

TOP 5 ENERGY-SAVING MEASURES FOR HOUSING CO-OPS

GUIDELINES AND INCENTIVES

Although Canada is getting greener, surveys suggest that many of us are not sure where to start implementing energy-saving measures.

What is true for Canadians in general is equally true for housing co-operatives. Much information is available today on energy-saving measures that differ in effectiveness and payback period. With many variables to consider when evaluating the true energy savings of a system change or the replacement of components, it's no wonder we aren't sure what to do first! But it's worth taking action now, both for the environment and to save your co-op money.

This guide keeps it simple. There are five areas to focus on where you'll find simple tips that don't cost anything and simple initiatives, at a cost, to reduce energy or water consumption while offering the best pay back on your investment. Here are the top five areas for your co-op to focus on:

- 1 the building envelope (air leakage)
- 2 appliances
- 3 water conservation
- 4 electrical power and lighting
- 5 heating, cooling and ventilation.

1 Building Envelope

Heat loss varies according to the type of dwelling and the extent of exposed walls and ceilings. But, whatever the type of exterior cladding system, any co-op will benefit from measures that limit air penetration into the cladding from outside or inside the dwelling. Uncontrolled air leakage through the exterior building envelope (exterior walls and roof) causes drafts and discomfort. In a typical apartment-style co-op, heat loss takes place through the ceilings of apartments on the top floor, but units on lower floors are protected by the apartments above. For lower units, almost all heat loss takes place through the exterior walls, including windows and balcony doors. In row housing, end units are the most vulnerable to heat loss.

Improving the air sealing of the building envelope will reduce heating and cooling costs and will extend the life expectancy of the roof and exterior walls. Better air sealing will also increase occupant comfort by improving indoor air quality, which can be compromised if air leakage allows moisture to collect in the exterior cladding, attic space and interior finishes. Moisture can lead to mould formation, which in many co-ops is a cause of vacancy losses.

TIPS

- ✓ Identify areas of air leakage in the building envelope.
- ✓ Test bathroom and kitchen fans annually and maintain them in good working order to ensure adequate ventilation.

ENERGY INITIATIVES

- ✓ Seal air-leakage paths in the building envelope; foam seal the complete perimeter of the rough opening of windows and doors; caulk the edge of the interior casing or trim; install weather-stripping on windows and doors; install gaskets on exterior wall receptacles; caulk and seal any and all cracks.
- ✓ If original windows are beyond repair or difficult to maintain, replace them with high-performance windows. Or install storm windows over single-glazed windows.
- ✓ Replace doors in exterior openings with high-performance units. Or improve the weather-stripping around exterior door openings.

DID YOU KNOW

The simple payback period when replacing damaged weather-stripping on exterior doors is less than two years.

2



Appliances

Major appliances, such as refrigerators, stoves, dishwashers, freezers, clothes washers and dryers, are among the biggest energy users in a typical Canadian home. The refrigerator is always on and, depending on the vintage, may contain freon, unlike current models with ozone-friendly coolant. The stove is another big energy guzzler.

The more energy-efficient an appliance, the less it costs to operate. As an example, if your co-op were to replace a 1990-model refrigerator with an ENERGY STAR qualified model, you would save more than 666 kWh of energy for savings of over \$67 a year, conservatively estimated. With an average estimated lifetime of 18 years, that means a total savings of at least \$1,206—even assuming that electricity rates do not rise at all. The EnerGuide label will help your co-op choose the most energy-efficient models.

TIPS

- ✓ Co-ops should get rid of old inefficient refrigerators in a way that is friendly to the environment.
- ✓ Where possible, co-ops should provide clotheslines for laundry.

ENERGY INITIATIVES

- ✓ Replace major appliances with ENERGY STAR products that will provide the most energy savings.

DID YOU KNOW...

The simple payback period when replacing electric dryers with gas models is less than eight years. Replacing top-loading washing machines with front-loading models has a simple payback period of less than ten years.

3

Water Conservation

Residential water use, from flushing the toilet to watering the lawn, is the fastest growing sector of water usage across Canada. What does this mean for Canadians? It means that to ensure an uninterrupted supply of fresh, drinkable water, we must find a way to curb our water use.

Reducing the amount of water your members use doesn't have to be difficult. However, it does require you to monitor and repair leaks or drips.

TIPS

- ✓ Take note of leaking or dripping taps during annual unit inspections.
- ✓ Develop policies to limit or prohibit car washing and lawn watering.

ENERGY INITIATIVES

- ✓ Install low-flow shower heads and replace kitchen and bathroom faucet aerators with ultra low-flow models.
- ✓ Convert existing toilets by installing a water-saving flush kit, or replace toilets with ultra low-flow models.
- ✓ Repair leaky faucets promptly.
- ✓ Harvest rain water with rain barrels.
- ✓ Purchase hot-water heaters, rather than renting them, even if your co-op must buy out the rental agreements.

DID YOU KNOW...

The simple payback period when installing low-flow showerheads and aerators is less than one year. Installing low-flow toilets has a simple payback period of less than four years.

4

Electric Power and Lighting

Co-ops can take advantage of a wide range of techniques that will help them understand and manage the amount of energy used throughout the property. Co-ops that pay all hydro bills will need to find a way to motivate their members, who may not realize how much of their budget is spent on utilities. CHF Canada has information on how individual households can help, while benefitting the environment.

