



Michelle Kaufmann Imagines a Future of Green Building

by Michelle Kaufmann, San Francisco, California on 04.22.10

DESIGN & ARCHITECTURE

TreeHugger: What are the major advances have you seen (in your field) during the past 40 years? What, if any, were the major failures?

Michelle Kaufmann: Well, 40 years ago I was still three years shy of preschool, so I'll focus more on the last 20 years. The adoption of more green building principles, the advent of green rating programs for commercial and residential buildings, alternative energy systems and more prefabrication are a few of the game changers that come immediately to mind.

The development and use of technology in design has definitely raised the bar. It is now possible to make a scale model of a building of almost any shape, run a handheld digitizer over it's surface and send that info to a hard drive. From there that data can be used to create scaled drawings, or in the case of a project I collaborated on recently, the data was sent to a CNC milling machine that manufactured full scale parts of a clients house. Really amazing stuff when you actually consider what a short time we have been using computers.

A few notable mentions in the Darwin Design Awards:

The idea that bigger is better, resulting in the birth of "McMansions," an ill conceived, ugly,

wasteful blight on the landscape. Need I say more? The insane notion that a "new house smell" was something to be desired. If you can smell it, it most likely is still off gassing and is toxic! Those not-so-timeless design style fads; 70's brutalism, 80's post-modernism, 90's deconstructivism).

Our use of technology in architecture is still in its infancy. We have been using technology to try to dominate our environment rather than using it to help us better integrate into our ecosystem.

How exciting as we look to the immediate future and innovation happening all around us! We have all the pieces; we just need to figure out how best to put them together.



TH: What does a bright green future look like in this field?

MK: I dream of a future where our buildings are not only non off-gassing and have zero toxins, but that they actually improve our health. Imagine buildings that are integrated into the ecosystem, taking what are typically seen as problems (such as affordable food production, fresh water shortages, and increased waste production) and make them into beautiful design solutions such as edible building skins and porous, breathable walls that "drink," purify and store water for the building inhabitants. Imagine



buildings that are intelligent and can adjust to maximize comfort and efficiencies at different seasons and times of day (we wear different clothing at different times of year, and our buildings should also be able to adjust their skins). Imagine a future with zero waste, where buildings produce their own energy, collect their own water, and improve the lives of the inhabitants.

TH: How would we realistically transition into that sort of ideal situation?

MK: Here are 5 things we can do to make this future a reality:

1. Mashup of Past and Present Remembering the best design principles from the past and mixing those with advanced technologies is the best recipe for truly sustainable design.

2. Cradle to Cradle Principles described in the book *Cradle to Cradle* (by William McDonough and Dr. Michael Braungart) are becoming a reality through the work of their C2C certification program and work with agencies to help provide roadmaps for achieving zero waste while simultaneously driving economic, ecological and equitable growth. I strongly believe this is a path for much innovation in the design and construction industry.

3. Designing for Deconstruction Knowing our needs and desires change over time, we can design for efficient deconstruction (rather than demolition) resulting in zero waste. For example, currently, if one remodels their kitchen most of the countertops, cabinets and plumbing fixtures are ruined with the removal because of typical construction techniques and how they were originally constructed. However, if we design and build an entire kitchen module that could be removed (floors, walls, mechanical systems and all) and a new kitchen module inserted, the old kitchen stays intact and can be reused by someone else with no waste produced.

4. Present Meaningful Information Clearly Much like nutrition labels for food, we need more accurate and easy to understand information on products and buildings to help us

make better choices. Carbon Emissions labels (including embodied energy) on all products, buildings, foods and services will make a significant difference.

5. Interdisciplinary Collaboration Some of the most interesting work being done is through collaboration of different disciplines. Imagine a design team comprised of a molecular biologist, a farmer, a building automation specialist as well as an architect. The focused intensity of all these individuals, who might not normally be in the same room together, could be apt to ignite some truly amazing and innovative solutions to current day problems.