



Melink Net-Zero Energy Headquarters

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In May 2011 we received our first electric bill with an amount due of \$0. In June we received our second electric bill with an amount due of \$0. In addition, we received a credit of more than \$500 that will be applied to our next electric bill in July. Wow! It sure is gratifying to see our investments in energy efficiency and renewable energy over the last 5 years paying off in such a tangible way.

Our company started this journey in 2004 after I attended a green building conference in Cleveland. Long story short - I walked away inspired and decided to design and build a super-green facility for our company in Cincinnati. As I continued to read and learn about green buildings, I became further inspired by the '2030 Challenge' – which calls for all new construction to be net-zero energy (NZE) by the year 2030. Such a powerful vision was refreshing to me. And given the growing science of climate change it seemed necessary.

Therefore, we boldly announced to employees and anyone who would listen that our next objective was to achieve NZE by the year 2010 – a full 20 years ahead of the 2030 Challenge target. But the larger goal was to show this could be accomplished in a financially responsible way so that others would want to follow our lead. After all, a practical business model is necessary to help mainstream a new concept like NZE.

While I could bore you with lots of details about the design, construction, and operation of our headquarters, I am only going to focus on the most important and strategic ones. In fact, the technical know-how of NZE is becoming well-documented from other recent case studies on buildings across the country and around the world.

So let me just summarize the key strategies we used at our building: 1) South-facing orientation and elongated layout – to maximize passive solar heating and lighting; 2) Super-insulated building envelope – to minimize heating and air conditioning losses; 3) Geothermal heat pumps – to eliminate onsite burning of fossil fuels and maximize heating and cooling efficiencies; 4) Natural day-lighting and controls – to minimize the need for electric lighting; and 5) Solar PV systems – to offset the electrical loads – on average - over the course of the year.

The more significant lesson in my story is 'empowerment.' What we did – anyone can do. We did not have any special advantage other than a plan and the commitment to follow-through. In hindsight it seems like commonsense and begs the question: why isn't everyone doing this? Even if you aren't convinced that climate change is a problem, the opportunity to save money should be compelling enough.

Our building is 30,000 sf and we spent about \$750,000 on energy efficiency and renewable energy systems in order to achieve NZE. While this sounds like a lot, we are saving approximately \$75,000 per year and this will only increase over time as electric rates continue rising. Furthermore, we financed most of our investment through commercial building and improvement loans, and so we did not have to write a check upfront. Instead we are paying a little every month as we accrue the benefits every month.

As a business owner I try not to fall for short-term thinking and simple paybacks. I prefer and recommend a life-cycle cash-flow analysis that factors in accelerated depreciation, energy inflation, operation and maintenance, and any other cash flows over the life of the equipment. And while our cost to go NZE was \$25 per square foot, this will only decrease over time as the building industry climbs the learning curve on super-efficient buildings.

But amazingly, the biggest benefit of going NZE has not been the energy savings ... even though I love \$0 energy bills. The biggest benefit has been human resource (HR) and public relations (PR) related. The HR benefit is the fact we are able to attract and retain more engaged people than we have in the past. People want to work for



companies that are part of an important cause and live true to their mission and values. And since salaries and wages are the largest expense item on our P&L statement, increasing productivity just 1-5% dwarfs the energy savings we have realized to date.

Same goes for the PR benefit of going NZE. The amount of recognition we have gained as a result of trying to help lead the green building movement is something we never planned for or expected. Though the actual value is difficult to quantify, the top-line benefit has been real and again dwarfs our energy savings in my opinion. We could have never afforded the equivalent in advertising.

Therefore, my conclusion is this: Net-zero energy buildings are the way of the future. You can wait until 2030 when codes require it and everyone else is doing it. Or you can start realizing the many savings and benefits today ... and help lead one of the greatest movements of our time.