ISSP Insight

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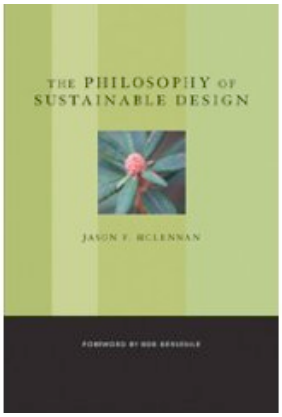
Beyond LEED: The Living Building Challenge

with Jason F. McLennan, Cascadia Green Building Council

Jason F. McLennan serves as the CEO of the Cascadia Green Building Council, the Pacific Northwest's leading organization in the field of green building and sustainable development. Cascadia is a chapter of both the US Green Building Council and the Canadian Green Building Council. Jason is known as an international thought leader in the green architecture movement and has lectured on sustainability across the US and Canada. His work in the sustainable design field has been published in several journals, magazines conference proceedings and books. He is the author of three books; The Philosophy of Sustainable Design, The Dumb Architect's Guide to Glazing Selection, and the Ecological Engineer. The Philosophy of Sustainable Design is currently used as a textbook in over 30 universities and is distributed widely throughout Europe and North America.



NOTE: This is based on a transcript from the Sustainable Today TV show that Marsha and Darcy host. For a limited time, you can watch the show at http://www.sustainabletoday.org/STTV.html.

By Darcy Hitchcock

Marsha: Tell us a little about the Green Building Council and the Cascadia chapter.

Jason: I'm part of the Cascadia Green Building Council. We provide education and we advocate for green building practices. We're a regional chapter of the US and the Canadian national organizations. We cross borders bringing a unified message of change in the built environment. We like to say we serve the area where the salmon run. So it's Oregon, Washington, British Columbia, Alaska. The challenges for green building are similar across this ecosystem.

Darcy: We've been fascinated to follow the rise of the green building movement. It took off much faster than other sectors. Tell us a little about why that happened.

Jason: As you know, it's not one issue. The movement started in the 1970's, like a lot of the environmental movement. And then for about 20 years, it languished. It wasn't too cool to be green. It was tough. It took off for many reasons including the US Green Building Council and the LEED rating system. LEED (Leadership in Energy and Environmental Design) is the premier rating system for green buildings. It's how you can be more certain that a building really is green, because it's certified and rated by an independent third-party. And now finally, green is cool and profitable.

Darcy: Yes, I've seen studies that show that if you're not doing LEED Silver you're kind of stupid because you're wasting money, at least if the building is owner-occupied.

Marsha: Then why do so many people think building green costs more?

Jason: It's a myth that's been hard to shake. We have come to realize that there are many shades of green—some things cost more, some less—but there are always things you can do to improve the environmental performance of your home or office. It is possible to build a green building, one that is significantly better than standard, at no cost premium.

If you think not only the amount of energy that buildings use but also the embodied energy in the products that go into those buildings, it's the single biggest contributor to climate change

Marsha: I would think the time horizon would matter too. If you're just going to flip the building, that's one thing.

Jason: No question, the longer you're going to be in a building the easier it is to justify. But even if you're going to flip the building, developers are starting to realize that the product is better, so it can be easier to sell or lease. Green building is now a competitive advantage.

Marsha: So do you have hard data to support that? We've heard anecdotal evidence of green buildings resulting in better employee productivity, for example.

Jason: Yes, for a long time it was anecdotal. Actually codifying the benefits have been tricky but now there are enough green buildings so now we have data on how much it reduces energy use and absenteeism. And this has been an important part of the message. When it was only about 'hugging trees,' there was only a certain segment of the population who were interested. But in addition to that, we now have proof that it makes sense financially too.

Marsha: Was part of the problem that people remembered the funky buildings of the past and worried that they would have to make their green buildings look rustic?

Jason: Yes, there is this institutional memory of the odd-looking energy-saving buildings of the 1970's. But green building isn't a particular look. You can do any building style. It's a philosophical approach to designing and constructing buildings. It's amazing the wide range of building types out there.

