



Can Regenerative Design Save the Planet?

A Vancouver building illustrates how architecture can make an active, positive contribution to the environment.

ANTHONY FLINT | May 19, 2015 |  2 Comments



Vancouver's VanDusen Botanical Garden and Visitor Centre is a prime example of regenerative design. (Courtesy Perkins+Will / © Nic Lehoux)

It's probably too harsh to say that green building has jumped the shark, but triple-glazed glass, natural ventilation, and low off-gassing carpeting are no longer news. In a sense, green building is the victim of its own success—so ubiquitous that it's almost impossible for any major developer not to incorporate its principles in building design. Like unleaded gasoline, it's simply the accepted standard.

Nor has this maturing trend been safe from often withering criticism. The green building rating and certification system, [LEED](#) (Leadership in Energy and Environmental Design), is viewed by many as a costly and cumbersome bureaucracy. The eco-for-show concept of [greenwashing](#) is now part of the lexicon. In the big picture, how sustainable is a corporate office park with a green roof if the only way to get to it is by car? And so on.

What if buildings could be designed to make a positive contribution to the environment?

Into this fray comes [Peter Busby](#), managing director of the San Francisco office of Perkins + Will, hoping to take things to the next level. It's great that buildings can minimize harm, right down to being carbon-neutral and zero-emission. But what if they could be designed to take it a step further—to give back to nature and make a positive contribution to the environment? This concept is known as regenerative design.

Busby, who opened his Vancouver practice in 1984 before merging with Perkins + Will in 2012, has just published [Busby: Architecture's New Edges](#), which details the theory and practice of what might be called Green Building 2.0. The idea is not to be satisfied with efficiency for its own sake. Regenerative design aspires to an active participation in ecosystems all around. A green roof is pleasant for humans and reduces energy consumption in the building underneath; a regenerative green roof not only does that but is intentionally designed to support butterflies or birds that have otherwise vacated an urban area.



(Courtesy Perkins+Will / © Nic Lehoux)

Capturing rainwater, recycling graywater, and treating wastewater on-site are all great for reducing overall water consumption. But in regenerative design, these strategies are only optimal if they [recharge the local aquifer](#) as well.

Similarly, building materials shouldn't only be viewed in the context of minimizing damage and the consumption of resources; they should be put to work for the planet. The use of wood thus becomes at its core a carbon sequestration strategy. The carbon soaked up by older trees—harvested in [sustainable forestry practices](#), cutting them down before they fall and rot and release emissions back into the atmosphere—gets taken out of the cycle, permanently tucked away as beams and pillars and walls.

It's a new way of measuring success. But notably, Busby isn't proposing any kind of new certification system.

"I'm not going to trash LEED. It's a remarkable tool, and it's caused remarkable change in the marketplace," he says, noting that approximately [60 percent of construction projects](#) in the U.S. include some prominent environmental

feature. Laggards in the industry needed some “regulatory encouragement,” he says, and green standards for government procurement and university buildings have been appropriate to set the tone.

When is a building truly regenerative—actually contributing to the improvement of the ecosystem—and when is it merely green, with lower electric bills?

“But [LEED is] a tool that says what you're doing is less bad,” he says. “I'm interested in the cutting edge of sustainable design, which looks at first principles, rather than compliance with a certain rating system. We know a lot about best practices. But we've shied away from establishing must-do's. Our attitude is a bit laissez-faire ... during this learning phase of how to do regenerative design, the process should be open-ended. We should learn from each other in terms of what things are working and what things aren't.”

For one thing, ecosystems vary so much in different parts of the world, with all kinds of differing data that make it difficult to quantify, measure, reward, and police. The more exploratory stance goes back to the roots of the green building movement, Busby says. “How do we fix nature, having trashed it for 400 years? That's more complicated. That doesn't lend itself to a standard.”



(Courtesy Perkins+Will / © Nic Lehoux)

Busby says he isn't sure there is as yet a perfect example of a fully regenerative design building. But the [VanDusen Botanical Garden Visitor Centre in Vancouver](#) comes close. Waste from the toilets is harvested to be mixed with food waste composting, while the water is separated out and purified for use in irrigation. Rammed-earth building blocks were formed by dredging ponds on the site, and the deeper water in turn led to a healthier ecosystem. The equivalent of staircases encourage all kinds of critters to get up to the green roof and feed; coyotes have been spotted up there.

A gentlemanly architect, Busby passes a lot of credit around, to fellow pioneers [Bill Reed at Regenesis Group](#) and [Ray Cole at the University of British Columbia](#). He also cites the ecologists at the Laurentian University [Vale Living with Lakes Centre](#) in Sudbury, Ontario, Canada, "who taught me to look at the world through their eyes ... as architects and designers, understanding the ecological systems around us. I think as a profession we have been immune to those things."

Regenerative design may end up giving us new distinctions to argue about:

When is a building truly regenerative—actually contributing to the improvement of the ecosystem—and when is it merely green, with lower electric bills? It's not going to be enough for workers to hear songbirds on the green roof. The avifauna needs to have been rescued from being endangered to count.

Putting a lot of effort into things like proper soil composition in tree wells also has a near-term, small-step quality to it. As [Jonathan Franzen](#) recently wrote in a piece on saving wildlife in *The New Yorker*, most eyes are on the prize of mitigating climate change—through big and bold measures. What good is a deeper retaining pond if the rest of the planet is in tumult 50 years from now? Could it be, apologizing for the tasteless metaphor, that design professionals have bigger fish to fry?

Still, Busby is to be congratulated for thinking so much more expansively about green building. "It's a passionate plea to unite the process of city building—and building buildings—with nature," he says. It's hard to quarrel with that.

About the Author

Anthony Flint is a fellow at the Lincoln Institute of Land Policy, a think tank in Cambridge, Massachusetts. He is the author of *Modern Man: The Life of Le Corbusier, Architect of Tomorrow* and *Wrestling with Moses: How Jane Jacobs Took On New York's Master Builder and Transformed the American City*.

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