

Episode 35

Worldwide Trends in Green Design

The show notes: www.houseplanninghelp.com/35

Intro: Lloyd Alter from TreeHugger.com has quite a unique position just because of some of the articles that they write there and it's about content all around the world. So I'm hoping to tap into his brain today and I think we'll just get straight to that. I began by asking Lloyd for some background on how he started at TreeHugger.com.

Lloyd: Well actually there's quite a funny story. I was a practicing architect and then I became a real estate developer in Toronto, Canada, and was really frustrated with the way conventional construction was being done. Everything hadn't much changed from the 19th century let alone the 20th and so I became fascinated with prefabricated housing. Then in 2001 started working with a large company doing prefab in Canada, found I spent a lot of time sitting around so I became a very early blogger trying to educate people about prefabrication and found that I liked blogging better than building, was sending tips to this brand new website TreeHugger.

They said: "Write more. Please, write more."

The next thing I knew I was writing full time and the next thing I knew I was manager editor. That's all over ten years.

Ben: Maybe it's worth going through what TreeHugger is for anyone who hasn't visited the website before?

Lloyd: TreeHugger was developed in 2004 with the intent to drive sustainability mainstream. At the time green living was really thought of as being hippyish and counter culture and so Graham Hill, the founder, wanted to make it seem cool and modern and slick.

It was really a design site showing the best green design in the best way it possibly could and it was one of the first, so it was covering everything from product design to fashion design to architectural design. Now of course a decade later everything has atomised a bit so that there's a website for everything but we are still the generalist green design and we've branched out a little bit into more on nature, just to be a general green website as well as just green design.

Ben: I like the way that it almost seems as if you've got your finger on the pulse of what's going on, so with that in mind, would you be able to reflect on how you've seen things change over the last ten years or your time at TreeHugger?

Lloyd: Well that's funny as I also teach sustainable design at Ryerson University in Toronto and never get to use the courses from the previous year because everything is changing so radically all the time.

You know, a few years ago as an example if you would ask five years ago what's the most important thing you could do to be green you would actually get an answer. I had this once: "Stop vampire power". You know all the power that is lost by the wall warts that charge our electronics. Five years ago every second article was about this on every website as if vampire power was the biggest thing going. It's totally inconsequential and six years ago every single article on every site was about having a clothes line instead of a dryer and you never see that any more. People would get preoccupied with little things because nobody really understood what the big things were.

What I think that we have really learnt is that it's not about stuff, it's not about green gismos on your roof, about covering your roofs, although this is very big still, with solar panels and water heaters and things like that and fancy technologies, it's really about not living with less but moderation. It's about moderation in everything. So that if you simply use less of everything by driving less, by getting the smaller car, by building the smaller house, by putting in smaller windows, because windows are such a major source of heat loss, by doing sensible moderation you can make a huge difference in your carbon footprint, far more than you can by going out and buying Priuses and covering your roof with solar panels.

This message of the importance of living with less, of moderation, is I think beginning to get through because we are realising . . . There is a fascinating study that was done that basically showed - and this was an American study, where in Britain, the UK, you are far better about this - that you could build the greenest building and the greenest house in the country or in the suburbs but if you are driving to it the footprint of your car, of the infrastructure to support your car of the gasoline going into that car just dwarfs everything else. Our biggest problem is gasoline and oil and the carbon footprint from that and if we can get people living closer to where they work, riding bikes or walking to where they work, that's going

to make a much, much bigger difference than some new high expensive piece of technology.

Ben: I do wonder whether people hear the message, agree with it and then don't really act. So how can we make sure that we implement this?

Lloyd: Well when I talk about this I'm really talking to more of an American audience because in the United Kingdom you pretty much already do go a long way towards that. People do live in smaller houses, they do tend to take the tube more and drive a little less and they do have - my big *bête noire* - the sort of refrigerators, the American 1.2 metre wide fridges, four foot wide fridges that are

Ben: But you say all that and actually I think that we follow America but just in delay sometimes.

