



CINCINNATI USA REGIONAL CHAMBER KEYNOTE SPEECH (5/22/08)

“Cincinnati Becoming a Leader in Green Building”

Thank you for coming here this afternoon to learn more about the local green building movement and more specifically our unique opportunity to make Cincinnati a top 10 leader in sustainable communities within the United States.

I would like to start by recognizing SHP Leading Design for their expected LEED Gold – Commercial Interiors Certification. This project, which I understand is on the fourth floor where the reception will be located, is testimony to the fact that successful companies in Cincinnati are embracing green design – here and now – for both financial reasons and market leadership reasons.

The groundswell of interest and activity in all things green is mind-boggling and inspiring. It gives hope that despite rising energy prices and strain on the economy; despite increasing average temperatures and environmental concerns; despite a war in the Middle East where our national security is so dependent – ordinary citizens like you and me can work toward a better life for our children and future generations.

Currently there are approximately 1500 LEED Certified buildings in the U.S.; approximately 300 of which are in Ohio, Kentucky, and Indiana; and about 30 of which are in the Greater Cincinnati area. The exciting thing, though, is the number of registered projects in our area that are in the pipeline to be LEED certified. It makes it conceivable that one day all new construction will go for LEED or some other certification; and this will put pressure on existing buildings to become certified as well.

Some people might balk at the cost, but the value of LEED certification is in its independence and disciplined approach to ensure credibility in the marketplace. LEED to buildings is the equivalent of UL to appliances, the FAA to airplanes, and the FDA to food and drugs. Without quality assurance tools like LEED, unethical companies can claim anything they want about the performance of their products and services.

According to a recent study, LEED certified buildings command higher lease rates, higher occupancy rates, higher resale values, greater overall tenant satisfaction, and lower operating costs when compared to non-LEED buildings. Though LEED may not be for everyone for whatever reason, it is the best thing we have at this time to benchmark building performance. And again, it is becoming a de facto standard around the world.

As many of you know, the City of Cincinnati passed one of the most progressive tax incentives in the nation last year to encourage investment in green buildings. It is also about to launch a bold and innovative Climate Protection Action Plan. Hamilton County has also shown a high-level commitment to sustainability by signing the Cool Counties Agreement last year. And other local government entities are also quickly adopting plans for sustainability within their own operations as well as their respective communities.

The University of Cincinnati and Cincinnati State are exhibiting tremendous leadership in the area of sustainability; so are the Cincinnati Zoo, the Civic Garden Center, and other educational organizations. We are fortunate to have active participation in the regional chapters of the USGBC, Green Energy Ohio, and Association of Energy Engineers.

And the number of architects, engineers, manufacturers, contractors, and other building professionals in the area who already have or are planning to get their LEED AP credential is astounding. Never before in my 25+ year career have I seen such transformational change in our building industry.



My point is, Cincinnati is quickly becoming a hot bed of activity and therefore I think we should at least consider where it is taking us ... or better put, where we are taking it. Why not seize this time in our history as a unique opportunity for Cincinnati to re-imagine itself and become a role model city in the Midwest.

As the owner and operator of a LEED Gold building, I can personally attest to the many benefits of going green. It is not just the energy savings – although the energy savings can alone justify the incremental investment – especially in this time of rapidly escalating energy costs. Going green is just as much about providing a healthy and comfortable indoor environment where people are able to enjoy and thrive on doing their life's work. I have no doubt that our employees are 1%, 2%, 3%, and maybe even 5% more productive than they would be in an average building. Payroll is the single largest cost in our P&L – as it is with most companies - and so the boost to our bottom line is significant even if it might be somewhat intangible.

Also we are able to attract and retain better talent now largely because we are seen as a company with a purpose and mission beyond just making money. Burned-out generation X and progressive-thinking generation Y workers want to find meaning in their work and feel like they can make a difference in the world. Again, although the productivity savings is difficult to calculate, there is no doubt in my mind they are real.

The PR benefit of being a green leader is also worth accounting for. We built our building over 2-1/2 years ago and people are still calling us every week to request a tour so they can learn how to go green themselves. And the media has given us more free exposure than we could ever afford to buy in traditional advertising. The public recognition has been a boost to our credibility and marketability. Even if the top-line benefit is as little as 1%, 2%, or 3%, it adds to the financial justification of everything we are doing. Too many conventional-thinking business people only look at the obvious and directly calculable energy cost savings – but the HR and PR savings have the potential to far-outweigh the energy savings.

