



Buyer's Guide

Buying a home is a significant investment and a choice that will have an ongoing impact on your quality of life – including how you travel to and from work, your family's health, and your utility bills. The home you buy also has an impact on our environment – from the natural resources consumed in its construction to the greenhouse gasses generated to keep it warm. It's a big decision – be informed; do it right.



Cover photo: Graham Winterbottom Photography
Photo above: Capital Hill Housing's Pantages Apartments, GGLO (photo by William P. Wright)
Photo below: Ross Chapin Architects



Green Homes

Green building certifications are used to distinguish buildings that are designed and built with the environment, health and community in mind. Green homes in Vancouver can be certified via three primary programs: BUILT GREEN™, ENERGUIDE® R-2000, and LEED®.

BUILT GREEN™ is an industry driven voluntary program that promotes "green" building practices to reduce the impact that building has on the environment. It benefits the homebuyer, the community and the environment and is an opportunity for everyone to choose a "green" future. BUILT GREEN members and home buyers have the flexibility of choosing their level of participation, thereby offering broader appeal.

The **EnerGuide** for New Homes program provides a standard measure of your home's energy performance. It shows you (and future buyers) exactly how energy efficient your home is. The rating is calculated based on standard operation assumptions so that you can compare the energy performance of one house against another.

The **R-2000 Standard** is based on an energy consumption target for each house and a series of technical requirements for ventilation, airtightness, insulation, choice of materials, water use and other factors. The requirements are rigorous – about 40 per cent above building codes. The result is new houses that use at least 30 per cent less energy than conventional new houses.

LEED® (Leadership in Energy and Environmental Design) is an international green building certification system administered in Canada by the Canada Green Building Council (CaGBC). Single-family homes and townhouses are addressed with LEED® for Homes. Larger condominium buildings are covered under LEED® for New Construction. Third-party certifiers award progressive rating levels: Certified, Silver, Gold and Platinum.

Want to Learn More?

Public Resources

- Your Guide to Buying a Truly Green Home: www.sustainablebuildingcentre.com/resourcecentre/your_truly_green_home
- City of Vancouver Green Homes program: vancouver.ca/sustainability

Incentives and funding

- A 10 per cent premium refund and elimination of the extended amortization surcharge may be available through the Green Home Program when CMHC-insured financing is used to purchase an energy-efficient home with little to no down payment. Eligible new and existing properties include: a home that is R-2000 certified, BuiltGreen™ Gold certified or with an EnerGuide Rating of 77 or higher. For more information visit www.cmhc.ca/
- BC Hydro www.bchydro.com
- Solar BC www.solarbc.ca
- Terasen www.terasen.com
- CMHC www.cmhc.ca
- Vancity www.vancity.com
- Federal Eco Action program oee.nrcan.gc.ca

Home Certification Programs

- BUILT GREEN™: www.builtgreencanada.ca
- ENERGUIDE for New Homes and R-2000: oee.nrcan.gc.ca/residential/
- LEED® (Leadership in Energy and Environmental Design): www.cagbc.org

Product Information

- For further details on the EnergyStar and EnerGuide labelling programs and energy efficiency of household appliances, visit Natural Resources Canada, oee.nrcan.gc.ca (click on Residential).
- With the growing popularity of green product claims, there is a reciprocal growth in the number of third party eco or environmental labels. These range from EnergyStar for appliances and roofing materials, to GreenSeal for low-VOC paints. Ecolabelling.org offers a service that lists and evaluates various labels that you can search by product or category; visit ecolabelling.org/

vancouver.ca/sustainability

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overview



Green Homes Buyer's Guide

*green home renovation
healthy homes for a healthy environment*





What is a Green Home?

A building is often said to have a "footprint" which represents the outline of the structure on the ground. But any building, including your home, also has an ecological footprint - the environmental impact to build and operate that home. A green home has been constructed to minimize its environmental footprint, while at the same time ensuring comfort, durability, a healthy indoor environment and low utility costs.

Existing Houses

An existing home will be less likely to have been certified via a green building rating system but is an environmentally sound choice nonetheless. In fact, by buying an older house you keep existing neighbourhoods vibrant and eliminate the environmental impact of new construction. Energy-efficient upgrades to an existing house, or a full renovation, can be the opportunity to create the green home that fits your specific needs.

Location

Where you buy not only affects the home's current and future value, but also affects your lifestyle. Finding a home in a neighbourhood with quick and safe access to restaurants, shopping, recreation and public transportation means you'll spend less time in your car and more time on activities you truly enjoy. Fewer auto miles will translate into fewer greenhouse gas emissions. You can also investigate membership with car sharing companies like the Cooperative Auto Network at www.cooperativeauto.net.

- Check available transit services before buying to ensure you can get to work, school and recreation activities: www.translink.ca
- To find out if the neighbourhood you are considering is walkable, see CMHC's guide to Vancouver neighbourhoods at www.cmhc-schl.gc.ca/en/co/buho/sune/sune_007.cfm.
- The cost of car ownership is high - the typical cost of a vehicle driven in the Lower Mainland is 56.4¢ per kilometer (based on 2000 statistics from the Canadian Automobile Association) or about \$8000 per year. Monthly car costs can add up to over \$200 for financing/leasing, \$100 for insurance, \$100 for gas, and an average of \$100 to maintain. You can achieve transportation cost savings by living in a walkable and transit oriented community.

