

NEW TRICKS FOR OLD WINDOWS

We know that replacing all of your old windows is not always a practical option. Fortunately, there's plenty you can do to improve the energy performance of your existing windows, not to mention your exterior doors and skylights.

Window coverings like blinds and curtains can help you help reduce drafts and heat loss, particularly at night. However, it's a good idea to make sure that they don't completely stop air flow across the surface of the window, or it may begin to sweat in colder weather.

Storm windows create an insulating air space when installed on the inside or outside of an existing window. They're more affordable than completely new windows, but they won't eliminate drafts from the frame or insulate as effectively as new units. They can be permanent, seasonal or temporary.

Insulator film is an inexpensive option for temporary use in the winter months. This thin, clear plastic can be installed quickly with double-sided tape and a hair dryer, creating an insulating air space on the inside of your windows.

A NOTE TO HOMEOWNERS

Draftproofing stops exterior air from entering your home, so it's very important that good ventilation and indoor air quality is maintained after draftproofing. A mechanical ventilation system may be needed to make sure that your home still has adequate ventilation, especially for heating appliances like furnaces and gas stoves.

If you have any concerns, talk to a professional HVAC contractor. They can perform tests and accurately assess your ventilation requirements.

Questions about getting the best performance from your windows and doors? Don't hesitate to get in touch.

Lower Mainland: 604 431 9463

Elsewhere in B.C.: 1 877 431 9463

bchydro.com/powersmart

THE DRAFT STOPS HERE

Draftproofing is all about eliminating those little cracks, holes, and crevices that let air through the frames of doors and windows. Aside from saving you money on your heating bills, sealing these holes and gaps can improve your family's comfort, reduce moisture problems, and help block outside noises. While there's a wide variety of products available for draftproofing, they all fall into two main types:

Weatherstripping is useful for blocking air leaks around doors and movable windows. It usually comes in the form of rubber-like strips that are flat, tubular or V-shaped. Weatherstripping is designed to work under compression, so look for products that are flexible and spring-back to their original shape quickly.

You'll need to consider the size of the gap as well as the product's durability, ease of installation, and appearance. The staff at home improvement and hardware stores should be able to help you select weatherstripping that will do the job without interfering with the normal operation of the door or window.

Caulking or sealant is ideal for stopping leaks in door frames and non-moving windows. These products are usually very thick liquids or expanding foams that offer a good barrier against air and water once they cure. However, they are not permanent and will need maintenance and replacement as they age.

Caulking is available for interior and exterior use, and should only ever be used exactly according to instructions. Using an exterior sealant inside a living area can be dangerous, so please follow the instructions closely.



For a complete list of ENERGY STAR qualified windows available in Canada, go to energystar.gc.ca/windows



Printed with vegetable-based inks on paper made with 100% post-consumer waste. Please recycle.

A27-029

BC HYDRO POWER SMART TIPS

SMARTER WINDOWS AND DOORS

ALL WINDOWS ARE NOT CREATED EQUAL. HERE'S HOW TO MAKE SURE THAT YOUR WINDOWS—OLD AND NEW—ARE GIVING YOU THEIR BEST.

Some windows let more than just a bit of sunlight through. In fact, bad windows can raise your energy bills by letting your heat make a clean getaway. This can account for as much as 30 per-cent of your home's heat loss. No matter how you heat your home, that adds up to a major portion of your energy bills.

Old single- and double-pane windows are often to blame, allowing heat to escape in the winter and keeping your home too hot in the summer. If a window's seals and caulking are in poor shape, the problem is even worse.

Luckily, you have plenty of options.

New ENERGY STAR qualified windows and doors will help your home stay toasty in the winter and cool in the summer, netting you year-round savings on your energy bills. They also reduce condensation, lower outside noise, and protect your belongings from sun damage.

Not ready to replace your home's old windows? That's okay—there's still lots you can do to get the most out of your existing windows, as well as your doors. Turn to the last page to find out more.

SEEK OUT THE ENERGY STAR

If you're looking into new windows or exterior doors for your home, keep an eye out for the ENERGY STAR label like the one below. It's your independent guarantee of superior energy performance. What does that mean on a day-to-day basis? Very simply, a home that is more affordable, more comfortable, and a little easier on the planet.

British Columbia is a big place, so the ENERGY STAR system divides the province into three climate zones, as shown on the map. Zone A has the mildest climate, and Zone C has the coldest. The ENERGY STAR label will tell you if a given window or door is appropriate for the zone in which you live.

Windows and doors qualify for the ENERGY STAR based on either of two performance standards: their U-value or their Energy Rating (ER). The colder the climate zone, the more stringent the standard.

- **U-values** measure how quickly heat flows through the window or door. A lower number is better, since a low U-value means less heat is transferred.
- **Energy Ratings (ER)** measure a window's overall energy performance, including heat flow, airtightness, and solar gain. A higher ER is better.