Darcy: Let's look at the energy savings. *To what degree is green building a solution to problems like climate change. Obviously we can't build our way out of this problem, replacing every building, so to what degree can this help?*

Jason: Building is a huge piece of the puzzle, much larger than most people realize. If you think not only the amount of energy that buildings use but also the embodied energy in the products that go into those buildings, it's the single biggest contributor to climate change, bigger than transportation- although that's regionally based. We have a lot of hydro in the Pacific Northwest so transportation is a bigger impact here, but it is very different in other parts of the country where coal is the primary energy source.

We've been building the same way for over 100 years. Our buildings have been so inelegant and inefficient, that in many ways there is enormous latent potential for us to address climate change, we can design buildings using 50-60 percent less energy with today's technologies.

Darcy: That's with new construction, right?

Jason: It's certainly easier with new construction when you have a blank slate, but it's not only that. Through the LEED rating system, we've seen existing buildings being retrofitted with new energy systems (HVAC, lighting). When those get changes, it really is a huge improvement. It applies to new and existing.

Marsha: We've mentioned LEED a lot and talked about the energy component, but there's a lot more to it. Perhaps you could talk about how it's structured.

Jason: Before the creation of LEED, there was no standard way to tell if a building is green. LEED has helped because it provides clear standards for what constitutes a green building. You earn points for different practices, for example in water conservation, materials, site development, etc. If you do enough, you get a recognized. Certified is the lowest level, then silver, gold and platinum.

Darcy: You've got LEED for new construction and LEED for existing buildings is being replaced by LEED O&M. Can you rattle off the different categories?

Jason: LEED started as a commercial office tool. That was the first building type the council took on. There's also LEED for homes. There are also related tools like the *Green Guide to Healthcare*, based

on LEED. There are new versions coming out all the time.

Darcy: Let's talk about the Living Building Challenge. That's going way beyond LEED to define what a fully sustainable building would be.

Jason: If you look at most buildings, they're built to code. That's the worst allowable by law. The LEED standards nudge us to go a beyond code, but it's still just being 'less bad.' So what would it take to be 'good,' restorative, truly sustainable? That's what we tried to codify in the Living Building Challenge.

Darcy: Didn't that start here in the Cascadia region?

Jason: Cascadia launched the tool but the idea goes back about 10 years now, that included work in Montana and elsewhere that I was working on.

Imagine all these buildings. They'll never have an energy bill. If the city loses power, they go on ticking. It's just a different way of thinking to address these problems.

I like to compare it to nature. What would it be like if we could build a building as elegantly as a flower? It would generate all its own energy on site; it would get all its water from what falls on the site. It would have to get all its nutrients from the soil and couldn't pollute its environment. It would have to be incredibly elegant and responsive to climate and place. And it would have to be beautiful.

Darcy: Ah, so that's why you have the flower on the cover of your book!

Jason: Yes, we talk about this in the book. And at first, it sounds crazy to build a building like a flower but it's actually not. Until a few hundred years ago all we built were living buildings. So in some ways we have to return to elements of that practice. With new technologies, we can have the environmental impact of a straw house but have the comfort of what we're used to now.

Marsha: So you've released this in the form of a challenge. Tell us about that.

Jason: It's really the race to see who's going to build the first living building in this region, in this state, this country or the planet. The first house, the first hospital, the first office building etc. We launched the challenge in 2006 at GreenBuild, the largest green building conference each year.

Darcy: How did people react? They put so much effort into LEED. Then you come out and basically say, "Yeah, LEED is fine but here's the cool other thing."

Jason (laughing): It's a good question. The Living Building Challenge is really not competitive with LEED. There are still a lot of buildings that are just trying to get to LEED. But there are a group of people around the country who are out there who want to show what is possible today.

Marsha: I'm assuming a Living Building would qualify for LEED.

Jason: Oh, yes. And many are applying for a LEED building. But we've been really surprised. There are living building projects popping up all over. There are 12 in Portland alone. And how many will actually get it, we don't know.

Darcy: Twelve! Oh, my gosh! And even if they only get 90 percent there, think of all the innovations!