Size

According to CMHC, the size of an average Canadian house in 1945 was just over 74 square metres (800 square feet). By 2005 this had doubled to nearly 130 square metres (1400 square feet) (excluding the basement). The average size of the family occupying those homes has decreased to just 3 people. A smaller home is inherently more resource efficient and your ongoing costs for utilities and maintenance will be kept low.

- A well-designed small home can provide the same amenities as a larger one, at a lower cost.
- Don't buy based on square footage alone, instead think about how the home's layout and spaces will fit your needs.
- Multi-use rooms, an office that also serves as a guest room, for instance, allow you to consolidate less frequently used spaces.

Site and Landscaping

How your lot is landscaped has an enormous impact on water consumption, water quality in our region's waterways, and even the wildlife that live in our urban environment. Appropriate site design practices include leaving part of the building site undisturbed, retaining trees and native vegetation on the site, and amending the topsoil with compost.

- "Rain gardens" that slow stormwater runoff, along with porous surface materials such as pervious pavers, allow rainwater to percolate into the soil in your yard. This reduces the load on municipal storm water systems and allows stormwater to be filtered and cleaned naturally before it enters our waterways.
- Native, drought-tolerant plants and minimal lawn areas reduce the water needed for irrigation.
- Roof run-off can be captured with rain barrels or cisterns and used for site irrigation.
- Trees, especially those to the south and west of a house, provide natural shading that will keep your home cool on hot days.

Energy Efficiency

Home energy use in The United States is responsible for 20 per cent of CO₂ emissions nationwide.⁴ Choosing, or creating, a more energy-efficient home will reduce fuel use, greenhouse gas emissions and your utility bills. An R-2000 home will use at least 30 per cent less energy than a conventional new home built to current building codes. An energy-efficient home will have:

- A well-insulated, airtight, envelope. The City of Vancouver Green Homes Program specifies the following insulation requirements for residential construction:
 - attic - R-40
 - roof joist assembly - R-28
 - exterior wall - R-22
 - full height of basement wall - R-22
 - under slab - R-12
 - framed suspended floor - R-28
 - concrete slab suspended floor - R-12
 - windows - max U-2
 - radiant heating suspended floor - R-12
- Energy efficient windows. Fenestration should be certified by ENERGY STAR with a U-Value of 1.6 W/m²•K or lower.
- ENERGY STAR rated heating equipment, appliances and light fixtures.
- Look for tankless systems, combined heat and power or solar water heaters. Gas systems should have efficiencies of .60 or greater and for electric look for efficiencies of .92 or greater.



Water Conservation

Reducing water use both inside and outside your home will save you money and help ensure that our region continues to have enough water for both people and wildlife. Your green home should include:

- ENERGY STAR® rated front loading clothes washers and dishwashers.
- High-efficiency toilets. The City of Vancouver requires low flow (less than six litres) or dual-flush toilets for all new construction
- Low-flow fixtures - showerheads are available that use as little as 6 litres or 1 1/2 gallons per minute

Healthy Indoor Air

The materials and practices used to construct your home will have a serious impact on your family's health. Many of the glues and solvents used in building products, such as particleboard and paints, offgas harmful volatile organic compounds (VOCs) you can't see. Improperly constructed and ventilated homes can increase the potential for mould and for health related problems caused by pollutants within the home.

- Your home needs to be well ventilated, either through passive or mechanical means, to ensure good indoor air quality and to keep interior moisture below those that can induce mold growth.
- Moisture-related problems in the building itself can be avoided with features such as foundation waterproofing, grading sloped away from the building and proper flashing around windows and doors.
- Look for insulation and wood products made without urea-formaldehyde, and non-toxic paints, finishes, and adhesives that contain low, or no-VOCs.
- Carpet should be used selectively - new carpet off-gasses harmful VOCs (the new carpet smell) and any carpet, new or existing, traps dust and pollutants.

Sustainable Materials

Flooring, cabinets, tile, and other products in your home may vary widely in the impact their manufacture has on our environment.

- Using recycled or rapidly renewable resources, such as recycled glass tile or bamboo flooring, limits the environmental impacts from harvesting, mining and the manufacture of new materials.
- Locally produced materials reduce the environmental impact of transportation while also supporting our local economy.
- Wood certified by the Forest Stewardship Council (FSC) is from forests that are managed sustainably.

Ten Questions to Ask About Your Future Home

1. Does the location provide the transit, services and recreation that will serve my, and my family's, needs?
2. Has this home been certified by an established green building program and verified by an independent third party? Be sure to get a copy of the certification.
3. Is the home well insulated, including energy-efficient windows?
4. What is the efficiency of the heating equipment and the hot water heater?
5. Are the appliances and lighting ENERGY STAR® rated?
6. For a new home: what are the projected utility costs for gas, electricity and water? For an existing home: what have the yearly utility costs been? Ask to see copies of utility bills.
7. What will the ongoing water and maintenance needs be for landscaping?
8. What non-toxic materials were used to build this home?
9. What salvaged, recycled or rapidly renewable materials were used to build this home?
10. Is the wood used for the home's construction from a sustainably managed source?