



**The Living Building Challenge:
An Interview with Jason F. McLennan**

By Paul Kilpatrick

INTRODUCTION:

In May of this year the Cascadia Region Green Building Council hosted the “Living Future Unconference” in Portland, Oregon for green building professionals from across North America. During the event, I had a chance to interview Jason F. McLennan, CEO of Cascadia Region Green Building Council (CRGBC). The CRGBC serves as the leading high performance building development organization in the Pacific Northwest (Alaska, B.C., Washington, and Oregon) and is part of the Green Building Councils in the United States and Canada.

Jason is an influential individual in the green building and sustainability field, with extensive knowledge, involvement and experience in high performance building design and construction. Jason is a highly regarded leader in the green building field, and works as a consultant, author, publisher, and lecturer. He has been extensively published and reviewed in numerous magazines and newspaper across North America. He is the author of four books; *The Philosophy of Sustainable Design*, *The Dumb Architects Guide to Glazing Selection*, *The Ecological Engineer*, and *Zugenruhe*. Additionally, among his many achievements, Jason is the CEO and founder of Ecotone Publishing (dedicated to green building content); co-creator of the Living Building Challenge; and key contributor to the Pharos Project (green building materials selection system) and to the newly launched Trim Tab magazine.

The interview was conducted by Paul Kilpatrick, Business Development Partner with Sustainability Television (www.sustainabilitytelevision.com).

INTERVIEW:

Let's start by talking about some of the things you're working on with the Cascadia Region Green Building Council, because there's so much you're involved with, such as the Pharos Project, the Living Building Challenge, Ecotone Publishing and more.

Yes, there's a lot there. You know, I'm excited to do what I do. I get to work with some amazing people in an incredible part of the world here in Cascadia. We're very active in a lot of different ways. We do everything we can to promote green building across Alaska, BC, Washington and Oregon and beyond. And so some things we do locally and some that are national and international in scope. You named off a few of the things that I'm involved with.



Probably the thing that most people are most excited about is the Living Building Challenge, because it's a program that we've launched here in Cascadia that's capturing people's imagination much further beyond our borders than even we expected. There's interest all over Canada, all over the United States and it's starting to ripple out across the oceans to other countries.

We're seeing the rise of these buildings that will never have an energy bill, that will never have a water bill, that are built with non-toxic materials, that are adapted perfectly to the site that they're on and the climate that's there. And really provide a model for the future of the built environment and so I think that's a program that we're championing that really resonates with a lot of people that understand that the way we've been building our homes, our offices, and our cities are leaving us in a precarious place on a planetary scale. And that we do have the knowledge, we do have the technologies, to fundamentally alter that impact and produce buildings that are not dead; that are not net drains on our environment but in fact help restore; that are living. That's what we're promoting and man, we're seeing incredible interest. I think it's the right idea at the right time.

How and when did the Living Building Challenge start?

In 2006. The concept of the Living Building Challenge is something I've been writing about for quite a few years; since the nineties actually. In the early days, my former partner Bob Berkebile and I would talk about living buildings and in 2005 I codified that into a standard in an attempt to have something tangible for designers to rally around this: here's the end game, here's where we need to get to. And then when I came to Cascadia, which was the summer of 2006, I gifted The Living Building Challenge to the organization, and the organization officially unveiled (or launched) The Living Building Challenge at Green Build in Denver in November of 2006 and since then it's just been exploding. It's been really beautiful to watch.

How does the Living Building Challenge differ from the Leadership in Energy and Environmental Design (LEED®) green building rating system?

It's very different from LEED. I'd say it owes a lot to LEED in the sense that LEED pioneered the idea of a creating a system in which to guide design and construction for this market (the US and Canada) and really has done more than anything else to shift attention to a lot of the issues. LEED has been an important part of readying the market for this kind of transformational change. The two programs are complimentary in that they are trying to do different things: LEED is trying to pull the masses in and push them up, and the Living Building Challenge is trying to tug from the top and lift people up, and so it's an interesting interplay. They are very different systems from all aspects of how they're designed.

