

Q&A with William A. McDonough



“If people have done any math, they will understand how valuable the green agenda is economically, and that if they

don’t adopt it, they are probably not intelligent fiduciaries as developers or owners.”

William A. McDonough, a widely recognized pioneer in green buildings and sustainability, is the founding principal of William McDonough + Partners, Architecture and Community Design, which has offices in Charlottesville, Virginia, and San Francisco. He wrote Cradle to Cradle: Remaking the Way We Make Things, which promotes the transformation of human industry through ecologically sensitive design.

Do you think that green buildings have reached the tipping point where they are becoming the preferred norm rather than the exception?

We are certainly feeling we have reached a tipping point in our office. We used to get two or three requests a week to do green work and now we get the same number every day. We also see that our own leadership has spawned a number of firms that are also working in the green space. So, we are no longer feeling so alone in the forest. We have lots of competitors that are fiercely engaged in going after work, using green criteria as part of their proposition.

Certainly, for owners who are building for their own use, the productivity gains for their employees, which are their highest cost, more than offset the cost of the entire

building, not just the green features—and sometimes in only one or two years. The numbers are compelling. A 1 percent increase in productivity can pay for green features. A 10 percent increase in productivity can pay for the building—yes, *the building*.

We see 4 to 16 percent increases in productivity in our buildings, and it’s usually higher in clerical activities like call centers and marketing operations, because they get daylight and fresh air. The highest value is typically in a manufacturing context. The Herman Miller building [in Zeeland, Michigan] has experienced an increase in profitability of \$45 million a year, and the building cost \$15 million. The building paid for itself in four months. Some 350 people moved from an older building with no daylight, where they were doing \$250 million a year in furniture sales. In the new building, the same people did \$350 million in furniture. Drop out the overhead of furniture and logistics, and you are left with \$45 million in new revenue.

Tell me more about the fiduciary issue for owners and developers.

It’s very important. Because of our firm’s history of interest in indoor air quality since the early 1980s, we have seen the lawsuits over indoor air quality complaints, which were settled out of court because they didn’t want to create a scare or precedent.

Anybody with half a wit will not want to expose themselves to contingent liabilities. Anybody in an executive position will want to be both cognizant of and render visible their contingent liabilities. If I am a CFO and I have a potential lawsuit that would cost the company \$100 million or affect our insurance coverage, I must let the shareholders know. I just cannot leave it floating out there.

So sick buildings will be more and more an issue of contingent liability for the owners and definitely in the marketplace. The banks won’t touch them. Who will want them? [They’re] expensive—like having a superfund site built on your property.

Smart people will want to show that they are not negligent. As more and more owners and tenants become aware of these issues, there will be a tipping point where people are rendered liable because they should have known.

Why is this shift to green buildings occurring after such a long incubation period? Pioneering architects like you were designing sustainable buildings in the 1970s and 1980s.

Thomas Jefferson said that revolutions happen when you get a critical mass of 5 percent of thought leadership. So, that’s what has happened: at least 5 percent of the building industry has recognized that green building is fundamental to the enjoyment of life, liberty, and pursuit of happiness—not to mention profit—in the field of building.

It has taken this long to reach the critical mass. But we’re here: green buildings and best practices exist now. When we did the first green roofs for Ford [in Dearborn, Michigan], Mayor Richard Daley in Chicago [the Chicago City Hall], and Gap [in San Bruno, California], they were the first ones. Once they were done and proven, anybody could be second, or third, or fourth. The first example gave other people the license to practice.

What sectors or building types are leading the green transformation? Why?

Typically, it’s buildings with names on them because those people have a comprehensive view of their self-interest. So, it’s typically the non-spec owners and developers constructing for their own account—the corporation that celebrates people as their primary resource, like Gap in San Bruno.

Now, take all the solar collectors for the roofs on Google’s headquarters: that’s what a responsible corporation should do. They’re not stupid. Their job is getting the top PhDs at Stanford and similar universities. The cost of solar collectors is chump change compared with recruiting value—because Google has one of the highest rates

of return per person, nearly \$1 million—if they recruit the right people.

