

The **Fine Homebuilding** Interview

Lloyd Alter

This polymath has been a vanguard of sustainability concerns

BY AARON FAGAN

Lloyd Alter has been an architect, builder, developer, inventor, professor, public speaker, and author. He has a bachelor of architecture degree from the University of Toronto, where he received the Alpha Rho Chi Medal. He was admitted to the Ontario Association of Architects in 1979 and is an adjunct professor of sustainable design at Toronto Metropolitan University. A former builder of prefab housing and a tiny-house pioneer, Alter is a passionate advocate of “radical sufficiency”—the belief that we use too much space, too much land, too much food, too much fuel, and too much money, and that the key to sustainability is simply to use less.

Alter has worked as an architect, developer, and builder in Canada and has lectured on prefab housing at conferences in Austin, Texas; Los Angeles; and San Francisco. He has served as chairman of the Toronto Society of Architects, vice president of the Ontario

Association of Architects, and president of the Architectural Conservancy of Ontario. Recognitions for Alter’s work include the 2014 USGBC Leadership Award for promotion of green building, the 2015 Mary Millard Award for contribution to architectural preservation, an Ontario Renews Award, and two Toronto Historical Board commendations for architecture and development work.

Since 2005 Alter has been writing for Treehugger about architecture, design, transportation, and planning, and he has contributed to a number of publications including *Architectural Record*, *Azure*, *Corporate Knights*, *Greensource*, *The Guardian*, *The Huffington Post*, and *Planet Green*. He is the author of *Living the 1.5 Degree Lifestyle* and the forthcoming *The Story of Upfront Carbon* (New Society Publishers, 2021 and 2024). He has been a regular speaker or moderator at international green building conferences in Boston, Munich, New York, Seattle, Toronto, Vancouver, and Vienna.

AF: What are some sustainability issues the home-building industry is getting right, and what are some of the things it's getting wrong?

LA: One of the things that we’re getting right is that people even care about sustainability. I remember years ago all the top architects—like Frank Gehry, for instance—were saying it’s unimportant. Of course, now everybody at least has to pay lip service to it even if they’re not seriously doing it.

I don’t think the building industry has changed all that much. The building industry mostly does what the building code tells it to do. When I look at production housing and all the renovations and custom houses that are being built, the industry still mostly

