

# ENERGY EFFICIENCY MATTERS



There are a lot of things to think about when you're buying a home, and a lot of decisions to make. It usually begins with the "big" questions—where do you want to live? What type of home do you want? How much do you want to spend? Then you need to decide on a host of other options and details, big and small, inside and out—layout, fixtures, appliances, finishes, colours, and more!

But the biggest decision you make when buying a home is about your lifestyle. It's about how you want to live, and how good you want to feel in your home. It's also about looking ahead, creating flexibility and maintaining your options for how you want to live in the future.

That's why energy efficiency matters.



## COMFORT AND SAVINGS

When you buy an energy-efficient home, you make a choice that will benefit you and your family in many different ways, now and in the future. You will enjoy a more comfortable and pleasant living environment that can also be better for your health. Just as important, lower energy costs, month after month, year after year, can result in significant savings over time.

An energy-efficient home is also an investment in peace of mind. It protects you and your family against rising energy costs in the future. And energy efficiency can increase the value of your home on resale.

Comfort and savings are also part of why you should take a closer look at factory-built housing. Canada's factory-based homebuilders offer "the best of both worlds". They combine the latest energy-efficient and environmental housing technology with precision construction processes. The result is solid quality, controlled energy costs and a home that's great to live in. It's as simple as that!

Thousands of Canadians look to factory-built housing for its high quality and reliability, and for improved housing choice. The homes and communities built by the manufactured housing sector are also among the most energy efficient in Canada.

Founded in 1953, the Canadian Manufactured Housing Institute (CMHI) represents the factory-built housing industry in Canada. The members of CMHI are committed to building homes and communities that are good for people and good for the environment. CMHI members are working continuously to promote the energy efficiency of homes and communities, and to equip the industry to make appropriate improvements related to energy efficiency and the federal government's energy initiatives.



## WE HAVE THE EXPERIENCE

Canada's factory-based homebuilders have been building energy-efficient homes for decades. We invest in state-of-the-art technology, and in our people, who are trained experts in construction detail. And we are continuously perfecting our designs, our construction methods and our choice of materials to make sure that our homebuyers can enjoy year-round comfort and energy savings.

Many manufactured housing builders have participated in the R-2000\* service, a leading-edge, joint industry-government initiative aimed at improving the energy efficiency of new homes in Canada. In fact, the largest producer of R-2000 homes in Canada has been a factory-based builder. The industry has participated in ground-breaking demonstration projects that show how factory-based homebuilding goes hand-in-hand with improved energy efficiency, good indoor air quality and environmental responsibility.



## WE HAVE THE ADVANTAGE

Factory-based construction is a well-planned process, involving precision assembly, meticulous craftsmanship and stringent quality control—all key to an energy-efficient home that will serve you and your family well, year after year. Consider:

- Building indoors in an enclosed, protected area prevents weather damage to materials and to the home while under construction—no risk of wet lumber or insulation, or wind tears in the air barrier, for instance.
- When there is no rush to enclose the home to protect it against weather or vandalism, construction can be completed with greater attention to detail. Insulation, for instance, can be installed before the exterior layers of the walls, allowing for a continuous blanket behind drywall, with no gaps—not even behind electrical outlets. Air barriers are meticulously installed, and window and doorframes carefully sealed to minimize drafts, reduce heat loss and increase the living comfort of the home.
- Factory-built housing producers employ a steady workforce. Employees are trained and experienced—they know how to do the job right, on each and every home.
- Factory-based builders operate with strict quality control procedures to ensure a consistently high quality of construction. Each home is inspected at every step of the process. Canadian Standards Association certification also provides assurance that your home meets stringent standards of quality and performance.