The Living Building Challenge has prerequisites, so you have to do everything, you can't pick and choose. By definition of the word living, life doesn't choose to not do certain



things that it needs to survive. It doesn't decide it no longer needs water...you have to do them all. Whereas LEED is a more additive system where if you look at a typical building and you do certain things you get rewarded by points so the more of these good things that you do the higher the rating. The Living Building Challenge is flipping that on its head and saying "you know what, what we really need to do is get to a minimum level of net zero, with net zero energy as a minimum, net zero water as a minimum. So it's different in how it's operating, but they are cousins in some way.

I believe the Omega Centre in Rhinebeck, New York will be the first Living Building. Is that correct, and when will that project be completed?

Yes, that's to be completed by the end of May 2009. Then they go on their minimum 12 months occupancy phase of the program, where we don't actually certify the building, we don't audit it ...and that's actually another difference with LEED is that all of the Living Building projects have to be audited, and this is done 12 months after construction. Because we want to make sure these buildings really are performing as they were designed to. And that's a problem in the building industry, in green building in particular, because a lot of buildings are not as energy efficient as was predicted and a lot of green buildings out there are using way more energy, way more water, than they should. They're still called green buildings but nobody has checked whether or not they are performing. A lot of it is how they are operated, or how they were built, or they might not have been properly commissioned so things aren't working as they were intended. And other times the building was simply not designed as well as was portrayed. The Living Building Challenge can't afford to have that happen, so we are actually going to be auditing all of the buildings.

The Omega project is the first through the pipe. Once they open their doors, the clock starts and when they have confirmed that they are net zero energy – it may take them 14 months, it may take them 16 months – but when they're ready and they have 12 months of continuous data we can audit, then they will get their certification, presumably, and hopefully they will be the world's first living building and we're very excited about that. But, you know, there's a race and there is another project, a small project, in the St. Louis, Missouri area that is right on its heels. It's going to be completed at the end of May or June (2009), and so they are in the race as well.

And these two project teams are aware of each other?

Oh yes. But you know, the thing about this community is that there is a lot of sharing. There isn't one prize. It's not like the "X-Prize" where somebody gets the cheque and tough luck for the person that comes in second. It's an infinite challenge, and it's a race against yourself. It's like if you're a runner, you're not really – shouldn't be, really, racing against the other, you're racing against yourself, for your own personal best record. So, we want living buildings everywhere and they're all winners because it is transformative. But, on some level I think people know they would like to be the first, and so there is a little bit



of competitiveness, but not like a lot of things. These people want each other to succeed and are sharing information, often through Cascadia as a conduit, and are sharing best practices and information, so what we've seen is really beautiful.

Can you tell us a bit more about the Omega Building?

Well, I can tell you what I do know about it. The Omega Institute is a fairly old retreat centre in Rhinebeck, New York, about 1.5 hours to the north of New York city, where alternative education is taught and they host retreats. It was one of the first organizations of its kind. I believe it was founded in the sixties. People go and stay there for yoga, spiritual, environmental, and educational retreats of all sorts. People can rent out the facilities from what I understand, stay in the cabins there and get away and focus on whatever it is they want to focus on. And so there is a collection of buildings there, quite a few cottages, a big dining hall, a meeting hall, and so on, and they needed a new facility to treat all the waste water from all these facilities. So that's actually what this living building is, a waste treatment plant for all of these buildings. It also has a classroom in it so they are bringing education to the waste treatment. So as a Living Building, it's not only going to handle all its own water and treat it on site, it's actually doing that for a whole bunch of other buildings and creating this much more benign level of impact. What they're doing is really interesting.

During your keynote speech, you spoke about how we remove our waste from natural systems; about how we take it right out and don't return any nutrients. So they will be treating water at the Omega Institute ... will they returning nutrients somehow to their local natural systems?

They are building constructive wetlands and they are returning all the now clean water, without the use of chemicals, to recharge the aquifer. They are not sending it in a pipe to another watershed, so they are keeping the water in their place. They are treating it and then they're giving it to the environment where it should be. It's returned to the watershed right there.

