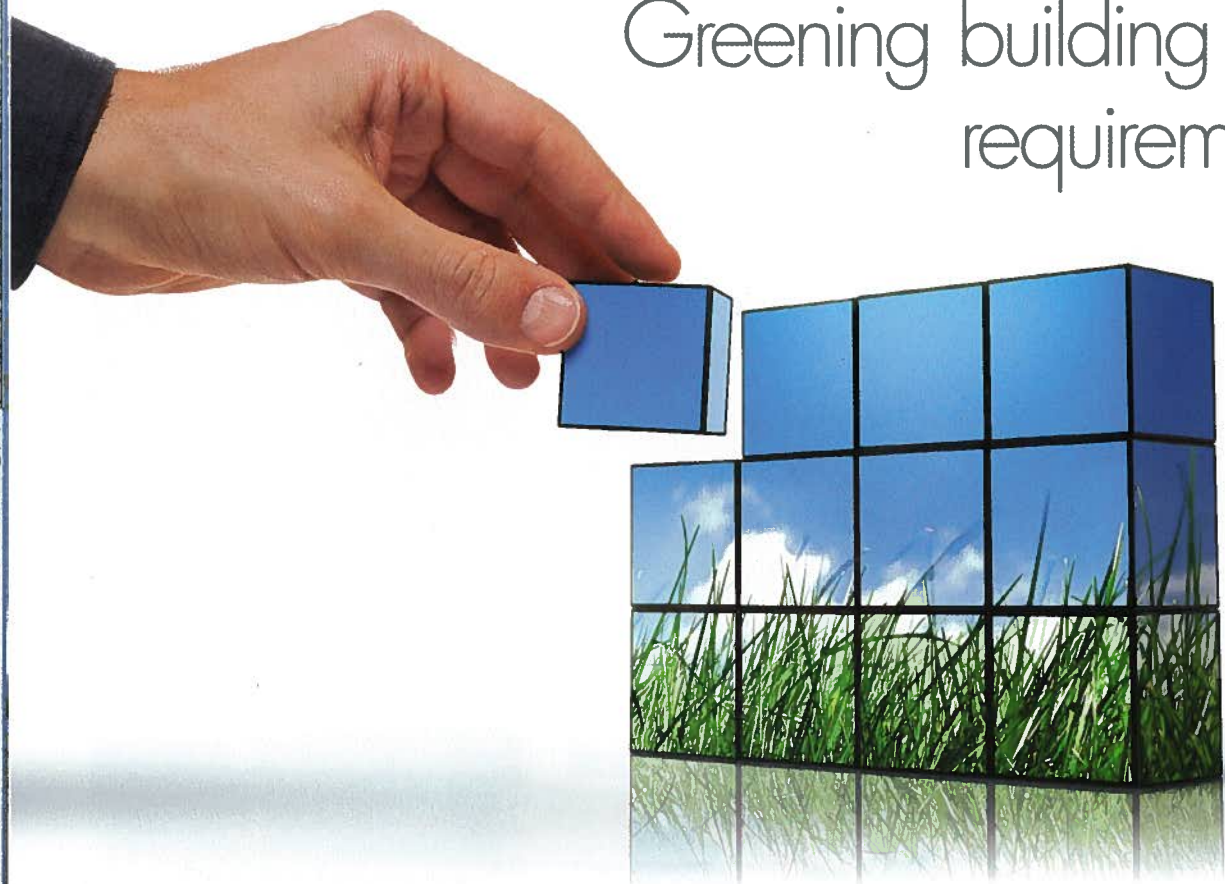


Greening building requirements



BY GORD COOK

There continues to be an encouraging and compelling trend

towards green products, green services and green buildings, even in the face of this difficult economy. Even with falling energy prices, there is a tremendous surge by consumers, corporations and government alike to finally make serious commitments to environmental issues.

This is important given that over 35 per cent of Canada's energy use goes to heating, cooling and operating buildings. However, with all the information available it can sometimes be difficult to determine what exactly green means and how green measures can be implemented cost effectively.

Fortunately, all green building programs agree on and strive for the following six elements (each in their own way, of course):

- efficient use of energy;
- healthy indoor environments;
- efficient use of water;
- efficient use of land;
- efficient use of building materials;
- effective use of existing infrastructure.

Condominium builders and operators will recognize the inherent benefit of multi-family buildings on at least five of these elements; the question is how to define green decisions within each category.

Green programs try to help with the definitions of green and motivate builders and building operators to make more responsible decisions.

There will, of course, be debate as to how far each element of green buildings should be taken and sometimes it may appear some elements are compromised by others. For example, it was quite common during the 1980s for high-rise building operators to turn down building ventilation systems in

an effort to save energy despite the potential compromise to indoor air quality. We now know this was not a good trade-off and green programs reward technologies such as heat recovery ventilation systems that allow for proper ventilation capacity with up to 80 per cent recovery of energy.

