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## Three reasons to build green

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*A personal account of building a LEED-certified home*

Our family recently built a new home on the edge of Downtown. I had known from the beginning that I wanted to pursue LEED Certification. LEED is an acronym for Leadership in Energy and Environmental Design, a rating system developed by the U.S. Green Building Council to define and measure “green” buildings. LEED for Homes is a national, voluntary certification system that promotes the design and construction of high-performance green homes and encourages the adoption of sustainable practices by the homebuilding industry.

Personally, I had been researching healthy building materials, appliances and fixtures, and was well-versed in energy efficiency and renewable energy from my work with a solar energy company. I didn’t need to hire a consultant to help me wade through all these decisions; I wanted to figure it all out for myself. We were going to have a green home. But pursuing LEED Certification, I quickly discovered, requires a little more effort. So why, many would ask me, would I want to incur that extra time and expense? My answer is threefold.

First, the LEED rating system helped tremendously to guide us along the path toward building a sustainable home. Its 342-page reference manual provides green building

strategies in five key categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. The rating system itself is a gold mine for any builder or remodeler to learn more about building high-quality, durable homes.

Second, LEED certification requires third party verification. This means that we needed a “Green Rater,” who came to the site, twice: first, to inspect the insulation (pre-dry wall, post-insulation); second, to test the leakage of the entire building envelope, duct system and air flow. These tests were inexpensive relative to the entire cost of the building, and it was more than worth it to have the peace of mind that the house was actually built to specification (our builder agreed to pay for the tests, since they get the credit for building a LEED-certified home).

Third, and most importantly, we get to continue to benefit from living in this home. The way I look at it, there are only three reasons to go green: to save money, to improve our health and to feel good about doing the right thing. How did these three things play out? So far, so good.

### **Saving green**

Our green rater had predicted our energy consumption to be 35 percent of the “standard” reference home, a similar-sized home built to code. That means our utility bills would be 65 percent less than if we had not built a LEED home. (An Energy Star-rated Home, for which we also qualify, typically saves 15–20 percent.) Since we moved into our new home in February 2009, we now have almost two year’s worth of utility bills to compare against the planned design. And they are coming in right on target — actually slightly lower than predicted!

Our water bills are lower, too. We have dual flush toilets, our landscaping is irrigated with ground water (which is plentiful on our property) and we applied for and received a storm-water credit on our water/sewer bill for diverting most of the rainwater away from the storm water sewage system.

### **Improving health**

Clean water and air are truly the necessities of life. Many building products and materials — such as paints, finishes, sealants and adhesives — off-gas for a period of time, causing respiratory illnesses and headaches for the people installing them as well as for the homeowners. LEED for Homes addresses the issue of indoor air quality by giving credit to products with no added urea formaldehyde and products with no or low volatile organic compounds (VOCs). It also requires that the home has adequate air ventilation, filters and fresh air circulation — so as we live in the house, we continue to breathe clean air. (The EPA estimates that indoor air quality is two to five times worse than outdoor air quality, and people spend 90 percent of their time indoors!) We added to this “healthy home” concept by adding a whole-house water filtration system to remove all the contaminants. Now I can breathe easier, knowing that my daughters are not absorbing chlorine into their skin every time they take a bath. Since our drinking water is R.O. (reverse osmosis) filtered, we never buy bottled water — helping to reduce that waste stream. And since we cook with and drink water every day, I viewed this as one of the primary components of a healthy home.

## **Feeling good**

Let’s face it — building a new home is not the most environmentally-friendly thing a person can do. There is construction waste, harvesting or mining and manufacturing of natural resources, transportation for all the construction workers to and from the site, the list goes on. At the same time, we are all trying to do the best we can. What can we do, as individuals, to help save the planet? Trying to live sustainably in our culture today is hard. It is inconvenient and often costs more money. But if we start with the intention to become more sustainable, each of us can make a difference. And we need to feel like we are part of the solution, not part of the problem. So to me, building a LEED-certified home is a good start. And it does feel good.

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