In fact, the experience of designing and building our LEED Gold headquarters was so enlightening that soon after moving in we decided this was not the end of a project but the beginning of a journey. Further inspired by renown architect Ed Masria and his 2030 Challenge - which calls for all buildings to be net zero energy by the year 2030 - we committed ourselves to achieving this goal by 2010 – 20 years ahead of schedule. Therefore we are continuously improving our building operations and adding renewable energy systems as our budget allows. For example, this spring we are installing a third solar PV array on our roof, installing solar collectors on a south-facing wall for water heating, installing sun-shades over our south-facing windows, and even installing a low-speed wind turbine to complement our solar PV system at night and during the winter.

The incremental cost for us to achieve LEED Gold was 10% or \$250,000 above a conventional code-compliant building. But that was in 2004 and 2005 when the green supply chain was still young and undeveloped. I would venture to say that if I were to go through the process again it would cost as little as 5% more. And to go LEED Silver might cost only 2-3% more; and the cost to go just LEED Certified might be little or no extra investment. Integrated design is the key to high-performance buildings with minimal extra cost.

The energy savings on our incremental investment is calculated at \$40,000 per year with a simple payback of 6.3 years. This is based on the average office building costing \$2psf/yr for utilities and the fact ours was only costing \$0.67psf/yr after the first year. After the second year we reduced that cost to less than \$0.50psf/yr with minimal additional investment - despite adding about 20% more people in our office.

I know conventional thinking says that we should not do any of these things unless the payback is less than, say 3 years. But we did not want to be conventional – we wanted to be a leader. And as mentioned before, we have been fortunate to realize intangible benefits of equal or greater value than the calculated energy savings - which have made our investment decisions look even better.



But I want to further expand on the subject of justification, because it is so central to our ability to compete in the new energy economy. For America to become a great country again and Cincinnati to become a great city again we have to think beyond the infamous payback paradigm.

- Sure, financial considerations are important and for many the only criterion for making a decision. Oil has risen to over \$125 a barrel and gasoline to \$4 a gallon. Some analysts predict oil will go to \$200 a barrel in a couple years. China and India are industrializing and creating unprecedented demand. This while oil production is showing signs of peaking and analysts saying there might only be 20-30 years of supply left based on known reserves. If that is not bad enough, electric rates and natural gas prices are also poised to go up again in the near future. Residents do not want coal-fired or nuclear power plants in their back yard; and many states are mandating that public utilities go with more renewable energy. The impact of higher energy prices on our economy has already been staggering and it will only get worse. Who foresaw six months ago that food prices would shoot up as much as they have? The breadth and depth of economic shock and awe will create problems for the many and opportunities for the few. But those who embrace a life-cycle cost approach will have a better chance of being around in 5-10 years than those who are mainly focused on meeting next quarter's numbers. That's why the Japanese auto manufacturers are leading the world in hybrid car sales; why Germany is leading the world in renewable energy production; and why the U.S. is more dependent on foreign sources today than ever before. A long term vision and commitment trumps the get rich quick approach to investing and so we in Cincinnati need to be mindful of this when moving forward.
- In addition to the financial consideration, there is the ethical consideration when weighing investments in sustainability. In 2007 climate scientists around the world issued a consensus opinion that global warming is in fact occurring, and there is a very high probability that this is partly due to human activity, that is burning fossil fuels and releasing CO₂ into the atmosphere - thereby creating a greenhouse effect around the planet. Scientific measurement of increasing CO₂ levels and average temperatures tells us this is occurring; empirical evidence of polar ice caps and glaciers melting tells also us this; and in my mind common sense through other life experiences such as the growing prevalence of air and water pollution tells me this. This is not a political statement. This is simply recognition of the fact that I am not a climatologist - and if they say this is a problem then who am I to doubt them? In fact it seems the majority of the minority who say global warming is not occurring or is only a natural phenomenon are not climatologists themselves. Paid lobbyists who have an agenda and political extremists who are emotionally invested in their particular viewpoint should not hold the same influence as the scientists who are dedicating their lives to learning the real facts of this matter. The acid test for objectivity on this matter is the question: Are we willing to change our position - whatever it is - based on new information that we may get tomorrow? At this time the preponderance of evidence points to an enormous future problem if we don't start acting like responsible citizens of the Earth. Fortunately the forces of government, business, and education are starting to come together around this issue. We in Cincinnati need to unite around this issue as well and make our community an example of sustainable living – with or without global warming – for the sake of clean air and water.
- A third consideration for going green above and beyond the financial and environmental reasons pertains to national security. We cannot ignore the fact we are at least partly fighting a war on the other side of the world because of our dependency on oil. If we spread a portion of the hundreds of billions of dollars this war is costing us to protect these assets - as well as a portion of the hundreds of billions of dollars it will cost to deal with global warming or other side effects in the future, the cost of gasoline would be a lot more than \$4 a gallon. Some say it would be double that. This does not include the human toll our country is