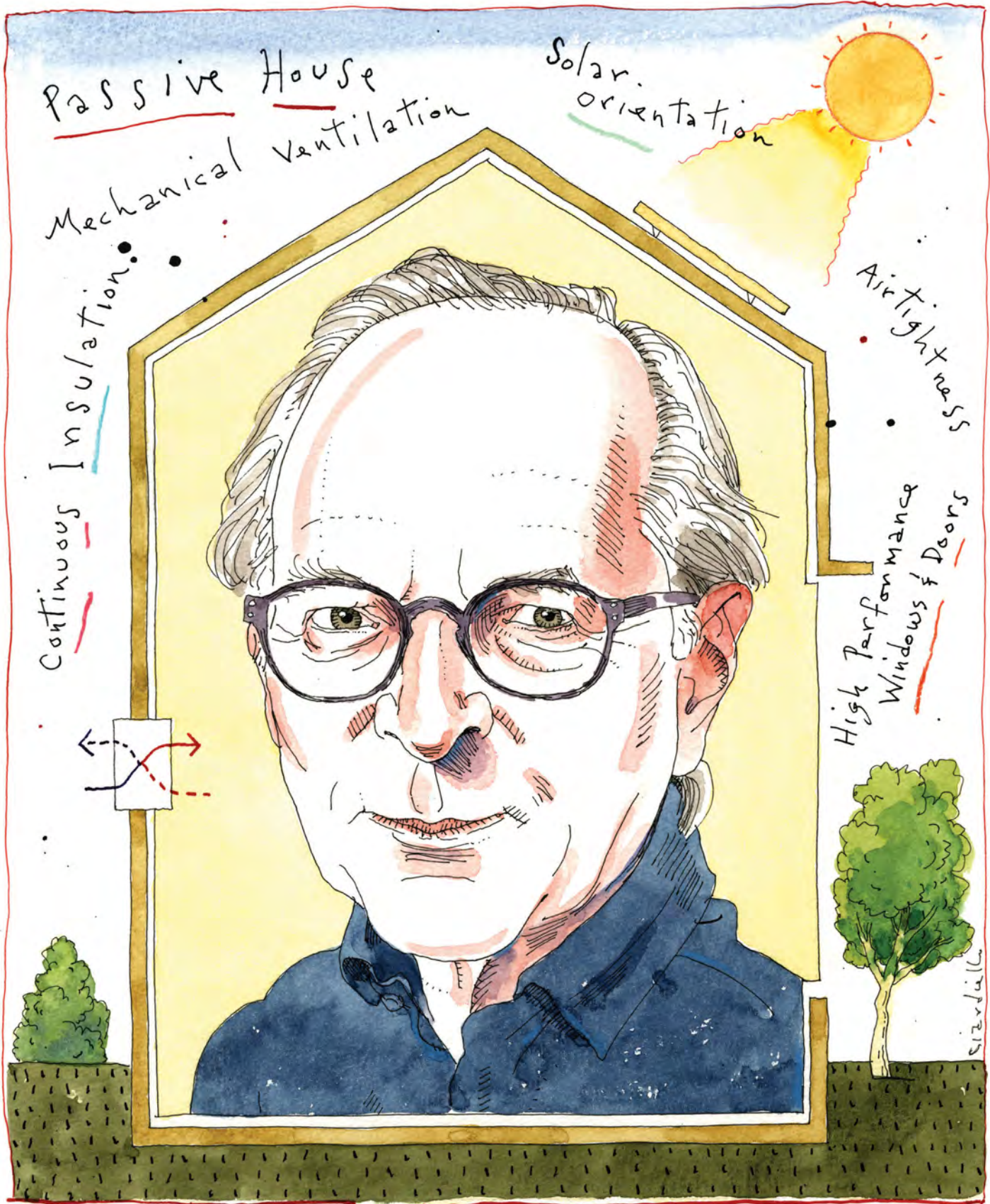
doesn’t care at all. I think that is a failure. We’ve seen certain jurisdictions crank up the code, like British Columbia, but everywhere else it’s the same old stuff. I don’t know if there have been drastic changes in the housing industry; it’s all incremental. And our problem is that we can’t do incremental anymore. We have to change what we’re doing immediately.

I was just reading a fascinating article that says what we have to do right now is put absolute limits on the size of houses. Everybody’s building 4000-sq.-ft. houses. We have to limit everything to 2000 sq. ft. We have to make everything Passive House, right now. We have to ban cars, right now. And all of that is not going to happen. People just aren’t going to accept that.

And that’s our biggest problem right now because what we have to do to really beat this problem is a lot more drastic than what we’re doing.

AF: There’s that famous aphorism architect Ludwig Mies van der Rohe liked to use: Less is more. I wonder how that might relate to your principle of radical sufficiency. Are we going about things the wrong way?

LA: The reason I’m so on to this whole issue of sufficiency and basically using less stuff is embodied carbon—which is in huge part the upfront carbon emissions that come from making things. When we’re pouring concrete, we’re putting out a big burp of carbon. When we’re making



cross-laminated timber, we're putting out a big burp of carbon from hauling all the trees out of the forest, gluing them together, and kiln-drying the wood by burning wood chips. That's still carbon dioxide going out. Everything we're doing, even if we're building the most marvelous wood building, still has upfront carbon emissions. When you start looking at that, the answer simply becomes we have to use less stuff.

We must look at what is the sufficient way to do everything. For instance, I live in half the space that I did 10 years ago, because nine years ago, I did a renovation of my house where I basically duplexed it. I now live on the lower level, and it's great. We have to do more of that. We have to be subdividing houses that are too big, or getting more people into them, and we have to make them closer together. And we have to travel between them with bicycles and e-bikes and cargo bikes and not cars, which is why you hear this worldwide push for the so-called "15-minute city" that everybody's getting so upset about. But really, it's just that we should all live close to stores and schools so we don't have to drive. And that, again, is how I'm living, because I happen to live in a so-called "streetcar suburb" in Toronto that was built in 1913, when the way everybody got around was in streetcars, and we still have most of them.

