the day if no one is home
- Change the furnace filter regularly



What can Residents Do? Energy Efficient Actions

Hot Water

- You might not pay for water but you do pay to heat water!
 - Check that all taps have aerator 'screens' on them to use water efficiently
 - Insulate hot water heater pipes
- Take shorter 5 minute showers!
- Wash clothes in cold water and use the correct setting for size of load
- Make sure hot water heater is set to the correct temperature (55°F)

Choose Efficient Appliances

Canada

ENERGUIDE

Energy consumption / Consommation énergétique

390 kWh
per year / par année

▼ This model / Ce modèle

372 kWh	484 kWh
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Uses least energy / Consomme le moins d'énergie

Uses most energy / Consomme le plus d'énergie

Similar models compared

Modèles similaires comparés

Model number

Type 3
16.5 - 18.4
volume in ft.³ / volume en pi³

00000

Removal of this label before first retail purchase is an offence (S.C. 1992, c. 36).
Enlever cette étiquette avant le premier achat au détail constitue une infraction (L.C. 1992, ch. 36).

The ENERGY STAR® mark on the EnerGuide label signifies that this is an energy-efficient appliance. Its energy performance meets or exceeds the Government of Canada's high efficiency levels. Use the EnerGuide rating to determine how this appliance compares to other similar models.

La marque ENERGY STAR® sur cette étiquette ÉnerGuide signifie que l'appareil est éconergétique et que son rendement énergétique satisfait ou dépasse les niveaux de haute efficacité du gouvernement du Canada. Utilisez la cote ÉnerGuide afin de comparer le rendement de l'appareil avec celui d'autres modèles similaires.

ENERGY STAR
HIGH EFFICIENCY
HAUTE EFFICACITÉ

Canada

ENERGUIDE

Energy consumption / Consommation énergétique

300 kWh
per year / par année

▼ This model / Ce modèle

100 kWh	500 kWh
---------	---------

Uses least energy / Consomme le moins d'énergie

Uses most energy / Consomme le plus d'énergie

Similar models compared

Modèles similaires comparés

Model number

Standard / Ordinaire

0000000

Removal of this label before first retail purchase is an offence (S.C. 1992, c. 36).
Enlever cette étiquette avant le premier achat au détail constitue une infraction (L.C. 1992, ch. 36).

Type and capacity of models that make up this class

Annual energy consumption of the model in kilowatt hours (kWh)

Energy consumption indicator, which positions the model compared with the most efficient and least efficient models in the same class

Canada

ENERGUIDE

Energy consumption / Consommation énergétique

485 kWh
per year / par année

▼ This model / Ce modèle

95 kWh	492 kWh
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Uses least energy / Consomme le moins d'énergie

Uses most energy / Consomme le plus d'énergie

Similar models compared

Modèles similaires comparés

Model number

Standard / Ordinaire

0000

Removal of this label before first retail purchase is an offence (S.C. 1992, c. 36).

What can Residents Do? Energy Efficient Actions

Appliances and Plugs

- Clean dryer lint screens to help clothes dry faster!
- Unplug appliances with LED lights or those that 'stay on' when you're not using them
- Keep the fridge closed until you decide what to eat
- Put all food into one fridge/freezer if you have two half-empty ones and unplug the extra one

Lightbulb Cost Comparison



**60W Incandescent
Bulb**

Initial cost \$0.80
Annual usage cost \$7.88
Lifespan 2 years

Average annual
cost for home with
15 bulbs

\$124.20



13W CFL Bulb

\$5.75
\$1.71
7 years

\$37.95



9W LED Bulb

\$13.50
\$1.18
23 years

\$26.40

What can Residents Do? Energy Efficient Actions

Lights and Ventilation

- Turn off the lights in unused rooms
- Turn off outdoor lights during the day
- Use bathroom and kitchen fans to keep air circulating
 - Tip!! Make sure to keep the fans clean – clean them when you check the batteries in smoke alarms every 6 months!



Benefits of Energy Efficient Practices

○ Cost savings



- Lower utility bills for all residents to keep more money in the community for other programs
- Lower maintenance costs
- Increasing lifespan of current and new housing stock

○ Home comfort

- Reduced drafts and hot/cold spots



○ Health impacts

- Improved ventilation and insulation reduces occurrence of mold
- Safer homes, especially for the young and Elders

○ Lower impact on the land

- Reduced greenhouse gas emissions
- Contribute towards lower provincial energy use and potentially eliminate need for new energy generation locations



Involving the Community

○ Energy Champion

- Community-based leader who works to facilitate energy project, shares energy knowledge, and acts as energy contact for other residents

○ Green Team

- All-ages community team supporting other members in reducing energy use

○ Social media or other platform for sharing tips, knowledge, and information

○ Set community-wide challenge and goals

Questions and Discussion