TIPS

- ✓ Turn off lights when not in use.
- ✓ Shift electricity use to off-peak periods. Unplug electronic items not in use or use the switch-off on a power bar.

ENERGY INITIATIVES

- ✓ Replace lighting fixtures with ENERGY STAR-qualified fixtures.
- ✓ Install time-clock and/or photocell controls on outdoor lighting and dimmers or motion switches on interior lighting.
- ✓ Upgrade old fluorescent lighting fixtures with high-efficiency lamps, ballasts and reflectors. Convert T-12 fixture types to T-8.
- ✓ Replace incandescent light bulbs with qualified compact bulbs (CFL).

DID YOU KNOW...

The simple payback period when replacing incandescent light bulbs with CFL is less than one year.

5

Heating and Cooling

While co-ops use energy differently, heating and sometimes cooling, individual units is responsible for most energy costs, with hot-water heating running a close second. The age, condition and efficiency of boilers, heaters and furnaces greatly affects how much energy is used. Ideally, co-ops should be planning to replace older heating appliances with energy-efficient models. If other capital needs have priority, care should at least be taken to keep this equipment in good working orders.

TIPS

- ✓ Reduce heat in common areas three to five degrees at night and while they are not in use.
- ✓ See that window air-conditioning units are removed at the end of the season.

ENERGY INITIATIVES

- ✓ When replacing furnaces, choose those that meet the Energy Guide heating, ventilation and air conditioning (HVAC) energy-efficiency rating system.
- ✓ Replace natural gas-fired furnaces or boilers with high-efficiency models with two-speed fans.
- ✓ Replace original thermostats with the programmable set-back type.
- ✓ See that furnace filters are replaced often, at least every three months.
- ✓ Insulate exposed heating and /or cooling ducts and piping in crawl spaces or attics.

DID YOU KNOW...

The simple payback period when installing programmable thermostats is less than three years.



Long-Term Planning

WHAT IS A CAPITAL REPLACEMENT RESERVE PLAN?

A capital replacement-reserve plan is a strategy for keeping your co-op in good repair into the future. A plan tells you how long the chief elements of your property should last and how much money you'll need to replace them. Following a plan should mean you have funds on hand whenever your property needs work.

Once you know what and when you can expect to spend on your building, you may be able to put some of your reserve fund into longer-term investments. Earning a better return will mean more money for your property.

HOW DO WE SAVE ON UTILITY COSTS?

When planning for your long-term replacement needs, keep in mind that there are many ways to use less heat, electricity and water. An energy audit can help you identify where your co-op can save money.

WHAT IS AN ENERGY AUDIT?

An energy audit is the process of having the energy efficiency of your buildings assessed by a professional. The goal is to suggest simple ways of saving energy on heating and cooling. Recommendations will range from simple things you can do yourself to adding or replacing equipment. The audit may also look at the efficiency, physical condition, and programming of mechanical systems for heating, ventilation, air conditioning and temperature control. Sometimes an energy audit is needed to qualify for a government grant.

The Agency has a number of firms we can recommend. Let us know if you're interested and we'll get you some quotes. But remember—an energy audit not acted on is just information!

For more information on capital reserve plans, see CHF Canada's Guide to Capital Reserve Planning, www.chfcanada.coop

ADDITIONAL RESOURCES

ENVIRONMENTAL STANDARDS

Several certifications meet environmental standards: ENERGY STAR, Water Sense, Eco Logo, Green Seal, Forest Stewardship Council (FSC), Organic Materials Research Institute (OMR) and Design for Environment (DfE).

REFERENCES AND AGENCIES

FEDERAL

Canada Mortgage and Housing Corporation (CMHC) www.cmhc-schl.gc.ca
Natural Resources Canada (NRCAN) www.oeo.nrcan.gc.ca/home

PROVINCIAL

Ontario – Ministry of Energy www.energy.gov.on.ca
BC – Green Your Home www.bchydro.com/guides_tips/green-your-home.html
Alberta – Climate Change Central www.climatechangecentral.com/
PEI – Office of Energy Efficiency www.gov.pe.ca/oeo/

MUNICIPAL

Contact your local municipality for current incentive programs and energy-saving measures.

PUBLICATIONS/RESOURCES

Household Guide to Water Efficiency: Canada Mortgage and Housing Corporation (CMHC) # 61924

Energy and Water Tune-ups: Multi-unit Residential Buildings Efficiency: Canada Mortgage and Housing Corporation (CMHC) # 65893- Research Report.

Air Leakage Control: Manual Existing Multi-unit Residential Buildings: Canada Mortgage and Housing Corporation (CMHC) # 65847- Research Report.

Energy and Water Efficiency: Multi-unit Residential Buildings: Canada Mortgage and Housing Corporation (CMHC) # 63074- User Guide and Technical Manual.

Before you Start an Energy-Efficient Retrofit – The Building Envelope: Canada Mortgage and Housing Corporation (CMHC) # 62264- About your House.

CHF Canada's Sustainability Tool Kit: www.chfcanada.coop/eng/toolkit/tk-page01.html

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