I actually think that we need to head to composting our waste as the ultimate place. But in this case, where you have all these buildings and they are connected with a sewer infrastructure, the living machine is the most elegant way of treating all that waste and then returning that water without the use of chemicals and that kind of thing. But, yes, I'm a big fan of composting toilets and that kind of thing so that the actual nutritional content can be returned to the soil and that we don't have to clean the waste out of water, which we shouldn't be doing. We actually shouldn't be putting it in our water in the first place. But we allow living machines and composting toilets and a few other technologies that don't use chemicals. Again, as long as it's all powered renewably. So all the electricity needs for the aerators and the pumps in the system are powered by solar on this project so there is no carbon footprint through the operation of the facility.



What have you discovered through the Living Building Challenge? Has it revealed anything unexpected?

Well, there've been a ton of discoveries, which we intuitively expected, but you don't get a sense of how bad it is until you try –until you are forced to. That's the beauty of the Living Building Challenge; you have to do everything.

For instance, when considering the materials radius, the notion that we need to be using things that are local is an important tenet of sustainability; build local, support the local economy, and not transport things long distances which uses a lot of fuel and creates a lot of pollution. Have a more intimate knowledge of the impacts of the things you are buying. At present we are so disconnected and everything comes from somewhere else. With LEED, you don't necessarily have to use local materials...you can choose to or not to and you can do it for just some percentage of the building materials, but in a Living Building Challenge project, you have to use local materials for everything.

And so it opens the team's eyes to the fact that we don't make things in this country and in Canada anymore. I mean we certainly make some things, but we don't make a large segment of the things that we use. They're made in China, Mexico, South East Asia, India, and so on. We know we are externalizing the burdens of our consumption on their people and their environment and we are then shipping that stuff and we are also then depleting potential jobs at the same time from our own people for things that shouldn't come from far away. There are some things potentially that should come from further afield and other things simple shouldn't, but we have it all backwards. We have shipped our manufacturing to wherever country where we can externalize the most and have the lowest cost, highest profit potential for a few people at the expense of the many.

And so, as we learned, you can't really get a ceiling fan that's made in the United States anymore. For awhile, well, you could get a ceiling fan but most of the components were built everywhere else but it was finally assembled here, and now it's such that we haven't been able to find one that's made here at all and there are a lot of other examples of that.

Imagine if there were no cars made in the US and Canada. That would freak people out if we didn't make any of our own cars, but when you look at the built environment there is a huge percentage of our products that are simply not made on this continent, and that's really crazy. And so the Living Building Challenge is revealing things like that and it's revealing these nuances of when you have a red list of materials, things that shouldn't be in a building to be healthy for people and for the environment, in fact are. You realize how ubiquitous these toxins are, and they're everywhere and they're in things we thought they weren't in and that have been labeled as to be free of those things, yet they're still in them. It has to do with deals that have been made by industry with the government on labeling and so there is a lack of consumer transparency on multiple stages. We don't even know what we're buying and we vote with our dollar every time we spend our money and we're



supporting things that are giving us cancer and giving our kids asthma and polluting our water supplies and we're supporting that – all of us – even green professionals, because we simply don't know any better and that needs to change.

The Living Building Challenge is becoming this powerful lens of truth for a lot of these architecture firms and developers and engineers that are doing this stuff to say “holy cow, I had no idea...wow”. And in some cases we are stuck for the moment and we don't have an alternative. In those cases, what we're doing with the Living Building Challenge is saying “okay, we do need ceiling fans in this building as part of the natural ventilation scheme and that's better than using air conditioning equipment”. So we're going to allow an exception for now so we're not banning something we need, but we're going to make that team write letters to those manufacturers informing them that we don't actually endorse their product and putting them on notice as soon as a manufacturer that is brave enough to re-open its facilities in this country, well, then that exception will go away and the business will be driven to that company. There's an element of social change that is part of this standard as well.

So since 2006, have you seen rapid growth and uptake of the Living Building Challenge?

It's all relative. It's not rapid on the scale of the sheer amount of stuff we build as a society, but in terms of the profile, and given how difficult it is to get to this level of performance (there are regulatory barriers in some cases; economic barriers in others, and so on), the rate of adoption has been faster than I would have anticipated and that's great. And the rate of interest has ballooned, but it's still very hard to do this, and so our expectations are being exceeded but we still need a lot more wind at our backs and that's what we're hoping to see.