AF: Are there takeaways from your first book, *Living the 1.5 Degree Lifestyle*, that speak directly to people involved in the home-building industry?

LA: Yes, there are, because, again, I found out that the single biggest impact on my carbon footprint wasn't all the little things I did, but just the fact that I was lucky enough to have bought my house in a streetcar suburb. I was lucky enough that my wife didn't want to sell the house, so instead of moving into an apartment, I converted it into two apartments. And it was actually very easy—with respect to house design and urban planning—to radically cut my carbon footprint.

But my book that's coming out next spring—I'm just finishing the draft—is called *The Story of Upfront Carbon*. And it's all about how we must radically reduce our upfront carbon emissions. And it will

speak directly to the issue of how we should design homes—that is, with low-carbon materials like wood and cellulose and wood-fiber insulation and maybe not having concrete foundations at all. The book also addresses how we should get around by designing our communities so that we can use bikes.

I think the real revolution is electric cargo bikes. A study found that 75% of the population of England would be within good distance of proper stores, education, and everything else people need if they had access to a cargo bike. And I suspect it's pretty much the same in North America when I look at the suburbs here. You could

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travel by e-bike as easily as you could by car, and there's room in the roads to put in proper e-bike infrastructure, like separated bike lanes and everything we need to make it comfortable and safe.

We have to change the way that we live. And I know that's not going to be comfortable. What did Sebastian Gorka say to Americans about the Green New Deal? "They want to take your pickup truck. They want to rebuild your home." And it's true—we do. We have to, because if we don't, we're going to be in serious trouble.

AF: How does putting the onus of it on individuals make sense as opposed to officials in power taking any real action to curb corporate greed? If every individual on earth fell into line, streamlining their individual carbon footprint, it would still pale in comparison with industrial output.

LA: I don't agree for two reasons. Look at what happened during the first year of the pandemic—airlines were shut down, people weren't buying gas and couldn't drive anywhere. You saw what happened: Half a dozen fracking companies went bank-

rupt, the airlines and all kinds of other companies had to be rescued. We stopped buying what they were selling. They're not going to fly empty planes. They're not going to make gas nobody's buying. This is a consumption-driven problem, not a production-driven problem.

Admittedly, corporations help by advertising and getting us interested in buying massive SUVs and pickup trucks and promoting big houses to consume more gas. Absolutely, the consumer mindset and the marketing hype have inculcated us with the desire for bigger and more. But ultimately, it's us putting our money down to buy what they're selling that is causing the bulk of the problem.

So no, I don't buy that it's all the fault of big corporations. They're making things that we buy. It's all marketing, and they convinced us that this is what we want. There are nudges the government can do to push industry and push individuals in the right direction. Government can make a difference.

AF: How would you define individual climate action, and what can people in the home-building industry do to be more climate conscious in their professions?

LA: I think the first thing to do is to build less. Look at all the books from Sarah Susanka and everybody else about efficient planning and using less stuff to build. I also think builders have to build smaller, which I know is hard. They must build simpler. This is something I recently wrote about in this magazine (*Building Matters*, *FHB* #316). Every time people add a gable or a bump, it just adds complexity, material, and opportunities to leak.

Remember how we used to build in New England with those simple boxes? It's very nice looking at the old houses of Nantucket and elsewhere where our very frugal ancestors knew that every detail cost money, and so they didn't add superfluous ones. They all needed to build boxy two-story buildings because heat rises, they had to shovel the coal themselves, and nobody wanted to have a place that was all that big or difficult to heat because it was real work to do it. Imagine if we were doing the physical work ourselves in that way instead of rely-

ing on a fossil fuel. We need to start thinking of our designs in those terms.

AF: What is of greater urgency—how we build new houses today, or how we retrofit existing houses to reduce their carbon footprint?

LA: That's a very difficult question. We used to say the real issue was saving energy. Now our problem is carbon. For a while I thought, "Well, if you're living in Seattle (or another part of the country that gets green, clean energy), do you have to work so hard and spend so much money reducing energy consumption in houses?" And that led me to the thinking that maybe electrification and "heat-pumpification" with a bit of insulation is a better approach than trying to retrofit everything to such a high degree because of all the upfront carbon that goes into the retrofit.

