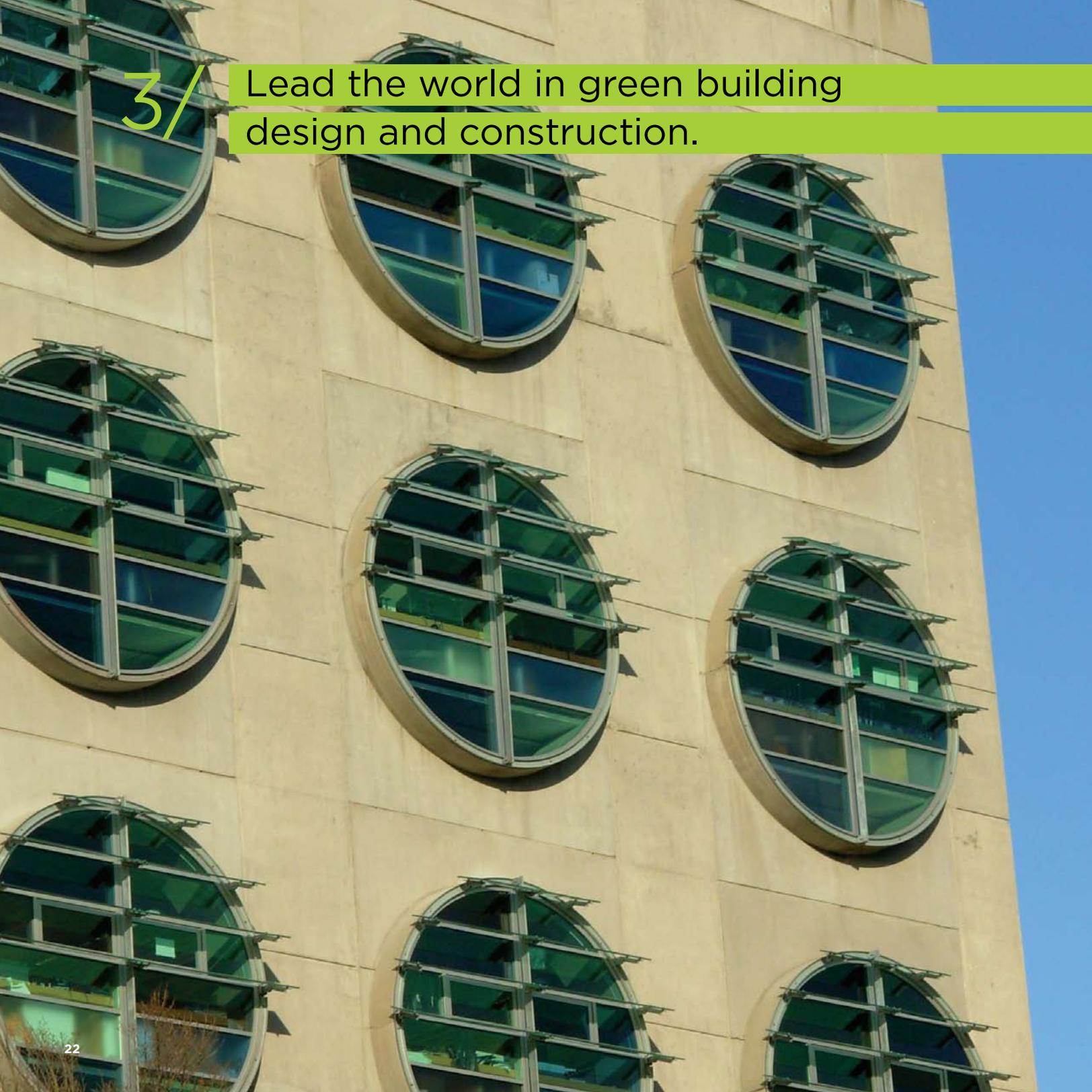


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Lead the world in green building design and construction.



GREEN BUILDINGS

TARGETS:

- 1. REQUIRE ALL BUILDINGS CONSTRUCTED FROM 2020 ONWARD TO BE CARBON NEUTRAL IN OPERATIONS.**
- 2. REDUCE ENERGY USE AND GREENHOUSE GAS EMISSIONS IN EXISTING BUILDINGS BY 20% OVER 2007 LEVELS.**

Canadians spend close to 90% of our time indoors, which makes the buildings we live and work in a big part of our lives. Buildings are also a big part of Vancouver's carbon footprint—the amount of carbon we are responsible for releasing into the atmosphere. The electricity and natural gas that buildings use make up 55% of Vancouver's greenhouse gas emissions.

Fortunately, Vancouver is already leading the way on green building design as the industry continues to grow and innovate. The City's regulations for new buildings are some of the greenest of any jurisdiction in North America.

Vancouver's next challenge is to improve the environmental performance of existing building stock by focusing on retrofits such as insulation, heating and lighting system upgrades and energy-efficient appliances, as well as on how people operate buildings.