Lloyd: Interesting.

Ben: So certainly we've noticed with cars that cars have started to get a bit bigger. What used to be a small car, say for example a Mini, now looks like it's on steroids.

Lloyd: Yes it's true. If you look at the original Mini, the original British Minis now look like toys. That's true but I notice even that your biggest grocery stores, your Tescos, that were opening these monstrous football field size stores even they're going back and opening more smaller stores. People are, I believe, I could be wrong and you could correct me, that there is a tendency in North America in Toronto where I live that people are coming back downtown. They realise that this is where you want to live, that it's nice to be able to walk out to the pub instead of having to get into your car and drive everywhere like you do in the suburbs. This is a trend that is happening everywhere and I think it's really important and I think that will begin to negate the bigger cars that you're seeing on the roads. Certainly with the cost of fuel and the congestion charge that you have in London I'm surprised to hear you say that is actually happening.

Ben: Well let's move it on a little bit. There are elements, there are good things that we have in the UK but I always think that people can go further, can't they? They can try harder, can do more and I see myself as that person too and one of the funny things is when I started research on the house that I would like to build something that's much more energy efficient, I perhaps didn't realise how good my situation was at the moment. I live in a quite compact terraced

house that's right in the middle of the town, all of these things we've just been discussing.

Lloyd: You've got shared walls so that your only exposure is on three sides instead of five and as you say it's compact.

Ben: So it's all good, but I just wondered for the people who are like me hoping to create a house, actually going down that route and building something that's low impact, what advice would you give them?

Lloyd: Well the first thing that I would say that everyone should be looking at, that's the real way of the future, is the Passivhaus. The Passivhaus movement I know is really gaining traction in Britain. It's so incredibly logical that you just pile on the insulation to a degree that you really don't need much to heat it or cool it at all. It's counterbalancing the other trend that people are talking about is the net zero house.

I frankly don't think much of net zero because basically, you know, you can make your tent net zero if you are willing to throw enough money at solar panels on the roof. It doesn't necessarily lead to a house that consumes less energy it just leads to a house that you are using solar energy but it never takes into account the energy needed to make those solar panels, the area of the roof, what happens if someone else is planting trees and shading your panels so I'm most enthusiastic about the Passivhaus.

I'm also seeing a lot of use of different more innovative materials. I've even seen recently a straw bale Passivhaus which I think is an incredible concept, so that's where I would go.

Ben: Well you don't need to persuade me. I think it's a really good idea. What about the other end of the spectrum then if we are looking at buildings that claim to be green and perhaps they are not. Do you see mistakes that keep on recurring or is it actually down this net zero route?

Lloyd: Well I see lots of mistakes that keep recurring. I see that there is still far, far too much glazing, far too big windows. New house means giant picture window. When I was in school my professor would teach us that a window is supposed to frame a view, it's not just to be a wall of glass and the fact of the matter is even the best windows you get still have R values that are negligible compared to walls so in terms of design I think that's a really important feature.

The other thing is that so many house plans are in fact incredibly inefficient so that the houses end up much bigger than they have to be because there is so much space lost to corridor or duplication of spaces that aren't even needed or oversized rooms, miss-proportioned rooms and this is where I think there is a failure among people to actually hire professionals, to use architects who actually can lay things out properly. Everyone says: "Oh I saw this house plan I can adapt that, I can do this, push this here, push that there . . ." but I think sometimes it does take a professional.

And yet I believe the percentage of houses that are actually designed by architects is 3%. So I think that the profession is at fault there as they charge a lot of money but I think there has to be more professional design. There are now in the States, I don't know if in the UK, there are companies that have sprouted up to actually sell plans from architects which mean there is a resolved plan that you get for a much better price. I would like to see more of that as well.

Ben: I am certainly aware of that service but I wouldn't be able to tell you anything about the market here in the UK and it's probably global plans from the Internet is the way things go. Thinking for a moment about homebuyers and the people who want to invest in quality, how can they tell that a house is energy efficient? Is that another reason why you like Passivhaus?