TAKE CHARGE OF YOUR WINDOWS

It's true—planning new windows for your home can be a little intimidating. But it doesn't have to be confusing, especially if you keep these tips in mind as you shop around:

Performance won't cost you more

While the money that you save on heating and cooling your home won't completely cover the cost of new windows, it will cover the added cost for higher performance. In other words, ENERGY STAR qualified windows are often a bit pricier than low-performance windows, but you'll soon make up the difference on your heating bills.

One step at a time

If you don't have the time or budget to change all of your windows at once, you always have the option of planning your purchase in stages. Focus first on the rooms where your family spends the most time, so that the added comfort will be appreciated on a daily basis. Also remember that south- and west-facing windows generally have the biggest impact on your comfort and energy savings.

Trust the professionals

Even a fantastic window will perform poorly if it's not installed properly. That's why it's important that your ENERGY STAR windows are installed by a qualified window professional—someone who can guarantee that the installation meets your needs, the manufacturer's instructions, and all of the applicable codes and standards.

Windows before heating

Many renovation professionals recommend changing your windows before you spring for a new furnace or boiler. In many cases, you'll be able to go with a smaller, less expensive heating system once you have more efficient windows.

YOUR CHOICES ARE CLEAR

When it comes to finding the perfect windows for your home, you'll discover no shortage of energy-efficient features. Here are some of the basics to start you on your way:

Fixed picture windows allow less air leaks than openable windows of the same size. If a window is destined for a spot in your home where you're unlikely to ever open it, then a picture window will offer better energy performance.

Double- and triple-glazed windows are designed with a sealed air space between the panes, usually a centimetre or so wide, which slows heat transfer through the glass. They also block outside noises better than single-pane windows.

Gas fills are inert gases, such as argon or krypton, that manufacturers use to fill the space between the glass panes. Heat does not conduct through inert gases as easily as air, making them better insulators. Argon is more commonly used because it is less expensive than krypton.

Low-conductivity spacers can improve the energy performance of gas-filled windows by as much as 20 per-cent. A spacer is the material that separates the two panes when making an insulated glass unit; low-conductivity spacers keep the glass around the edges of the window warmer, which reduces the likelihood of messy condensation in cold weather.

INSULATING FILMS

Low-e (low-emissivity) windows have a clear coating on the glass to keep heat outside during the summer and inside during the winter. This virtually invisible coating is applied either directly to the glass or to a plastic film between the panes. Low-e windows also block some ultraviolet light, protecting your carpets, drapes, and furniture from sun damage.

Low-e coatings come in two main types:

- **Soft coats**—also called sputter coats—are the most effective at reflecting heat and generally insulate better than hard coats. By reducing heat build-up in the summer, soft coats can reduce your need to use of air conditioning.
- **Hard coats** allow more solar heat to pass through the window, allowing you to heat your home less on sunny winter days.

Consulting with your window supplier is the best way to figure out which coating is best for you.

Windows with low-e films typically cost about 10 per-cent more than regular double-glazed windows, but they can reduce heat loss by as much as 30–50 per-cent. These energy savings alone should pay off the higher cost of low-e windows within 10 years.

FRAME MATERIALS

Window frame construction and materials can have a big effect on energy performance, as well as on the maintenance needs and lifespan of your windows.

Aluminum frames are strong, have a long lifespan and require little maintenance; however, they require low-conductivity spacers to minimize heat loss and condensation around the edges of the window.

Wood frames have good strength, insulating value and lifespan, but require maintenance to protect them from the weather.

Vinyl frames can offer excellent energy performance and freedom from regular maintenance.

Combination frames feature aluminum-wood or vinyl-wood construction for superior protection from the weather on the outside, and attractive looks on the inside.

Fibreglass frames are not widely offered, but they rate high in energy performance and strength, with little maintenance. Some designs are also filled with foam insulation to further decrease heat loss.

DOORS CAN BE SMART TOO

Obviously, exterior doors let you in and out of your home. But they also serve as part of the shell of your home, so a poorly insulated door can let heat escape like a window. And just as with windows, doors that are labelled with the ENERGY STAR offer the best in energy performance, with minimal heat loss and drafts.

Replacing a door just for the energy benefit is not usually worth the cost. However, if you've decided to get a new exterior door for any other reason, it pays to consider its energy performance.

Insulated doors are usually made of foam and wood, covered with metal; however, fibreglass or vinyl doors are becoming more readily available, and can offer superior performance and wood-like finishes. Door frames are usually made of metal- or vinyl-covered wood, and are integrated with the door as one pre-assembled unit.

Patio doors are basically big windows, so they're available with many of the same features. Since the glass area is very large, go for as many high-performance features as possible, such as low-e coating, gas fills and thermal spacers. Together, they will guarantee you constant comfort during the winter months.

Storm doors, if properly designed and installed, will provide an extra layer of protecting against heat loss, as well as added physical protection against whatever nature throws at us. With screen inserts, they can also provide fresh air during the summer months without letting in bugs.