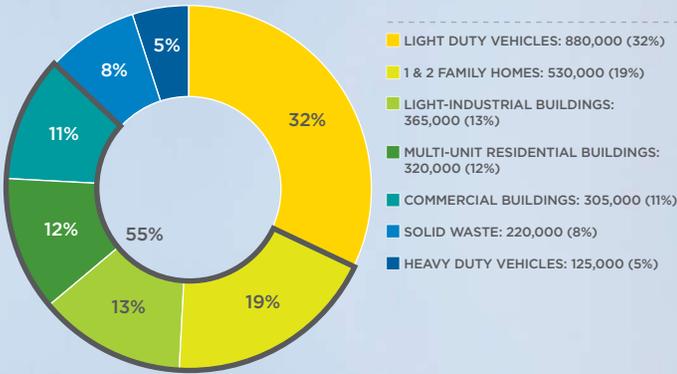
In British Columbia, we continue to have access to relatively inexpensive energy sources. In addition, the landlords and developers who make decisions about new designs or retrofits don't often pay the utility bills and don't immediately benefit from efficiency savings that can take time to show return on initial investments. These factors reduce the incentive for energy conservation. There is also a growing need for more education, training, and capacity building in the design, construction and operations of energy-efficient green buildings.



BASELINE NUMBERS

Buildings account for 55% of Vancouver's GHG emissions.

Vancouver's 2008 GHG emissions (tCO₂e)



SOURCE: 2008 Emissions Inventory; City of Vancouver
 *An updated 2011 Emissions Inventory is expected to be available in 2012.

HIGHEST PRIORITY ACTIONS

The following are the highest priority actions for 2011–2014. The complete list of Green Buildings actions can be found in the *Greenest City 2020 Action Plan* available at talkgreenvancouver.ca

1. Update the Vancouver Building Bylaw to improve energy efficiency and reduce greenhouse gas emissions in both new and existing buildings.
2. Develop and promote financing tools that enable energy efficiency by bridging some of the gaps between when expenses are incurred and when cost savings are achieved.
3. Use price signals in permit fees for new construction as well as renovations to existing buildings to reward energy efficiency and greenhouse gas reductions.



GREEN JOBS

- building commissioning agent
- building operator
- energy modeller
- energy manager
- green roof technician
- green renovator and contractor
- insulation specialist
- energy-efficient lighting specialist
- drafter and architect
- weatherization specialist
- policy analyst and researcher
- educator





KEY STRATEGIES TO 2020

Regulation

Research shows that successful greenhouse gas reduction plans in other cities have all included regulation as a tool to achieve their goals. The City will aim to develop policy that is simple and raises requirements consistently and predictably in order to reduce uncertainty for developers and others in the market.

Financing tools and incentives to green existing buildings

Financing tools and incentives provide ways to address concerns of affordability and fairness, and increase the pace of change towards green developments and retrofits. One example of this strategy is the development of the Home Energy Loan Program, which provides homeowners with affordable financing for energy efficiency upgrades. The money saved on energy bills can significantly offset the loan payments.

Capacity building

The City is in a unique position to bring together different groups and build partnerships that ensure there are enough skilled workers to meet the needs of a rapidly growing green building sector. This will make a significant contribution to new green jobs in Vancouver. Actions range from continued leadership in building City-run facilities that achieve net zero or living building standards, to the distribution of Green Home Renovation Guides and Passive Design Toolkits.

Education and outreach programs to engage building occupants

Technology and building science can take us part of the way to our target, but the people who live and work inside buildings are just as important—their choices make a big difference in the amount of electricity and water consumed, the waste produced, and the effective operation of green building technologies such as natural ventilation systems.

WHAT IT'S GOING TO TAKE TO GET THERE

The strategies listed here need to be implemented together. It is the synergies between regulation, financing tools and incentives, as well as capacity building and education, that will achieve the Green Building goal. Support is also needed from partners in the design, development, and construction industries, as well as from organizations providing education and capacity building services.



CANADA'S FIRST NET ZERO RESIDENTIAL BUILDING CALLS VANCOUVER HOME

In 2010, a new and affordable housing development for seniors in Southeast False Creek became the first multi-unit residential building in Canada to generate as much energy as it uses (net zero). Because this is a first, there are some lessons to be learned and adjustments to be made along the way.

How did they do it? The designers cut energy consumption to a fraction of what a conventional building would use. They did this through techniques such as solar access and shading, natural cross-ventilation, triple-glazed windows, renewable energy sources, and visual feedback tools in each unit that encourage residents to reduce their energy use.

An open-corridor design gives every suite two outside walls, which means daylight and open windows can replace the need for artificial lighting and air conditioning. Grass and plants on the roof provide a green, attractive space for residents while also reducing the need for air conditioning. The building is powered by a district energy heat-recovery system and rooftop solar technology that provides hot water to the building.

In February 2010, this net zero building helped the Southeast False Creek development achieve the highest possible designation from the US Green Building Council—a LEED-ND (Leadership in Energy and Environmental Design, Neighbourhood Development) Platinum certification.

**All new building rezonings in Vancouver
are required to meet the building
industry's LEED Gold standard for
environmental performance.**

GOLD STANDARD FOR NEW BUILDINGS

As of July 2010, all new building rezonings in Vancouver are required to meet the building industry's LEED (Leadership in Energy and Environmental Design) Gold standard for environmental performance. The LEED rating system is an internationally recognized tool for assessing green buildings. The levels of certification offered by LEED are Certified, Silver, Gold, and Platinum.

