

The higher cost of building green

By JENNIFER SMITH
STAFF REPORTER

Eight months ago, while most of us were merrily getting ready for the most all-consuming season of our year, the environmental marketing firm, TerraNova, signed off 2007 with a gift for the masses: A buyer beware guide entitled the Six Sins of Greenwashing.

The sins had a road map for identifying when the shiny green seal of approval added no more assurance of a product's environmental protection than could a tin of green paint.

From the "sin of no proof" to the "sin of vagueness" and, of course, "the sin of intransience," the one, two, three... easy steps industry uses to trick consumers into believing their product is green came streaming across the internet.

The statement was only too aptly so considering the oh-mame of 2007—a watershed year for the green movement which saw unprecedented interest and scrutiny in environmental advocacy.

Al Gore won the Nobel Peace Prize for bringing An Inconvenient Truth to mainstream movie theaters, but then faced monster house-ess: 20 times more energy than the average American home.

If there was an underlying theme to the unrest, it was that something, from the depths of this green-friendly blather and banter, all hypocrisy aside, the world was getting serious about its problems.

Last November, the keynote speaker at the U.S. Greenbuild International Conference and Expo noted the change in mood in his address.

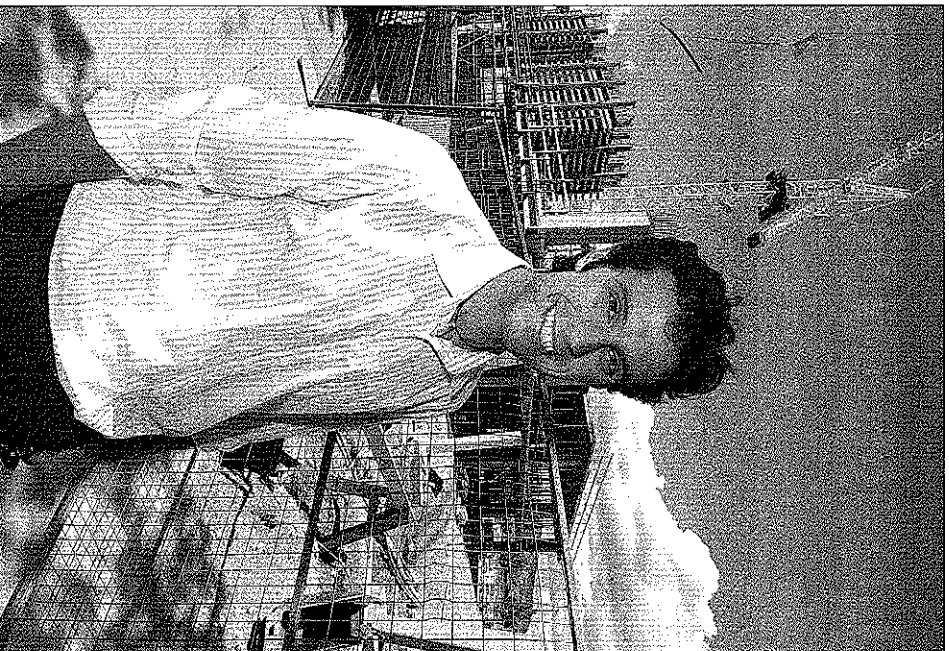
Some 27,000 people attended the conference, including local engineer Emmanuel Lavoie.

"The guy said that the figured 2007 was the tipping point year for awareness in the general population of green building," Lavoie recalled.

And sure enough, in the months since, Lavoie has noticed even magazine issue is talking about green and sustainability. "Even Fortune (Magazine) will be about how to make the business case for green," he said.

Lavoie started what he called the Okanagan Green Building Council four years ago, en route to his dream of becoming a green developer.

close-up



FOUR YEARS ago, with many a concession of the green dream in sight, Emmanuel Lavoie started a voluntary group to drive environmental building to the forefront. Today, the aspiring green developer is among those leading a building design revolution in the construction industry.

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The group included himself and another engineer he worked with. Their meetings, amounting up to six people.

Eventually, they connected with the Canada Green Building Council and became a part of a larger chapter of their organization, the Cascadia Region Green Building Council.

Their branch now boasts 145 members in the Thompson/Okanagan, holding meetings which now regularly attract more than 30 people.