We must also respect that people, that companies have different bottom lines. You must respect that people come to green buildings in different ways—saving money in energy, reducing liability, boosting productivity, or feeling good about “green” rather than pink marble in the lobby.

What are the challenges to green buildings truly going mainstream?

The primary impediment is the perception that green buildings cost more, without any kind of comprehensive understanding of the real value that will be generated. It doesn't take long to run the numbers on green agendas [and find] immense payback.

All sustainability, like politics, is local. We got a project approved in California because it had a green roof. Earlier, the city had decided that the stormwater system couldn't handle any more stormwater: they were going to reject any more development because the infrastructure had maxed out. When they saw our building with a nine-inch-thick green roof, they said build it since the water runoff would be less than existing runoff from the site, which had an artificial surface.

USGBC's Leadership in Energy and Environmental Design (LEED) standards have become the benchmark for green buildings. Can you suggest any improvements in the LEED rating system?

The LEED standards are a great start because they give a benchmark against which people can measure a building's performance. But any checklist is always ready for improvement. The LEED checklist gives points for recycled content in carpet and other products, but it doesn't look at the qualitative question, are there harmful materials like PVC [polyvinyl chloride] in the carpet? You could be recycling a carcinogen.

So, in many cases, we need new design of things. That's where we are looking at integrating “cradle to cradle” practices into

LEED where we can get innovation points for new, more sustainable products. Warren Buffet's company, Berkshire Hathaway, has the capital to invest in intelligent market steps, and in the case of carpet, it owns Shaw Industries, the largest carpet manufacturer in the world. They can invest in retooling; they are getting out of PVC in carpets. They could have said we cannot afford it or that PVC is good for you, but they didn't. They just made the change.

Countries around the world are starting to ban PVC. Shaw made a fundamental business decision that respects the reality of the current global business environment.

What about China? By 2009, the country is projected to produce more greenhouse gases than the United States, and it has suffered major environmental disasters. Can it be a leader in green technology?

China is a supernova that is exploding and imploding simultaneously. The environment is collapsing while the economy is exploding. The rivers run black. You can eat the air. You can feel it on your tongue.

So, China holds the key to this green issue—that is, when China decides to make solar collectors, that will make solar energy cheaper than burning coal. That's got to be one of the fundamental steps in resolving their air problem, which is very visible in particulates.

When China comes on line with solar collectors that are cheaper than coal, it will be one of the greatest gifts to the United States. For every one job in manufacturing collectors, you will create four jobs in installation and maintenance in whatever country they are installed.

China wants to create jobs for itself, create new markets, and reduce its own pollution—to solve all kinds of problems at once. How close are they to doing that? Six years and \$3 billion away. The perfectly exquisite outcome would be for China to put \$3 billion into solar technologies immediately, looking

for the way to make equipment that can mass produce solar collectors on a scale at which generating kilowatt-hours from the sun produces energy cheaper than the burning of coal. That is the assignment of our species at this moment in history. And China is the only place where this can happen.

In the end, China will make the equipment that makes the solar collectors, then ship it to the U.S. for assembly and final production. We have to tool up a piece of equipment that costs \$100 million to manufacture here, but can be built in China for \$10 million. So, you manufacture the solar equipment in China and bring it here to carry out the actual production.

The thing in the next ten years after that will be logistics. Why not [produce a solar collector] locally instead of shipping it across the ocean? So, I think the Chinese will build factories all over the United States in the next 50 years, just like the Japanese have done with cars.

What are your predictions about sustainability? In ten to 20 years, how will sustainability have affected the real estate industry?

Given the fact that young people see sustainability as common sense and don't understand why we would do it any other way, in 20 years, these practices will be considered normal behavior.

I have CEO clients who are thinking this way. Because they are 45 years old, not 55 years old, their world and perceptions are different. That's a ten-year gap, but it might as well be the Grand Canyon.

What do you hope your legacy to be?

I think [it will be] my buildings and the cities we are designing, certainly. That's kind of obvious, because I am an architect. But it's really the many minds I've changed. That will be my legacy. **UL**

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