paying in lives lost and injuries sustained. It simply does not make sense that we are transferring \$500 billion a year of our country's wealth to the Middle East ... in 10 years that will be \$5 trillion dollars. It's the biggest transfer of wealth in history. Why not keep that money circulating inside the United States? We in

- Cincinnati can rally around this point by thinking globally and acting locally. Whether it be designing our communities for walkers and bikers; implementing the long awaited light-rail system to get cars off the road; and/or providing incentives such as left-lane only access for those who car-pool.

The triple bottom line of financial, environmental, and security improvement needs to be ingrained into our thinking. Take any one of these and the justification for going green is very compelling. Take two or all three and the justification becomes a moral imperative.

Of course the best way for me or anyone to promote sustainability is not to talk the talk but to walk the walk. As such I am determined to not only survive these tough economic times but to thrive in them. My investment in energy efficiency and renewable energy pays dividends and appreciates just like my investment in stocks, bonds, mutual funds, and real estate. In fact the returns are higher since interest rates are so low and real estate has been so depressed. And the increased diversity of my portfolio protects me even more against the many risks that are out there. For those do not know, there are federal tax credits and state grants available for renewable energy installations – and you can take advantage of accelerated depreciation and long-term financing for a net positive cash flow.

Skeptics tell me that if it doesn't pay itself back in 3 years it doesn't make sense. Then I notice they are wearing brand name clothes, sporting a fashionable watch, driving a luxury car, and learn they are planning an exotic vacation. And I wonder why they view an investment in their homes and businesses which makes money for them as being inferior to purchases that have no payback and will only depreciate over time. One lesson for me and perhaps all of us is, we need to make going green as socially acceptable and cool as driving a fancy car – because it certainly beats the economic argument for driving one.

I will take the payback of my geothermal heating and cooling system, solar PV array, and hybrid car over that of a Rolex watch, Mercedes convertible, and trip to the Bahamas any day. Plus the long term emotional satisfaction of doing the right thing for the environment and minimizing my dependency on foreign oil far exceeds the satisfaction I get from the typical status symbols. What we need to do is make sustainability a status symbol in Cincinnati!

If what is happening in the Cincinnati area is not enough to convince you where this is all going, take a look at some Fortune 100 companies and how they are positioning themselves for future success. GE is betting billions of dollars on solar and wind power; Toyota is doing the same with plug-in electric vehicles; Wal-Mart is promoting sustainability through its entire supply chain affecting thousands of companies; and even BP – one of the largest oil companies – is diversifying into renewable energy. Our own Duke Energy is also investing in solar and wind farms, and promoting energy efficiency as the 5th fuel. Sustainable design is becoming as much a part of their thinking as cost, quality, and delivery.

Then look at what cities like Austin; Boulder; Portland; Chicago; and Charlotte are doing. And look at what CA, PA, MI, NJ, and NM are doing at the state level. These progressive cities and states are acting as real change agents and Cincinnati needs to keep up. Other great role models for us are Paris, Venice, London, Brussels, and Zurich. If you have ever been to any of these cities you cannot help but be inspired by the planning that went into them a 100 or even 200 years ago. You do not need a car; people walk and take trains; homes, places of work, and places of entertainment are co-mingled. People are healthy looking and the energy and excitement on the streets is very palpable. Now it needs to come to Cincinnati



The fact is, sustainability is an idea whose time has come - again. It used to be a necessary way of life for most of our ancestors. As recently as my parent's generation, one did not have the luxury of wasting things. Growing up during the Great Depression and then serving in WWII, my father was conditioned to conserve and

sacrifice the rest of his life. By the 1990's many of us baby boomers had come from the greatest generation in U.S. history only to become the greediest generation.

