



seeCHANGE: Building a ‘Green Canada’ brand

June 13th, 2011

With the return of Parliament, a new Speech From the Throne and budget, a federal policy idea whose time has come: Sustainability and Clean Technology as ideas intimately paired with ‘Canada’ in the world; a new Canada brand.

Through clever marketing initiatives with the support of private corporations, Germans have paired themselves with ‘engineering’ excellence, the Swiss with ‘innovation’, and the French with ‘culture’. In the same way, by employing some basic strategies here and abroad, Canada too can position itself with a strong brand identity in an increasingly crowded and competitive global marketplace. We believe that Canada can and should be a leader in green building technologies, sustainable development, and urban planning.

Despite early failure to lead in green building technology, Canada’s forward thinking cities and its architects and engineers’ proven ability to deliver advanced buildings both in Canada and around the world have positioned it well to lead in green building technology, sustainable development and urban planning. Strategies to realize this leadership include setting a much higher standard for new building performance and developing a Canadian green building rating system that makes the most of Canada’s materials and resources.

Drivers for Change

According to Natural Resources Canada, the built environment accounts for about half of all energy consumed in Canada.

In a recent book, author Jerry Yudelson warns that continuing the predominant North American laissez faire attitude toward sustainability principles in buildings and developments will lead to diminished competitiveness. For Canada the implication is that our manufacturers of building products and systems, builders, and trades will face competitive disadvantage as European competitors continue to advance their own sustainability expertise.

Canada has the tools for global green building design and technology leadership at its disposal. Canadian architects, engineers, and builders have proven already they can build low carbon footprint buildings with strong aesthetics. Canada has its own building standards, architects, urban planners, engineers, sustainability experts, and innovative building materials suppliers working around the world.

According to the Canadian Clean Technology Coalition, the Canadian clean technology industry, some of which services the built environment, has an estimated 465 small and medium-sized enterprises (SMEs) across Canada. Three hundred of these 465 SMEs have already commercialized their products and services. In addition direct employment by clean technology SMEs is conservatively estimated at 20,000 today. Spurring Canadian adoption of these new, innovative building technologies would further benefit the domestic growth of these companies and further support our exporting strength.

Coming Back From Behind

Yudelson describes the situation in regard to the built environment quite clearly: “We [North Americans] ... should be aiming at buildings that reduce energy use by 90 percent compared to current codes ... Impact of building design, construction, and operation [should be] basically zero. ... that’s the real lesson to learn from our European colleagues.”

So what kind of initiatives should Canada be looking at to breathe life into a global green branding strategy? Well, the change begins at home. Indeed, there are a number of ideas that should be explored in particular in areas where Canada already has market advantage – leveraging a more progressive rating system to develop building technologies, materials, resources, and expertise in design, engineering, and building.

Building Technology

The first area for consideration should be building technology. Canada has long been a leader in building envelope technology, a result of the requirement for sealing buildings from its harsh climate. The completion of two recent projects, Manitoba Hydro’s Downtown Office Project in Winnipeg by KPMB architects and Diamond and Schmitt’s Evergreen Brick Works demonstrate that Canada can lead the next generation of ultra-efficient buildings.

Manitoba Hydro is reportedly the most efficient office building in North America. The Evergreen project is a former brick manufacturing facility named one of the world’s top 10 geo-tourism destinations by National Geographic. The Brickworks now features a meadowland, ravine, wetland and quarry garden. The new building on the site, the Centre for Urban Sustainability, features thermal chimneys, rooftop photovoltaics and a biomass boiler that recycles kitchen waste heat.

Widespread support of and legislated requirements for the green technologies employed at the Manitoba Hydro building and the Brickworks like automated sun control systems, operable windows, passive ventilation and double-skinned building envelopes, integrated solar collection, and other methods of on-site energy generation are required for Canada to move to the front of the global pack in building technology. These technologies are well established in Europe but are not widespread in this hemisphere.

Developing a Green Building Rating System

Canada needs its own rating system that recognizes its special contributions to sustainable buildings and promotes the innovations Canadian architects and engineers are beginning to make in this field.

As part of developing this rating system, Canada should require disclosure of the environmental performance of products in the form of environmental product declarations similar to nutrition labels on food products. This would allow consumers and building product specifiers to make side-by-side comparisons of products. A system of quantifying building products' environmental impact called the Pharos project is currently under development by Google.

Passively designed buildings use of natural processes such as convection, absorption, radiation, and conduction to reduce energy consumption and improve thermal comfort. Awareness and adoption of the principles of passive design are only now being acknowledged in North America and no current rating system directly references passive design strategies. Canada's new rating system could be the first in North America to acknowledge passive design.

Materials and Resources

Canada is a raw materials supplier to the world. Many of its exported building products are sustainable and some are even renewable. Take Canadian softwood for example. It grows naturally, can be re-grown relatively quickly, and is completely recyclable. It is an effective insulator and requires much less energy to produce than many other building products. Wood farming can offset climate change, since trees consume carbon dioxide as they grow.

Vancouver positioned to lead in North America

So, what form does this kind of leadership take? Well, rather than waiting for global or national action, in Canada, the City of Vancouver, British Columbia, has begun to position itself for North American leadership on sustainability issues. Vancouver claims the lowest per capita emissions of any North American city at 4.6 metric tones per person. A recent New York Times article featured their "district" energy system, the first in North America that draws heat from untreated wastewater. Only three other similar projects exist world wide, two in Oslo and one in Tokyo. Vancouver's Southeast False Creek Neighborhood Energy Utility, or N.E.U., supplies space heating and domestic hot water to local buildings using heat recovered from wastewater and raw sewage.

Vancouver has set its sights on being the greenest city in the world by 2020. They require all new municipal facilities over 500 sq m to be LEED Gold. According to the city, it is the highest environmental standard required by any local government in North America. They claim that buildings account for 55% of their green house gas emissions and have declared a goal of requiring carbon neutral buildings by 2020.

The Vancouver 2020 vision plan is modeled on Stockholm's Sustainable within a Generation. It is a broad vision of economic development, renewable energy, sustainable development and healthy communities.

A call for leadership

In order to achieve leadership status in sustainable buildings and developments and build a 'Green Canada' brand, we must aim for buildings that reduce energy use by at least 90 % over current codes while maintaining the high standards of comfort and functionality that Canadians are used to in their places of work and homes. Canadian building teams need to continue to design, build, and operate for an increasingly low carbon future. Combining elegance, economy, and climactic considerations in buildings is the way forward.

The federal government as well as other municipal and provincial governments should, as Vancouver is doing, establish zero net impact as a standard for its new buildings, and do so soon. This kind of elevated standard will enable Canada to become an exporter of green building technology, promote its own building products and technologies, develop its own rating system for sustainable buildings, promote its great cities, architects, and engineers in a unique and forceful way.

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