

# 8 STEPS

## How to Retrofit your Building and Save on Utility Bills



Did you know utility costs are the largest variable expense condominium managers can influence? Energy efficiency retrofits can help you reduce them significantly, but many condo managers hesitate to undertake them. Let's take a closer look at the benefits and how to plan your own retrofit project.

### Save on natural gas, electricity and water through retrofits

Upgrades such as switching to LED lighting in common areas, replacing aging boilers and investing in heat pumps for efficient heating (and cooling) can help you slash your natural gas and electricity consumption. You can also save on your building's water bills by installing low-flow appliances. Building envelope upgrades can also greatly reduce your energy usage, for example, through re-sealing or replacing leaky windows.



### Lower your maintenance and equipment replacement costs

Retrofits can do more than slash your utility bills. The proactive and planned replacement of aging equipment such as boilers can reduce maintenance costs and costly emergency replacements. Building envelope improvements can reduce and even eliminate repairs to windows and other components. This is especially relevant for older condominium buildings.

### Benefit from non-financial gains

Energy efficiency retrofits can also provide non-monetary benefits, especially improved resident comfort, indoor air quality, and even pride of ownership. You can achieve these

through smarter heating and cooling, new fresh air equipment and duct cleaning. Measures such as new cladding and triple-paned windows improve insulation and upgrade the look of your building, increasing its curb appeal.

By investing in energy retrofits, you are also taking action to protect our climate by reducing damaging carbon emissions. It's good to keep this in mind as buildings are the main source of emissions in Toronto and the region.

### How-to: Eight steps for making your retrofit project happen

Now that we've examined the multiple benefits of energy efficiency retrofits, let's turn to the actual process. Here's a step-by-step guide for planning your own retrofit project.

1. Gather all relevant info
2. Define the retrofit scope and financing
3. Inform owners and residents. Get approval if necessary.
4. Select a project manager or manage the project in-house
5. Put out a tender and select your contractor(s)
6. Undertake the project work
7. Fine-tune, monitor and maintain the new improvements
8. Celebrate

Getting proper legal and accounting advice throughout the process is important, so check in regularly with your lawyer and auditor to avoid delays and challenges.

1

### Gather all relevant info

Before you start your retrofit project, you need to assess what equipment you currently have and what your cost structure is. This includes gathering at least one year's worth of utility bills and the specifications for your existing mechanical equipment. This information helps set the "baseline" for measuring the post-retrofit reduction in usage.

3

### Inform owners and residents

Depending on your chosen funding route, you might need to get approval from your unit owners. If you cover retrofit investments through a non-debt performance agreement or your reserve funds designated for the measure in question, you might not need owners' approval. At minimum, you should proactively inform all owners (and tenants — to gain access to suites) through written information and a town hall so that any questions can be answered directly. You don't want to find yourself offside with a large (or vocal) group of owners.

4

### Decide how to manage the project

If you have engineering or project management experience on the board or property management team (including contacts to contractors that you trust), you might want to plan the retrofit project yourself. However, don't underestimate the time this could entail, especially for volunteer board members. Another route is to hire an engineer as your project manager (through a request for proposal process or RFP). Hiring an engineer can give you peace of mind, especially if your contract includes guarantees that avoid time and cost overruns.

7

### Fine-tune, monitor and maintain

After the retrofit is completed, commissioning of the new equipment takes place. This usually includes fine-tuning boilers and HVAC equipment. Engineers are able to calculate retrofit savings against the baseline with a high degree of accuracy beforehand. Performance guarantees included in your engineering contract will cover potential shortcomings. Don't forget to train your staff and update your maintenance contracts. The number one reason for retrofit measures to fail is the lack of proper maintenance.

2

### Define the retrofit scope and financing

How broad and how deep do you want to go with your project? What level of savings are you aiming for? Based on our experience, comprehensive or multi-measure retrofits make the most sense. Instead of achieving only a small percentage of energy savings, you can realize savings of 20 to 30 per cent in one project.

You also need to determine if retrofits are limited to shared and central equipment, e.g., boilers, or also in-suite appliances and equipment. By including in-suite upgrades such as smart thermostats and low-flow showerheads you can unlock more savings potential. Based on the scope you should also decide on your preferred funding route. Do you have the budget for your envisioned retrofit measures? Or are you willing to tap into your reserve funds? Another option is to use a non-debt financing tool such as an Energy Savings Performance Agreement (ESPA™), developed by The Atmospheric Fund and marketed by Efficiency Capital.

5

### Select your contractors

The good news is that energy efficiency retrofits are relatively low-risk with "off-the-shelf solutions." The question remains who to select as your contractors. Some boards prefer to make the selection themselves through an RFP. Others leave the selection in the hand of the engineering firm that manages the project.

6

### Undertake the retrofit measures

Once you have your project management and contractors in place, this is where the real work happens. Depending on the scope of your retrofits, this step can vary greatly in length. Proactive information to owners and tenants is key during this phase.

8

### Celebrate

With your retrofit project completed, it's time to pat yourself on the shoulder and celebrate. You've helped reduce your building's operating costs and did your part for our climate by reducing building emissions.

**Tim Stoate**, VP Impact Investing, The Atmospheric Fund. Do you have questions or ideas about energy efficiency retrofits? You can reach Tim by email: [tstoate@taf.ca](mailto:tstoate@taf.ca). [Taf.ca](http://Taf.ca)