"The first few years it was green building, green building, green building, but nothing would happen," Lavoie said. "Now, the wind is changing."

Part of this change is legislative.

The Union of B.C. Municipalities, for example, is currently researching how its members will meet government demands that every municipality be carbon neutral by 2012.

The B.C. Building Code is expected to change next month to include a host of new environmentally conscious building practices, and the province is demanding the Leadership in Energy and Environmental Design (LEED) Gold Standard be applied in every new institution they build.

What this means for Kelowna is simple—it's time to clean

up our act.

Vancouver has adopted an ecodiversity charter demanding LEED standards on all large-scale new construction. Even small communities like Kamloops have a couple of years worth of LEED building under their belts, with sports complexes, hospital buildings and additions to the local university campus all held to the green standard.

Up to now, Kelowna has yet to see its first LEED buildings. However, that's all about to change.

This fall will mark a green revolution on this city's building front with several new so-called green buildings coming online.

"We kind of lagged behind everybody, but then it was like a slingshot," said Lavoie. "We haven't passed everybody, per say, but the slingshot is heading back our way."

Within short order Kelowna will be home to a new ambulatory care tower, which is "targeting LEED Gold."

Those LEED standards require a series of checks and balances which do not allow for projects to achieve the designation until a final audit is complete.

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Building certification 'rigorous process' close-up

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For those following the designs for the Central Green project on the old Kelowna secondary school site, this neighbourhood is said to be targeting the same LEED Gold standard.

And buildings in the new downtown Comprehensive Development Zone behind City Park will also be asked to meet LEED protocol.

Meanwhile, Okanagan College is already building its Centre for Learning, targeting a LEED Gold certification when it wraps up in 2009.

Two new single-family homes are being built to green specifications and the Kofke condo project, which won the Mayor's Environment-at-Achievement Award for the developer's efforts toward sustainable design, is fitted for solar technology.

And then there's the new Fipke lab building at UBCO. Expected to open by summer's end, the project manager says it's likely the only lab building in Canada to achieve the rank of energy efficiency mastered to date and UBC Okanagan will be keen to showcase it in the new

school year.

But whether the average resident of Kelowna understands what makes each building green, well that's a different matter.

From the LEED system to 'Built Green' to the Fipke Centre's 'Five Green Globes' it appears it's just not easy being green around here or to know what it means.

Then again, in a real estate market where many struggle just to find affordable housing, there may be other reasons it took Kelowna so long to find its new environmentally clean steam.

LEED was developed in the United States by a non-profit organization called the U.S. Green Building Council. The council's membership includes professionals from all walks of the building industry, from architects, to engineers, ecologists to city planners. And the system has spread around the world.

In Canada, to certify a building as LEED, the project has to have someone with LEED D-certified by the Canada Green Building Council, which operates the LEED if-

ference in this country.

Long before construction begins the project is registered, so everyone from those arranging financing to those drawing preliminary designs understands the criteria they're chasing.

Each project must score points on a long list of environmental improvements; more points makes for a higher rating, but the claims must stand up in the final audit.

"It's extremely rigorous," said Steve Robinson, director of campus development and facilities management for Okanagan College.

Robinson is LEED certified and is now directing the institution through a massive undertaking to achieve the Gold standard for OC's Centre for Learning.

And it's taken some pretty serious innovation.

The entire campus is partially heated by capturing energy from the city's sewerage facility next door before the water is sent back out to the lake.

The surrounding landscaping will only include drought tolerant plants, and the architects actually managed to salvage a portion

of the campus library in the designs, effectively keeping a building within a building.

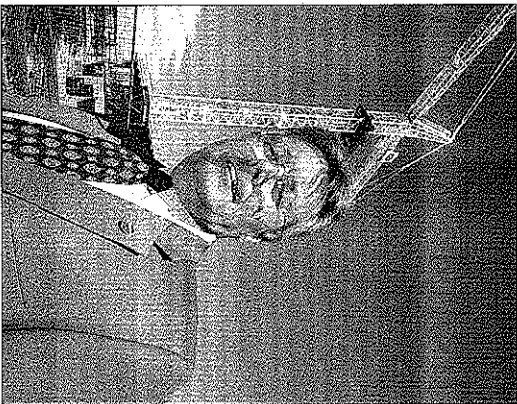
Okanagan College is under a bit of a green overhaul. They've audited their computer controls to ensure as little energy is used as possible.