Taken to the extreme, it would be impractical for all but the most zealous building owner to fully research and assess the total environmental footprint or price tag of each of the operational decisions they make. Factors such as embodied energy of products versus their life expectancy, the environmental responsibility of suppliers or the complex interaction of ventilation with respect to indoor air quality would need to be constantly researched and evaluated and this would be impractical. Fortunately, the green programs that are gaining popularity have to a large extent wrestled through many of these issues and offer simple points, credits or lists that can help building owners make better decisions.

The object of all the green programs is for designers, builders and operators to incorporate green features from a list to accumulate credits and achieve ever increasing levels of certification. In the multi-family sector the most popular program is the Leadership in Energy and Environmental Design (LEED) program offered by the Canadian Green Building Council (CaGBC), although there are other primarily single-family home programs such as ENERGY STAR for New Homes, Green House and the ecoENERGY Retrofit program that can be applied to townhomes and some low-rise buildings.

The CaGBC published the first LEED specification for Canadian buildings in 1999. There are now six LEED certification categories either in place or under development covering new construction of commercial buildings, existing buildings and most recently a LEEDs for Homes program.

A few examples from the LEED point system shows how credits are accumulated to determine how green a building is. Within the LEED for New Construction, there are a total of 70 possible points available. To be LEED

certified, a builder must accumulate from the many options at least 26 points, Silver status requires a minimum of 33 points, Gold 39 and Platinum 52 points. Within the LEED system there are minimum prerequisites such as taking measures to prevent or minimize exposure to Environmental Tobacco Smoke and then credits given for additional measures such as establishing an indoor air quality monitoring program.

In short, LEED and other green programs, reward designers and building owners for each measure implemented along the path to certification. The guidelines and requirements from these programs can be a very useful resource for the industry, as the measures have been researched and vetted by a wide range of consultants and green enthusiasts.

Green program requirements are often necessarily rather general in

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Examples of LEED credits

1 point for designing and operating a ventilation system that ensures effective delivery of fresh filtered air to all occupied zones of the building;

1 point for using low VOC paints and finishes and another point for using low VOV sealants, adhesives and primers;

1 point for diverting 50 per cent of construction waste from landfill and another point if 75 per cent of waste is diverted.

order to be flexible to a wide range of building types. Thus requirements can be open to interpretation. As a result, building owners usually need to contract the services of engineers, architects and energy raters to take full advantage of certification programs to fully document, test and verify the application of green features.

Of interest and perhaps even concern to builders and building owners, municipalities and developers

are encouraging and, in some cases requiring, green elements generally and even specifically LEED certified buildings in their jurisdictions or in their planning. This is becoming more common in the industrial and commercial sector but early initiatives are present in the residential sector as well.

All indicators point to the green trend having considerable staying power. While there will always be some controversies as the definition

of green evolves, the resources available from green programs can be very helpful to building owners looking to provide more efficient, more durable, more comfortable, healthier, sustainable buildings. Building owners should be encouraged to learn that in the current economy the energy savings inherent in green measures can typically fund many other green initiatives. This presents great opportunities as consumers' expectations for an ever deeper shade of green living progresses. **CB**

Gord Cook is President of Building Knowledge Canada and can be reached at gordc@buildingknowledge.com. The LEED guidelines can be downloaded from the CaGBC website at www.cagbc.org. The GreenHouse specifications can be found at www.greenhousecertified.ca.



Green appliances save green

It is a prosperous time to be in the business of sustainability. While the current real estate market is certainly not for the faint of heart, the condo business has benefited from sustainable building. However, developments being marketed and sold now were conceived of several years ago, in an economic and environmental climate notably different from the present. Sustainability was not a top priority when developing condominiums five years ago. Now, demand for sustainably-sourced flooring, paints without VOCs and appliances with ENERGY STAR rating is standard.

BY PHILIPPE MEYERSOHN

Despite their prominence in the relatively limited space of a condo, appliances are often one of the final considerations given to a building by developers and architects, aside from accounting for the space requirements necessary for each appliance. (More than design factors, a development's location and target demographic are the types of factors that dictate specifications for appliances). However, there are benefits to engaging appliance manufacturers earlier in the development process, especially in a world where sustainable living is so highly coveted.

As Canadians learn more about sustainable options, they begin to expect access to them in all areas of life, including their brand new condo. While green roofs, recycled construction materials, high efficiency glass and imported bamboo flooring may seem impractical or pricey for a builder, appliances that are ENERGY STAR rated are more attainable. Until about two years ago, most consumers viewed ENERGY STAR rated products primarily as an added expense. Most consumers were reluctant to consider paying a premium for the environment.

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