



CUTTING CARBON IN CONDOS

Improving energy efficiency can begin in a single unit or with the leadership of a condo board

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By Terry Bergen

Climate change is a hot topic right now – literally. As governments globally continue to recognize and discuss addressing greenhouse gas (GHG) emissions, individuals are considering their personal impact on the environment.

In Canada, building emissions make up 18 per cent of GHG emissions. Existing building operations, such as condo buildings, represent a significant portion of Canada's national carbon footprint. Energy efficiency is the most important first step to reducing these emissions.

Improving energy efficiency is quickly becoming a top priority for many condo boards. Reducing the energy use and carbon footprint of buildings is important to condo owners, not just because of the broad societal need to reduce climate change, but also for practical reasons. Besides helping to lower GHG emissions, upgrades can reduce utility bills, increase property value and enhance occupant comfort.

To get started, condo boards should research government grants and other incentives to help with costs in reducing energy consumption. There are many ways to improve a building's performance, from small but impactful changes, to whole building retrofits.

Here are three potential ways that condo owners/boards can impact their building's performance and, in turn, sustainability.

Education

Reducing common energy use may result in lower strata fees or prevent these fees from increasing as often. Helping others to understand and be aware of their energy consumption patterns and energy costs can encourage people to make changes to lower emissions. Condo buildings also share building energy consumption which isn't always visible or top of mind because owners aren't directly billed. Educating tenants and residents should be an important piece of any energy efficiency strategy; yet, it's often overlooked.

Lighting

Replacing existing lighting equipment for more efficient lighting, such as LED lights, is an easy but effective way to help reduce consumption.

Upgrading to LED light bulbs is perhaps one of the lowest cost ways to improve energy efficiency, while providing benefits. Payback periods for this upgrade are often very short.

ENERGY STAR rated LED light bulbs can cut energy electric use by 75 per cent because they require much less power to illuminate a space. LED lights last longer so they don't have to be replaced as often as traditional lights.

Lighting controls further improve efficiency. Occupancy sensors and/or daylighting controls can help manage energy consumption and limit its use to only when needed. Motion activated lights in common spaces is a feature that is often highly valued by tenants, while simultaneously reducing building operation costs.

Window Upgrades

If a condo building has older windows, especially aluminum framed, single-glazed windows, chances are a lot of energy is escaping. Buildings often lose up to 25 per cent of their heated or cooled air through windows—that means losing 25 per cent of energy that's paid for.

Replacing existing windows with improved thermal performance windows saves heating and cooling costs: By significantly reducing the loss of heated or cooled air, it costs less to keep the interior space comfortable. This helps to improve occupant comfort by reducing cold drafts and hot spots.

Low-e coatings will also limit solar heat gain effect in a unit, and another bonus is that new windows can substantially reduce the amount of noise occupants can hear from outside. People are often very happy with how quiet their residence is after a window replacement. Window replacements can also improve aesthetics from both the exterior and interior; they update and modernize a space.

Airtightness Testing

Building air leakages account for about 25 per cent of space heating for large buildings – that’s a lot. An airtightness test is a great tool to assess a building’s performance.

Along with a whole building test, suite testing and compartmentalized testing can be performed. Airtightness testing helps determine the air leakage level to understand how to improve the building enclosure and, in turn, save energy.

Leaky buildings are inefficient and cost a lot to operate. They also present a risk for moisture-related issues like condensation build-up within walls. Air leaks are typically found around windows, doors, vents, and electrical outlets, which can easily be identified using tools for air leakage testing, such as blower doors, thermal imaging and smoke tests—and once detected, they can be sealed.

After improvements are made, the test can be performed again to see how performance improved. Similar to lighting improvements, practical improvements for airtightness are among the lowest cost ways to improve energy efficiency, while providing benefits. Payback periods for draft proofing windows and doors, vents and outlets, can be very short.

Improving energy efficiency can begin in a single unit or with the leadership of a condo board. From small steps, such as education around energy use, to whole building retrofits, improving efficiency is increasingly becoming a requirement. Many of the strategies that reduce energy consumption lower ownership costs, improve occupant comfort and add to property value.

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