Where the main pond once sat, literally pouring through water resources, a new, grassy gathering space and trees stand as a small remainder of the transformation underway.

The new building will be 35 per cent more energy efficient than a standard new institutional building of its size, 50 per cent of the furnishing will be reused and even the connectors used on the building site are required to follow the college's strict recycling program.

A little daycare planned for a site at the back of the campus will also include solar panels. It's just another small improvement, but they're hoping it will make a major difference in their energy output.

Like municipalities, colleges and universities have provincially mandated carbon neutral demands looming



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OKANAGAN COLLEGE project manager Steve Robinson says the college is cleaning up campus with policies designed to see their graduates go out into the world with an eye to a healthier future; that tradespeople are taught to conserve and recycle as they go.

over their heads.

For every tonne of carbon they emit, there will be consequences in the form of a tax.

Ask Robinson how important that LEED rating was to ensure OC would meet

those demands, and he'll tell you it's critical.

He believes the audit LEED requires pushes the building industry to ensure

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close-up

COST FROM A6

"You've done their best and with that carbon neutral target it's going to make the best to be good enough."

LaVoie is also a strong LEED proponent. In his day job as an engineer, LaVoie admits there were times when he doubted just how important using the LEED system really was—and he still believes it's not the end all be all.

"I go back and forth with how I feel about LEED," he said.

For a while he had clients that wanted LEED standards but didn't want to go through the rigors of the certification process.

But I realized, working on these projects, that we never made the right decisions. Building a building is hard enough and when it

comes down to that critical point, we would just say, 'Oh well, let's not bother.'"

"Now I'm back to thinking LEED is good."

But there is a price to be paid for that choice and a whole organization, growing up around those dollars.

Professionals who want to build LEED buildings pay to certify, and municipalities and the development community are also asked to contribute support funds.

Cascadia, for example, is the oldest branch of both the Canada and U.S. Green Building Councils and it operates off an annual budget of \$1.5 million (2007 figures), supporting 12 paid staff.

They, in turn, fundraise, host local training sessions and retaining sessions for LEED professionals, and will conduct public tours of green buildings in the Okanagan.

this fall.

Local architect Hugh Blitz says he has his reservations about how necessary the whole process is.

"The LEED has kind of set the green standard for commercial projects around the world and they're marketing themselves as much as anybody," Blitz said.

Blitz has designed a display in Vernon that is one of just six homes in B.C. to pilot a LEED standard for single-family homes in Canada. But he's not entirely convinced it's the only way to achieving a green building.

"To be cynical, there is a

bit of self-interest there. Every time they certify a home as green, their star rises a bit and they get more press and they get more money," he said.

Blitz does like the idea that LEED pushes the industry to do better.

As part of that pilot project, he completed a long checklist of items, designing a water collection system to harvest rainwater for irrigating the property on which his home was built, xeriscaping the lot, and adding extra insulation and specially coated windows, to name just a few things.

"It's just in lookup right

now, but we're confident we'll achieve a Gold rating," he said.

For the CGBC, there is a bit of controversy over stipulating what deserves a point, he added.

They're reluctant to recommend exact products because builders really need to evaluate whether a modicum of improvement on an environmental rating of a product is worth the environmental cost of accessing the goods.

"If one product is slightly greener than another but they have to ship it in from China, then is it really that much better?" he said.

For Blitz, green building really shouldn't be about meeting points or even choosing the LEED system, over another system like Built Green, the Home Builder's Association standard.

"It's a mind set. The most important thing to me is that people try to use less in everything that we do," Blitz explained.

"We don't need all those horses here in the Mission with huge expenses of halcyon that never get used.

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close-up

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Wood-frame construction not suited to LEED standards

COST FROM A7

you have to have two cars and a house that's 4,000-square

feet and there's gotta be a hot tub and a pool. That's the mind-set that's got to change." Along with his inner-city

apex, the LEED Gold pilot project's a part of also includes one of these 10,000-square-foot monster

homes.

The owner will have to purchase every high-end green product on the market to offset penalties they'll receive for the size of the building, but it will still likely receive the green seal of approval, he said.