Lloyd: Yes if it's a Passivhaus it has got to have been tested with a blower test and it's looked at with thermal cameras to find the leaks and unless it meets the air exchange, the airtightness regulation, it doesn't get the label.

So many of the *green* houses, so called green buildings, aren't actually tested. It was one of the problems with the big LEED programme in North America that everybody would say: "Oh I've designed this building to be green", but then they never actually tested to see if things had been installed properly, if it actually worked and if they are actually maintained because so many of these complex systems people just get tired of them they just turn them off. So you've got to keep it simple and you have got to have it verified, which Passivhaus does, and then you can be sure. There is so much green-wash going on that you've got to at least have some verifiable system.

Ben: Just before we started this interview you mentioned that you had actually been influenced a lot by the past and you have a love of

historic buildings so I'm very intrigued how all of that will fit into what we've been talking about so far.

Lloyd: Well one thing for instance that's happening all over is that some of the most successful people in the building trades are the replacement window salesmen who come in and say: "I can cut your energy costs in half by tearing out your single glazed windows and putting in these vinyl double glazed windows." Well it isn't true.

The increase in energy efficiency by replacing those windows is almost negligible. The cost of it is really high and the old windows are really part of the character of these houses and they could be 200 years old now and last another 200 years. Whereas vinyl replacement windows, the joke is, they are called replacement windows because every 15 years you've got to replace them. Double glazed glass doesn't hold that argon inside of it for more than 10 years then it's just got air blowing through them.

So I think the important thing is particularly if one is buying an older house is to fix what you've got, to caulk and seal and caulk some more, put on storm windows either internal or external but don't fall for these window salesmen. It's the last thing one should do in a renovation really in terms of cost, in terms of bang for your buck, it's a real waste of money.

Insulation and sealing are the two most important things but people don't want to insulate because your neighbours don't see it. You know, if you buy solar panels or you buy new windows then your neighbours can see the investment. If you just add insulation in your attic or in your walls, who knows that? And that's a real problem.

Ben: I know that you've been on a trip to China recently, I certainly found the blog posts very interesting, quite daunting though as well, because we are all in this together so how do you see tackling energy efficiency as a world?

Lloyd: That is truly one of the most troubling questions you can possibly ask because I was in China and saw the 5 million cars in Beijing and I saw in the more provincial capital that I was in, in Hunan, apartment buildings 60 storeys high going up everywhere, roads being built out into the country, the energy consumption there per capita is going up like mad.

The last few days I had in Beijing I could barely see and I could barely breath the pollution was so bad. You see that and you just

think, well what's the point? What difference does what I do make? And the fact of the matter is probably in the long run not much at all but we don't have a choice. China is going to have its eyes opened at some point very soon that it can't keep on doing what it's doing and for the rest of us I think that all we can do is what we can to make it better.

The week before I went to China I went to Copenhagen and there was a city that's gone from maybe ten percent of the people riding bicycles 30 years ago to fifty percent of it. They just decided we're going to change the way we live, we're going to build bicycle lanes, we're going to promote bicycles, we're going to make cars almost socially unacceptable for getting around, we're going to eliminate parking and suddenly the whole place is just wonderful. You go there and you get on your bike and you drive it everywhere and you just feel part of a whole scene. That eventually is going to spread.

Ben: I think you are right and it's almost as if they are doing it quietly. A number of countries they're perhaps getting on with energy efficiency, creating these lifestyles around bicycles and I'm convinced that they may become the world leaders. People who are moving in this direction will naturally be the people that we'll look to when we get into trouble.

Lloyd: Absolutely, absolutely they're doing amazing things there and it's not a big country and it's a wealthy country and when I compare it to going almost straight from there to China it's a completely different world. But China, I think, is figuring that out. I was visiting one company that was building some of the greenest, most efficient buildings that I have ever seen and they are all prefabricated, they've got fabulous air quality and really terrific insulation and if this company actually takes off it will change the way these buildings are built.