## WHAT MAKES AN ENERGY-EFFICIENT HOME?

- 1 The building envelope.** This is the common industry term for the “shell” of the house—the walls and the ceiling. The space inside the building envelope is the living environment—the area that you want to be able to control. The primary function of the envelope is to keep the heat in and the cold out during the winter, and the reverse in the summer. The building envelope is made up of the framing system, air/vapour barrier, insulation, doors and windows, and the interior and exterior cladding. There can be a great deal of variation in the energy performance of the various components of the building envelope, and builders select the optimum combination of materials and products that will offer the best energy performance for reasonable cost. In general, the better the building envelope, the less energy that will be required for heating and cooling.
- 2 Mechanical systems.** This is the heart of your home’s energy system—the equipment that heats and cools your home, and that heats the water you use. Mechanical systems may also include ventilation systems (see below). To a large extent, the choice of heating system depends on the fuel that’s available in your area. Natural gas, oil, and electricity are the most commonly used; in some areas propane gas may be an option. Some builders offer alternatives and options to further reduce energy use, such as high-performance “combination systems,” or solar- or wind-powered systems.
- 3 Controlled ventilation.** With a carefully constructed building envelope comes the need to ensure that the home is ventilated properly to get rid of stale and moist indoor air. Too much moisture can adversely affect the health of you and your family. It can also cause deterioration in your home over time. Ventilation equipment includes fan systems in high-use, high-moisture areas such as the kitchen and bathrooms. Builders may also install a “whole-house” ventilation system such as a heat recovery ventilator (HRV) to control the exhaust of stale air and intake of fresh air throughout the entire home. To further protect the indoor air quality of your home, builders can use a wide array of “low- or no-offgassing” products and materials.
- 4 The “added touches”.** To help you save even more energy, builders may recommend high-efficiency indoor and outdoor lighting, appliances with optimum EnerGuide\* ratings or an Energy Star® label, or low-flow showerheads, faucets and fixtures to conserve water and the energy used to heat water. They also make use of recycled materials to conserve resources, and some offer products made with less “embodied energy” (less energy is consumed in their production).
- 5 The site.** Beyond the house itself, there are other opportunities to reduce energy use and the impact of your home and your household on the environment. For instance, the orientation of your home on the lot can increase passive solar gain, while careful landscaping can help keep your home cooler in the summer. Community developments may offer a range of features to preserve natural resources and keep monthly fees or taxes low—small-lot development; energy-efficient communal buildings and facilities; water-efficient landscaping; wind- or solar-energy generation and shared commuter and shopping services, to mention a few.

## CHECK US OUT

There is no single way to build an energy-efficient home—the energy efficiency of any home is the sum of all its parts.

Factory-based builders create the “package” that will offer the greatest value to homebuyers in their own marketplace. Ask your sales consultant to explain. What is standard in every home? Does the builder offer energy upgrades and options? Can they accommodate special requests that you may have? Get a written list of specifications (i.e. details on construction and materials), so you can compare different packages. The list below provides suggestions for questions you might want to ask to help you decide what energy-efficiency features you would like in your home.

- What is the R-value of the insulation in the walls and the ceiling? The floor (if applicable)?  
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- What does the wall assembly look like? Ask for a description or illustration of the components of the wall (e.g. frame, insulation, air/vapour barriers, sheathing).  
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- Are energy-efficient windows standard or available as an upgrade? Ask about their features (e.g. “low-e”, argon gas fill, insulating spacers).  
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- Are the exterior doors (e.g. main entrance, patio doors) energy-efficient?  
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- What type of heating system does the home use? Is it energy-efficient?  
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- Does the home include air conditioning and, if so, is it energy-efficient?  
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- How is the home ventilated (e.g. separate fan systems or whole-house system)?  
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- Other energy efficiency and environmental features in the home (e.g. energy-efficient lighting or appliances, water-conserving fixtures, “low-offgassing” materials)?  
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- Other relevant information about the home or the builder—for instance, affiliation with services such as R-2000, EnerGuide or Energy Star®.  
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- If your home will be located on a single lot, e.g. rural acreage, what other opportunities may there be to further conserve energy and reduce environmental impacts? (E.g. orientation of the home on the lot to maximize passive solar gain; planting of trees and shrubs to cool the house in the summer; landscaping for minimum watering.)  
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- If your home will be located in a community development, does it have energy-efficient and environmental features? (E.g. energy-efficient street lighting or communal facilities; peak demand electricity management; low-maintenance landscaping.)  
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## FOR MORE INFORMATION...

For more information about energy-efficient homes, communities and services, contact:

### **The Canadian Manufactured Housing Institute**

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### **The Canadian Home Builders' Association**

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### **Office of Energy Efficiency**

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To order publications, call 1.800.387.2000  
In the National Capital Region,  
call 1.613.995.2943  
www.oee.nrcan.gc.ca

### **Canada Mortgage and Housing Corporation**

700 Montreal Road  
Ottawa, Ontario, K1A 0P7  
Tel: 1.800.668.2642  
www.cmhc.ca

**The R-2000 Service**—Canada's leading-edge initiative for energy efficiency, indoor air quality and environmental responsibility in new homes.

**Energy Star®**—an initiative that identifies homes, products and appliances that are more energy efficient than conventional models.

**EnerGuide**—a service that rates the energy efficiency of new and existing homes and allows consumers to compare with other, similar-size homes. Many household appliances sold in Canada today, such as refrigerators and furnaces, also carry an EnerGuide rating to allow comparison.

**Healthy Housing™**—an initiative to promote housing that is good for the people who live in it, good for the community and good for the environment.



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