In the long run, it simply isn't sustainable housing to Biz, though at the very least, this particular house will stand as an impressive technology coming down the pipe.

That's exactly what local developer Andrew Gaucher is planning to do with the Built Green home he's wrapping up construction on in the Mission—open it up as an example.

Built Green is largely regarded as a less rigorous process, but when Gaucher started his house, the LEED system didn't have a certification for single-family homes.

The list of green initiatives and products he has included is impressive.

The son of local developer Grant Gaucher, the younger Gaucher has opened his own company, Green Solutions, and has been adding more green elements to the homes he builds as he works his way into this mar-

ket niche.

In order to achieve the Built Green certification, his house still has to meet a checklist of demands and the home will go through a blow-off door to test its energy efficiency.

There are a couple of other Built Green homes in Kelowna under construction, so it may or may not be the first of its kind, but Gaucher is certainly trying to be a leader in what he sees as the wave of the future.

Neither Gaucher nor Biz can tell you how much that future is going to cost.

Green teams produce a corresponding energy savings for the homeowner, so to mention the savings in durability of products they use, but it's likely the initial price tag will be higher.

And that could be a tough pill to swallow for those looking for affordable housing.

"It's really hard to break it down like that, but generally the rule of thumb is that you should be able to achieve LEED without adding any cost, achieve a Silver or Gold rating for an additional four to six per cent and Platinum for an additional 10 per cent," said Gaucher.

Economic models are now underway for the next

phase of LEED, called The Living Building.

Designed to be zero-foot-print structures, these buildings are supposed to do no harm to the environment, but they also cost an estimated 40 to 45 per cent more, according to Lavoe.

Six of these buildings are underway in B.C., including one on the UBC Vancouver campus, a daycare at Simon Fraser University, the new Robert Bateman building at Royal Roads in Victoria, the North Vancouver Outdoor School, a private home on Vancouver Island and another building at the University of Victoria.

It's great for an institution, but at this point that's about it, Lavoe said.

"If you're a condo builder I don't think anybody would pay 40 to 45 per cent more to buy a condo that recycles your toilet water," he added.

"If you did four units in the most pristine building in the world, I'm sure they would sell. But not 50 units up in Glenmore northeast."

And according to The Mission Group, even applying the LEED system to mainstream condo develop-



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ment is pretty tough to do.

This year, the Mission Group won an environmental award for their Medco condos, but say they still could not achieve LEED requirements on the project.

"We tried to apply LEED to Medco but it's like, the shoe just doesn't fit," said Randy Sher, a Mission Group partner.

"The energy requirements and durability requirements just aren't geared to wood-frame construction."

And that's fairly critical in a market where affordability is an issue for the average purchasing customer.

Medco comes with energy star appliances, a bike rack for every parking stall, water efficient plumbing, environmentally friendly carpets and paints and double glazed Low-E windows.

It's even been outfitted with the shanks and combs to add solar panels, once the technology to run the panels comes down to a reasonable price.

"I think there's just an overall general sensitivity to green and environmental-friendly (and) I think if the consumer has a choice, they will prefer something that is environmentally friendly," said Simer. "The big question is, if it's more, how much more are they willing to pay?"

And it's a problem for institutions as well, according to Dave Roche, project manager for UBCO's Fede building.

Roche said they're sure they've got a groundbreaking building on their hands, but getting there has been a serious battle. "There's lots of people who've done lots of sustainable design... but when it comes to lab buildings, they're very intensive mechanical systems and that makes it difficult to achieve," Roche said.

The building includes natural ventilation, geothermal heat, a wind tower to exhaust the building rather than the usual electrical fans you might find on the roof, and its shape maximizes the shade from surrounding buildings.

Yet finding contractors willing to sign on for a hard-core project was no walk in the park, Roche acknowledged.

"This is a very complex building. New components and design elements that contractors were having to price at a time when they had more work than they could handle," he said. "Our constant struggle has been staying on budget."

And that budget is over \$32 million. Ask his counterpart at the college, and it's probably a good thing the province is getting so strict on home emissions.

Whether you choose to build LEED or go by another system, there will ultimately be a consequence at the end of the line. Just what those consequences will mean for those looking for housing still remains to be seen.