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Nine projects in Canada have registered for Living Building Challenge certification.

International Living Building Institute launches new challenge

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The International Living Building Institute (ILBI) put its greenest foot forward recently by launching version 2.0 of its Living Building Challenge (LBC) building rating system.

It takes sustainable building to a new level with accountability for local food production, social justice, community scale impacts and unrestricted access to nature.

The system is more of a step beyond LEED, rather than direct competition with it, said Jessica Wooliams, co-director of the B.C. chapter of the Cascadia Region Green Building Council (CRGBC), which administers the Living Building Challenge in Canada.

"When the Platinum level was defined, it was assumed by many to be the highest level of environmental performance possible. That isn't the case anymore," she said.

"LEED Platinum remains a significant achievement to attain, but there is a real appetite in the marketplace for a measure of true sustainability."

Both the U.S. Green Building Council (USGBC) and the Canada Green Building Council (CaGBC) endorse the program.

The Living Building Challenge was first introduced three years ago, with the new version unveiled at the USGBC's annual conference.

LBC buildings produce their own energy, capture and process their own water, and release minimal toxins.

It is comprised of seven performance areas, or 'Petals': Site, Water, Energy, Health, Materials, Equity and Beauty.

Petals are subdivided into 20 twenty Imperatives, each of which focuses on a specific sphere of influence.

Nine Canadian projects have registered for LBC certification and as many as ten others are aiming for it.

Like most rating systems, the original version applied to individual buildings, but version 2.0 has been expanded to include small in-home remodels, community initiatives and infrastructure.

The infrastructure component covers street intersections, parking surface area, and total allowable pervious and impervious surface cover, among others, said Eden Brukman, ILBI vice-president and research director with Cascadia council.

Allowable parking surface area, without a visual separation, is limited.

Additional parking can be addressed with underground or stacked structures. Bridge projects have to address scale, size and connectivity.

The program's materials Red List may be the biggest hurdle for infrastructure projects, said Brukman.

For instance, the list forbids PVC and other plastics typically used to encase utilities embedded in concrete.

However, alternatives do exist such as PVC-free sheathing for cable wire.

"It's not often used in typical commercial applications because of cost issues, which relate to people not knowing an alternative exists," said Brukman.

"So the question is, 'Who is going to start closing the loop to show that the demand is there?'"

Whether developers will find the program as marketable as LEED and other, better-known programs, remains to be seen.

Brukman said it is easier to use LBC criteria during the design charette process.

"Beginning with a LEED scorecard and deciding which points building owners want to achieve isn't as inspirational," said Brukman.

"In LEED you want to step back and look at the owner's priorities and see what they spell out on the card; with Living Building Challenge you present an idea and see how far the client is willing to go."

The system offers minimal increases in initial capital investment and quick paybacks, according to the Living Building Financial Study completed in 2009.

Nine LEED Gold projects, which offer somewhere from zero to two per cent increased capital cost on a typical project, served as the baseline.

They were conceptually transformed into Living Buildings and rated according to climate zone and energy use.

"(The team) calculated the incremental cost premiums and forecast them through time, based on energy savings, water savings, operations and maintenance, and other savings," said Wooliams.

"One interesting finding is that when you push a building as far as you do for a Living Building, certain costs actually go down."

The study suggests that certain building types – among them, university and grade school classrooms – now have payback times as low as two to seven years, with a four to nine per cent upfront increase over a LEED Gold project.

The paybacks of hospitals ranges between six and 16 years, depending on the region.

"Perhaps most importantly, the study reveals the places where we need policy incentives in order to make these buildings work," said Wooliams.

There are about 70 projects throughout North America that are pursuing LBC certification and one registered project in France. Of these, three have completed construction and have entered the verification phase.

The program is primarily performance-based, requiring a minimum of 12 months of operational data to achieve certification.



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