Why Regulation Matters

The private sector has led Canada's green construction efforts. Now it's time for government to catch up.

Deborah Curran

THE GREEN-BUILDING revolution has seen the number of LEED-accredited buildings in Canada increase from just five in 2001 to more than 1000 in 2010. South of the border, the US Green Building Council has certified more than 24,000 projects amounting to 149 million square metres (1.6 billion square feet) of space. What is remarkable about this exponential uptake is that it has come largely from the private sector, with little government incentive beyond voluntary requirements to reduce greenhouse gas (GHG) emissions.

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Improved energy efficiency is integral to most GHG action plans, but governments in Canada are failing to demand and capture the economic activity associated with building green. As impressive as the gains in green building may be, they are not necessarily tied to a broader vision for sustainable communities. This diverts our attention away from what is really required if the building sector is to contribute its all to sustainability.

Part of what is needed involves implementing higher performance standards across the entire industry and, ultimately, mandating a fundamental change in the way we construct buildings. What is surprising, given the private sector's demonstrated willingness to do its part to reduce GHGs by 80 per cent by 2050, is that governments seem to be playing catch up. One would expect them to be ahead of the game, stimulating rapid change within the building industry through regulation and incentives.

Some governments are improving the performance of their own buildings. Take, for example, PEI's Green Building Policy for Government Buildings and BC's requirement that government ministries be climate neutral by 2012. Since 2005, all new federal government buildings must meet the LEED Canada gold-level certification, and existing buildings are subject to the Go Green Plus assessment and the management program of the Building Owners and Managers Association

of Canada. Some governments also provide rebates for energy and water efficiency upgrades and audits to encourage action in existing buildings.

While these programs are showing positive results and the private sector's progress is laudable, governments have failed to use the best tools at hand to bring about the comprehensive industry-wide change needed: provincial building codes.

Admittedly, Nova Scotia's *Environmental Goals and Sustainable Prosperity Act* resulted in building code amendments in 2009 that require a variety of construction types to meet or exceed an EnerGuide 80 rating. The BC Building Code mimics this energy efficiency standard and also requires low-flow six-litre toilets. In addition, local governments in BC can opt into a program that requires new homes be solar-ready, meaning they must at least have the infrastructure necessary to install solar systems. (So far, 36 local governments have signed on.) In Ontario, large buildings are now required to be 25 per cent more energy efficient than in the past.

These and other government initiatives, however, do little more than tinker with conventional building regulations. That being said, you can't just flick a regulatory switch to make all new buildings carbon-neutral. Regulators are struggling with the reliability and cost of new technologies, as well as the need to retool the skills of an entire construction industry. Many industry players and regulators also believe that technology is changing so fast that any green building code will be out of date before it is published.

So where does this leave local governments, the entities that are responsible for implementing provincial building regulations? Normally, cities and municipalities cannot exceed provincial standards, but some large cities, such as Vancouver, have unique jurisdiction and can deviate from provincial building codes. BC's largest city also has the financial wherewithal to assume the risk should a green standard generate liability down the road. Vancouver has introduced green-building programs that address energy and water efficiency, building-envelope performance and indoor air quality. The city even approved a home-retrofit loan for repairs that reduce GHG emissions.

Other local governments are getting around their lack of regulatory authority by supporting or stimulating green construction. The City of Kingston, Ontario, has developed green-building guidelines that assist applicants to exceed Ontario Building Code standards for energy efficiency. Just north of Victoria, BC, the District of Saanich's Green Home Building Rebate Program refunds 10 to 50 per cent of the cost of building permits for new and renovated single-family homes that meet energy efficiency standards. Interestingly, the new homes must be less than 185 square metres (2000 square feet). More comprehensively, Whistler, BC, "strongly encourages" applicants to complete a checklist from a specified green-building program for detached and duplex dwellings that was developed by the non-governmental organization Whistler Green (see "Whistler Green's Checklist").

All this activity shows that green building can thrive when regulators get creative. It is also helped along by third-party rating systems such as LEED. These certification programs have the advantage of being more nimble than government regulations. They can continuously evolve as technology and industry practices advance. The challenge, however, is that builders are not required to follow LEED or similar standards, so these measures tend to capture the small percentage of builders and owners who are already converted to the benefits of building green.

Despite successes, it is important to recognize the impact of green building in the context of overall sustainability and household GHG emissions. In 2004, households produced half of the GHG emissions in Canada, but one-third of that came from burning motor fuel. Consequently, some argue that housing form and location will have a bigger impact on energy use and GHG emissions than green construction. Studies show that families living in attached dwellings in near-urban areas can reduce their energy use by more than 50 per cent compared with those living in rural single detached homes, mostly due to vehicle distance travelled.

If these studies are correct, more conservation benefits would accrue if provincial and local government regulators crafted sustainable-community programs for attached and green housing forms (apartments, townhouses and tri/fourplexes) that are located near shops and transit.

Ultimately, we fail if we regulate green buildings but locate them in the middle of a cornfield. Our green advocacy energy may be best spent on encouraging the creation of green attached housing built in compact, less car-dependent communities in the hopes that the federal and provincial governments may one day retool the entire sector.

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Whistler Green's Checklist

THESE 70 design and planning recommendations act as a guide for maximizing green home building potential. The checklist is divided into eight categories, such as energy, materials and waste, and covers everything from site selection to toilet choice. After the 25 required standards are met, a points system is used to tally up the value of additional items and determine whether a home should be classified as a Whistler Green Adopter, Achiever or Innovator. Here are 10 essential checklist points that every new homebuilder should consider.

1. Build on a previously disturbed site that requires no road extension, with year-round bus service and retailers within 500m.
2. Install a green roof, with at least 60 per cent vegetated area.
3. Install motion detectors on all outdoor lighting, except those required for safety and security.
4. Install systems that produce electricity from renewable resources.
5. Install at least two dual-flush toilets with a maximum of 6 litres per flush.
6. Use floor coverings that meet CRI Green Label standards, and interior panel products that are formaldehyde-free.
7. Use one major material made from plant fibres with less than a 10-year renewal cycle, such as straw, bamboo or cotton.
8. Provide bear-proof household composting, or an in-sink disposal system for organic waste.
9. Include additional innovative features or systems to reduce the environmental impact of site works, construction and operation of the home.
10. Offer and advertise an open house with educational tours and literature about your building's green features.