

Much of Vancouver's land area is devoted to houses, and their efficiency has an enormous impact on the city's carbon footprint and ecological impact. By encouraging efficiency upgrades to existing houses, and setting ambitious standards for new construction, the City aims to make energy efficient housing the new normal.

Green Homes for a Greener City

BRINGING VANCOUVER HOMES INTO A SUSTAINABLE FUTURE

One-and two-family homes account for three quarters of Vancouver's residential land, and over half of its greenhouse gas emissions come from the construction and operation of buildings. The City aims to improve the energy efficiency and environmental footprint of existing buildings to match the standards now required of new construction – achieving a 20 per cent reduction in their greenhouse gas emissions.

GREEN RENOVATION GUIDES

The City of Vancouver publishes 11 Green Home Renovation guidebooks, which offer advice on subjects from kitchens and bathrooms to roofing, flooring and tips for hiring a green renovation professional. The guides are a part of a larger effort to provide green building resources, outreach and education to homeowners and local building professionals, complementing the new requirements for renovations.

GREEN RENOVATION BY-LAW

The Sustainability Group and the Chief Building Official are rewriting bylaws to require renovating homeowners to undergo a home energy audit and to improve the energy efficiency of their homes. Green upgrade requirements will be tied to the scope of the project, and will cost one to 10 per cent of the renovation's overall cost. Homeowners can choose to follow a checklist of required upgrades, or show that the overall energy performance of their home has improved by a prescribed amount.



WHY GREEN RENOVATIONS?

54% of all greenhouse gases generated in Vancouver are produced by the construction and operation of buildings.

IMPROVING THE PERFORMANCE OF NEW BUILDINGS HELPS, BUT THE MOST SIGNIFICANT ENERGY USERS ARE OUR EXISTING BUILDINGS

Existing Housing Stock
\$\$\$ / High Energy Use



VS.

Renovated Housing Stock
\$ / Moderate Energy Use



NEW HOUSES—GREENER BY DESIGN

GREEN HOMES PROGRAM

The Green Homes Program requires new one- and two-family homes to meet specific energy and water efficiency standards. Under the program, new homes will consume up to 33 per cent less energy than homes built to current standards, reducing both greenhouse gas emissions and the homeowner's electricity bill. It requires that new houses let the homeowner easily install roof-mounted solar energy systems and electric vehicle charging points in the future, along with other requirements such as:

- High-quality insulation and windows
- In-home energy display meters
- Dual-flush toilets
- Solar-ready pre-piping for rooftop solar water heating
- Electric vehicle charging infrastructure
- Heat recovery ventilators

PASSIVE DESIGN TOOLKITS

The City's Passive Design Toolkit details ways to reduce energy use in new buildings. Passive design relies on natural air movement and on heat and light from the sun, and uses artificial heating, light and air conditioning only as a backup.

The toolkits provide best practices for passive design elements such as layout, orientation, insulation, landscaping and ventilation. They help designers and developers move toward a new, higher standard of energy efficiency without sacrificing thermal comfort.



SOLAR HOMES STRATEGY

Through a funding partnership with SolarBC, Terasen Gas and Offsetters, the City offers incentives to builders installing solar hot water systems on new homes. The pilot program's funding will go to 50 new homes in 2010-11. The program aims to reduce reliance on fossil fuel (typically, natural gas) for domestic hot water, and also aims to stimulate the local renewable energy industry and create new green jobs.