Ben: You mention that you like factory building and prefab, how is it advancing, is this something that's being embraced more on a world scale?

Lloyd: It depends where you look. In Scandinavia almost every house is built that way now. After the oil crisis in the seventies, about forty years ago, they started investing very seriously in improving their building technologies and really concluded that the only way you can really get all the joints right and everything together properly at the tolerances you need is to go prefabricated so they are very, very good at it. In North America less so, because anybody with a pickup truck and a nail-gun can call themselves a builder and it

makes it very, very difficult for the factories to actually compete. And nobody in America cares about quality as much as they do about cost per square foot. It's the only thing that appears to matter there and the bigger the house the lower the cost per square foot because it's just air, the kitchens and the bathrooms which are the expensive things are paid for. In Britain where land, I think, is in much more limited quantity and lots are smaller I don't think it's gone to the degree that it has in the United States.

I do know that there are some interesting things being done in Britain in prefabrication. Lord Foster, the architect, did an amazing housing community, I can't remember the name of it right now, that's all prefabrication and it's got tremendous energy efficiency out of it so I do think that ultimately it is the way that more and more stuff is going to be built. The old line I used to do when I was selling prefab is that you don't build your car in the driveway why do you build your house in it, you know.

Ben: I think we're definitely going to come round and particularly it's just that precision isn't it, you can't get that using traditional ways of building.

Lloyd: No you really can't and you also get some economies of scale. When I used to practice as an architect and you would see someone building a summer cottage which most people, you've more of a self-build culture in Britain where people do go out and build their own houses.

In North America it is almost impossible to get land, it's all in the control of the developers who want to sell you the house and the land so the only time that people do build their own houses is really only their second home country property and you'd see a little house being built and there would be fifteen pickup trucks around it all of which guys are driving fifty miles to get to the job site and the waste, they run out of nails, they got to drive half an hour to the hardware store, it's ridiculous. Whereas with prefabrication the whole thing just comes and slides off the truck and you don't worry about that so there are, I think, huge advantages for self-build and using prefabrication.

Ben: I'll just say one thing about self-build in the UK because we're not actually as advanced as you might think we are. The rest of Europe are very good but we are still, well it sounds like we are in a very similar situation to you in regards of our volume house builders

have a choke hold over all of the land and we are pushing for more self-build but it's easier said than done.

Lloyd: Ah!

Ben: Let's rap up here anyway. Do you have some closing thoughts perhaps on how we are doing with green design?

Lloyd: Oh! The problem is I think that there is actually declining interest in sustainable design and sustainable building over the last few years. I'm seeing it in the numbers of TreeHugger. I'm seeing it all around since the great recession started, since the economic troubles started people are far more concerned about the cost of things than they are actually about the quality and the energy efficiency of things. So a lot of those resources that you would go to they are thinner than they used to be. Even TreeHugger is less about design than it used to be and we have a lot more cute, fuzzy animal stories because people just . . .

There hasn't been as much change recently as much new developments, as many new technologies as there used to be and people are preoccupied with money and there's a major point about people sometimes are preoccupied with the wrong things. Like in the States, it is probably more so again than in Britain because you have much more hot water hydronic heating than forced air I believe, where everybody is obsessed with setback computerised, setback thermostats that connect to the Internet and all of these displays of your energy consumption and that. Well that, it's all just meaningless.

What you want is just to have a generally lower temperature. You don't need to have it going up and down like a yoyo, you don't need all of these computerised things. What you need is to know how to use what you have, to get a mix of humidity, ventilation and temperature, how to dress appropriately for the climate and less of the high technology stuff.

So that's the problem in saying what's to look at. I really promote simple, logical approaches that frankly aren't that different from what your grandparents did in the previous ages of austerity. Turn down the thermostat, put on a sweater, live in a smaller space.

Ben: Well that sounds a really good place to leave it. Lloyd can I thank you very much for coming onto the podcast.

Lloyd: Absolutely, yes it was a pleasure.