Will your Living Building Challenge Ambassador Program help really raise the profile?

Yes, our Ambassador Program is really this idea that one organization, Cascadia, is not enough to go out and present these ideas and that there are a lot of people that are passionate about this idea and that are very articulate and very knowledgeable and so we want to empower them, give them some tools and have them go out and proliferate this idea further and further afield. So we launched that today. We had a lot of people sign up today.

Something you mentioned in your book “The Philosophy of Sustainable Design” really struck me, and that was that 80% of the buildings that will exist 20 years from now have yet to be built. That is just staggering when you consider the impact of our buildings on our energy and our resources. Could you talk about the significance of this?

I wrote the book in 2004 and things changed a little, but it is essentially true that we actually tear down a lot of our buildings every year, and a lot of our buildings are so completely renovated and changed that they are essentially new buildings as well. Now the economic



downturn has slowed that statistic slightly so there are a lot less new buildings being built right now, so the timeframe is a little different than when I wrote that.

But, what I'm getting at with that message is that there is an opportunity, even naturally through attrition, to completely transform our built environment over the next 30 years. A lot of it is going to be transformed anyway. It's what we do. We're constant builders, we're like beavers building the next dam and the next dam and the next dam. The question is what kind of change is it going to be? Is it going to be when a large remodel of an existing building gets done, how green is it going to be? When a new building is being built, how green is it going to be? Right now, the trend is not good. Most of them are going to be built in a way that is just as polluting or slightly less polluting than the buildings that preceded them and that's a pattern we need to change. There's also a hell of a lot more people that are on the planet so there's more need for more housing, more offices, more structures...maybe not all in this country, but in China and India for instance, and what kind of buildings are they going to build and who are they going to emulate? And what practices?

You wrote about opportunities to create a restoration economy. Could you touch on that?

Well, yes. And I think that for a long time there was a battle between the business community and the environmental community with a mythology that they are at odds and the truth is that what are at odds are not our economy and the environment, it's the way our economy is structured and who is benefitting and from what. The whole discussion that's going on right now, which is kind of a battle between Wall Street values and Main Street values, is part of that. We can have a very vibrant, dynamic economy that is built on restoration; that is built on creating life; that is built on efficiency, but that's a much more decentralized economy. That's an economy that benefits a lot of people, and the economy that we have now is a funnel. It funnels wealth from everyone to a few, and it's about empire, really, in the big scheme of it. It's about ensuring that a certain, very select few have access to whatever they want to have access to.

And so this whole mythology of the fight between the economy and the environment is actually, I think, almost a campaign to ensure that the status quo doesn't change because those that have all that don't want to lose it. But the truth is that there can be abundance and there can be an incredible economy for us that does not have to have the impact that we have right now on the environment.

You're a family man. You're very aware of these troubling global challenges and issues we're facing, which can be rather overwhelming. In conclusion, I'm wondering how you stay hopeful and optimistic?

I am hopeful, but I'm also realistic. I know that my kids are going to inherit a world that is less rich and less diverse than the one that I was born into. I know that they are going to



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face global challenges, economic challenges that are really scary. It does worry me. At the same time you can't let that hurt the 'now'. You have to do everything you can now to make the change so that they have as good of an opportunity as possible. But it would be a crime to wallow in despair in the now, and what they need is encouragement and teaching and love so that they can do the things that they need to do.

One has to sit with both hope and despair in either hand and let them both drive you. Because what we often do as environmentalists is we either live in the despair world and then we become very negative to those around us and very hostile and we hurt ourselves; or we hide the despair and pretend everything's rosy and just pat ourselves on the back for a minor environmental change we've made and think that we've done it. "We've built this building and it's green and I'm done", and that's delusional, as we are not done. So one has to be able to sit with both hope and despair and be reminded and be joyful at the same time that we know that we're in a lot of trouble. And part of it is that we can't pass on that imbalance to our kids. We have to arm them with the skills that they are going to need to face stuff that we weren't strong enough to face in our generation.

This interview was conducted in May 2009 in Portland, OR at the Living Future Unconference.