It is time for our generation to take up the mantle again. This is our opportunity to demonstrate world leadership on a level not seen in many years if not decades. The U.S. should not be waiting for China and India to control their CO2 emissions - as we are the biggest culprit in the world on a per capita basis when it comes to CO2 emissions.

Certainly one of the major challenges in the future will be growing the U.S. and world economies while simultaneously slowing, stopping, and then reversing CO2 emissions. Think for a moment of the millions of new homes, cars, and appliances that must be sold on a continuous basis to keep these economies humming. Do you think we might have to change our behaviors and lifestyles to not only stop but actually reverse CO2 emissions with all this growth still going on? I don't view this as a problem - I view this as an incredible opportunity.

Fortunately smart individuals, families, and communities are already returning to age-old maxims like smaller is better and less is more. This includes the homes we live in, the cars we drive, the food we eat, and the energy and water we use. They have learned not to confuse the quality of life we have with the quantity of stuff we buy.

Of course the ultimate and perfect model for us is Mother Nature and its natural eco-systems. For example, bio-mimicry is a fascinating and growing field of science about making man-made structures more like living plants - as they waste nothing and have the advantage of evolving over millions of years to survive and thrive under the harshest conditions.

Another model to emulate is man-made. It is called the Toyota Production System and it is used by one of the most successful companies in the world. Like natural eco-systems it seeks to eliminate all waste and strives for continuous improvement. Why not adopt principles like these for our buildings, roads, and cities?

The City of Cincinnati and Hamilton County are well on their way to creating a template of sustainable living. I am not here to second guess their work. Instead I am here as a business person to support their work and make a strong business case for going green. Moreover, I am here to cast a vision that Cincinnati should become a top 10 leader in the United States in sustainability.

Let's make Cincinnati a destination for students graduating from the top colleges and universities in the region because of the opportunities in sustainable design. Let's make Cincinnati a community of mixed-use developments that are holistic and teeming with life - rather than discrete buildings connected by roads with thousands of commuters. Let's give Cincinnati a makeover that includes more tree-lined streets, more outdoor cafes, more parks and ponds and creeks and natural habitats. Let's connect downtown to Clifton to Norwood, to Pleasant Ridge, to Silverton, to Kenwood, to Montgomery with bike trails and a light rail system that allows workers, shoppers, and out-of-town visitors to mingle like never before.

Let's make Cincinnati a role model of best practices put to use. As a practitioner I can tell you that none of this is rocket science. If we embrace just 10 proven concepts we can become that shining city on seven hills. For example:



For new construction, we should try to take advantage of a southern orientation and layout whenever possible for the free benefit of passive solar heating and day-lighting. This alone can make our new buildings 30% more efficient. Sure this might be difficult on north-south running streets but maybe its time we break the boring paradigm that buildings have to be aligned or squared with the streets.

Second, we should super-insulate all our buildings, both new and existing. This is one of the easiest things we can do as a city to reduce our carbon footprint. Installing more attic insulation and wall insulation where there is none, as well as replacing old single-pane windows is about the lowest hanging fruit there is. No moving parts, no equipment change-outs in 5-10 years.

Three, we need to take advantage of natural day-lighting more, and rid ourselves of the idea that we need 100 foot-candles of light glaring down on every square inch of office space. By de-lamping overhead lighting fixtures, and emphasizing the use of small task lamps with CFL's, Cincinnati alone could reduce its accumulative energy load by millions of dollars.

Four, we need to use geothermal heat pumps for heating and cooling our spaces as much as possible. These systems are up to 40% more efficient than conventional furnaces and air conditioning systems. The earth is a great solar collector and so why not tap into that heat source during the winter and use it as a heat dump during the summer? It's proven and the payback can be less than 5 years.

Five, we need to be smarter about the way we heat and use our hot water. We can start by lowering the set-point from 140F to 110F. We can install timers so we are not heating the water at 2am. We can look at using point-of-use heaters, heat pump water heaters, and solar thermal systems to improve efficiency.

If we do these 5 things and do them well, Cincinnati will become one of the most energy-efficient cities in America. But let's not stop there, let's add just 5 more items to the list.