A lot of retrofits find it much easier to use foam sprays, and they're a huge problem—even the reformulated ones—because they're still made with blowing agents with huge upfront emissions. I worry where the balance is. Windows take forever to pay themselves back in terms of carbon, and yet the first thing everybody does is change all the windows because people really just want to get rid of the wood windows and have less maintenance.

I do believe everything we build new should absolutely be to Passive House standards, and if not, the Pretty Good House gets close to that. I do believe that we have to do everything we can to promote multi-family housing for families. I've been in Austria, and I've been in Germany, where everybody lives this way, and nobody sits there and says, "Oh, I have to have a single-family house with a two-car garage." They're extremely rare, and it works for everybody there quite well.

AF: In your role as an educator, what have you observed about your students and institutions of higher learning? Are you encouraged, alarmed, or both?

LA: I'm horribly alarmed. The university that I teach at has one sustainable design course—mine—which is optional for third- and fourth-year students. They're going through three years of design training before anyone even starts talking to

them about sustainability or carbon. Schools are 10 years behind the times on all of this.

I remember 10 years ago they were behind the times about energy efficiency, and talking about design sustainability wasn't even on the radar. Now sustainability is on the radar, and upfront carbon emissions are not on the radar. I'm trying to change what I teach to adapt, but no, I think the education system is completely depressing.

AF: Tell us about what you've been working on. You mentioned your forthcoming book, *The Story of Upfront Carbon*.

LA: The book looks at the fact that we never really understood the importance of upfront carbon. We were so focused on

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energy conservation, we never considered how much carbon is released while making things. We only recently started factoring that in, which is why more and more people have been getting interested in wood construction. But people are also making dubious and extreme claims about how good wood is. No matter what material we build with, we still have to use as little of it as possible. All of this comes from the viewpoint of radical sufficiency.

AF: I am intrigued by your new Substack serial, *The New Manual of the Dwelling*, which is drawn from Le Corbusier's "The Manual of the Dwelling." Can you share the germination of that project?

LA: The last time there was a health crisis like COVID-19, it started the modern movement, which is what got Le Corbusier, Mies van der Rohe, and all the modern architects throwing out overstuffed furniture and developing lightweight, movable furniture with nowhere for germs to hide. It was all a response to tuberculosis. They wanted houses to be like sanitariums.

They wanted kitchens and bathrooms to be like hospitals.

Now we've had a pandemic, and suddenly people finally care about healthy buildings. It's terrible that it took a pandemic to do it, but like people have been saying since the 1920s, you need fresh air, you need sunlight, you shouldn't fill your house up with things you aren't able to wash and disinfect, you've got to be able to air things out, and so forth.

After all, Le Corbusier put a sink in the hall of a house so people would wash their hands upon entering the house. Everybody thought, "Oh, it's mystical! It's all about allusions to Jesus washing Peter's feet!" or this, that, or the other theory. No, it was simple and straightforward: People should wash their hands when they come in the door, so put a sink in the hall.

I have a sink in the hall. Since I designed my first house, I've had a sink in the hall because it has to be there to be used. With *The New Manual of the Dwelling*, the point of these serial essays on home design after COVID-19 is how to survive. COVID-19 isn't the last thing we're going to be dealing with, and we should be designing our houses and our buildings accordingly.

Look at the way people are designing. We don't just need lots of insulation because we want a Passive House to save energy and carbon. We also need it for resilience so that when the power goes out, the house doesn't cool down overnight. A Passive House will stay warm for a week. This is why we must start thinking about all of these things on many different levels. It's not just energy costs or carbon; we have to think about how our houses keep us alive.

AF: Do you have any closing thoughts?

LA: I think there are three words that have to be applied to almost everything in our design and daily life: Just use less. Everything has an upfront carbon cost to making it, a cost to operating it, and a cost to maintaining it. The key to getting through everything in this era is what I call radical sufficiency, but that can be simplified into the three words: Just use less. □

Aaron Fagan, a former associate editor for *Fine Homebuilding*, is a senior editor for *Gear Technology* and *Power Transmission Engineering* magazines.