Jason: That's exactly the point. And there are at least 60 or so around the country. Every day we get a new call for a new project, saying "We don't know if we're going to make it but we're going for it." We have a couple under construction. I'm going to one in New York State that may be done by the end of the year. There's a daycare in British Columbia, a community college in my hometown. Multi-family housing. Imagine all these buildings. They'll never have an energy bill. If the city loses power, they go on ticking. It's just a different way of thinking to address these problems.

In a few years, we'll have enough of these built so you won't be able to say anymore it's not possible to live lightly on the land.

Marsha: You've alluded to a couple of the criteria. Net zero energy. Net zero water. What else is involved in a living building?

Jason: There are 16 things you have to do, organized into 6 areas, what we call petals.

Darcy: Which is a lot less than the LEED criteria. Harder, perhaps, but it's really elegant.

Jason: There's one energy requirement: on an annual basis it has to generate all the energy it uses. It might generate more than it needs in the summer and draw more from the grid in the winter. It's a grid-interactive system.

Water is very different. Living within the water budget of where you are. Many places this isn't legal. In some areas, you're not allowed to use rainwater or gray water. We're working to remove some of these barriers. But imagine never having a water and sewer bill and you treated all your water on site.

Darcy: Wasn't there also a requirement about not taking up new land, displacing habitat?

Jason: This is one that is controversial for developers. The notion is that as a species, we've co-opted enough land. We have a requirement that there are no new sites. You can only build on existing sites. That's reusing and cleaning up the site or redeveloping a site to be more effective. The other 16 criteria relate to materials, indoor air quality, etc. They're all really essential.

We also have a red list. You can't have a living building and fill it with toxic materials. A lot of our buildings are really toxic. When they have fires or come down they become really hazardous.

Darcy: Are there some new technologies that are really cool that you'd like to mention?

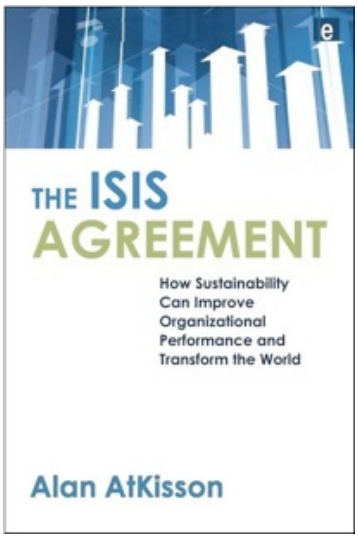
Jason: Yes there are. But these are all using existing technology. You can do this now. Sure, we're excited about LED lighting eliminating fluorescent bulbs and fuel cells and smart windows. But we don't even need those, and the new technologies that are coming along will only make it easier.

Darcy: It shows the power of having an inspiring vision. How much that sucks people into wanting to do it.

Marsha: And shakes people out of thinking it's not possible. It shows it is possible.

Jason: That's one of the most successful things the program has done. It's brought people to the table who have gotten really excited, from places we would never have imagined. It's been beautiful. It's the kind of hope we need. We talk about how The Inconvenient Truth brought these problems to the attention of the American public but it left off before talking about solutions. We need to talk about Living Buildings and Living Communities as the solution to these issues.

For more information, go to the Living Building Challenge go to http://www.cascadiagbc.org/lbc



Indicators, Systems, Innovation, Strategy: Putting "ISIS" to work to Accelerate Sustainability

9am Pacific time, Dec 16.

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"ISIS" simplifies, sharpens, and speeds up the process of doing sustainable development in practice, especially in teams and organizations. The method has been applied around the world, from UN training programs and NGOs in Asia, to planning processes in brand-name global companies and large cities. This webinar will provide you with an overview of the method through case studies and examples, and introduces you to specific tools and processes that help you put the method to work. ISIS helps sustainability change agents multiply their impact -- and multiply the number of sustainability change agents.

Presenter Alan AtKisson is founder and president of the AtKisson Group, an international sustainability consultancy. He is the author or co-author of several books, including a new one, The ISIS Agreement: How Sustainability Can Improve Organizational Performance and Transform the World (Earthscan, Fall 2008). He has over twenty years of professional experience in sustainable development, working with companies, organizations, and cities, from Seattle to Stockholm to Sydney. He will be conducting this webinar from his home in Sweden.

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