Six, we need to add some sex appeal to our community makeover. Nothing does this like glimmering solar panels on the roof or ground for generating onsite electricity. Not only do they look cool – they fascinate people when you tell them you send power back to the grid on sunny days and on weekends. Though the payback on commercial installations can be as long as 10 years, when combined with the other faster payback items I mentioned, you can justify it based on a diversified portfolio strategy. But the intangible benefit is it serves as a status symbol for your building – which is important as marketing and sales professionals know.

Seven, we need to become more water efficient. Even though we have this great natural resource in the Ohio River, we should still be a model for sustainability. An energy consultant recently told me that 20% of the total electrical consumption in the U.S. is for pumping water. Every time you turn on the faucet or flush a toilet, think of the fact that water came from miles away and since water is relatively heavy it took a fair amount of coal to be burned to move it that far. Waterless urinals, dual-flush toilets, rainwater catchment systems, and the like would make a big impact here.

Eight, we need to become a city that recycles everything and wastes nothing. We should set a goal that every home and business in our community recycle at least 50% of what it throws out. There should never be a trash can that does not have a recycling bin next to it. And the number of trash cans should be limited to two per family per week with the ultimate goal of getting down to just one.

Nine, we need to become a city that walks and bikes more by providing the necessary paths and bike racks and shower facilities. And when we drive we need to drive cars that are more efficient than the national average. Just like the City has been creative with property tax abatements for LEED certified buildings and homes, perhaps it could be just as creative with incentives for Hybrid cars that make 50 miles per gallon.



And ten, we need a light rail system if we really want to get cars off the highway and become a top 10 leader in the sustainability movement. The great cities in America already have mass transit systems, from New York, to Washington DC, to Atlanta, to Dallas, to San Francisco – and while a rail system downtown might be a good

start for reviving that area, we need to revive the idea of linking the airport to Kings Island and every community in between. Ultimately we need to connect to Columbus and Cleveland.

In conclusion, I want to say I got here by accident ... it was never my intent or expectation that designing a green building would change me and our company the way it has. But Cincinnati can get there on purpose with the intent and expectation that it WILL change our city.

A former U.S. President has said the new energy economy will dwarf by several orders of magnitude the internet economy. He added that it will have the biggest impact on our economy since America geared up for WWII.

Since the Presidential elections are coming up, let's make sustainability a key issue. It needs to rank right up there with the economy, war, health care, and immigration. So let's hold the candidates accountable and make them formalize a plan with goals and strategies in this area.

For those of you who have not been to the USGBC's Greenbuild Conference, I cannot encourage you enough to go. This year it will be in Boston on Nov 19-21 and I guarantee that if you attend the main sessions you will come back a changed person. You will be more excited and hopeful about your work in green building that you will no longer call it a job. At the least you will consider it a more noble profession and some like me have even elevated it to a calling or vocation.

When you come back – you cannot carry on as usual. You cannot get into your SUV and talk to your clients about designing a LEED building. You cannot turn on those incandescent lights in the kitchen and talk to your kids about the importance of recycling. Professional leadership melds into personal leadership. You will embrace the idea that it all starts with us as individuals - and only then can we tell others about the opportunities, cost savings, and emotional satisfaction of going green.

Logical and rational business people will question you; some may even doubt you. But if you show the courage of your convictions and the emotional intelligence of real leadership, they will eventually come around. The greatest accomplishments in human history were never about payback. If they were, Michael Angelo would never have painted the Sistine Chapel; Thomas Jefferson would never have written the Declaration of Independence; Abraham Lincoln would never have saved the union; and Neil Armstrong would never have set foot on the moon.

The buildings that inspire me most are the cathedrals of centuries ago – when they were built using criteria other than lowest first cost and a 12 week construction schedule ... when they were built before the days of running water and electricity. We need to leapfrog the Europeans so they will visit America - and ideally Cincinnati - to learn and be inspired by our vision and leadership in the area of sustainability.

Going green has been THE most rewarding experience of my professional career. I wake up every day more excited about the future than the day before. The opportunity to help lead one of the biggest movements to ever sweep the face of the planet – and make money at the same time – is exhilarating! But my dominant thought is this: My kids. What will they say if I ignore all the warning signs that are out there and did not do my part to become part of the solution?



Let's make Cincinnati a top 10 leader in sustainability ... and a destination for others to learn how to do it right!

Thank you.