

PROFIT OF THE PRACTICAL

Efficient, Effective and Responsible Buildings Are Environmental and Economic

Author, speaker and consultant Alan Whitson, president of the Corporate Realty, Design and Management Institute, Portland, Ore., is the creator of a seminar series, "Turning Green into Gold." His books include *365 Important Questions to Ask about Green Buildings* and *327 Questions to Ask Before You Sign a Lease*. In the course of his 30-year career in the building industry, Whitson has served many roles, including asset manager, corporate facilities manager, construction manager, development manager and commercial real estate broker.

Recently, *eco-structure* had the opportunity to chat with Whitson about his take on green building today and how efficient structures and smart leasing programs can make environmental and economic sense in a down economy.

HOW DID YOU GET STARTED IN THE BUILDING AND REAL-ESTATE WORLD?

AW: In 1973, my business card said "environmental design engineering." We've been talking about this idea for a long time. People act like green is new or that it's the second coming, but it's not complicated. It's some pretty common-sense stuff. I've always looked at things in terms of efficiency, economy and responsibility. It's not about saving the planet; that's important, but you have to be practical. If something is not practical and economical from day one, it never gets implemented to the degree it can be.

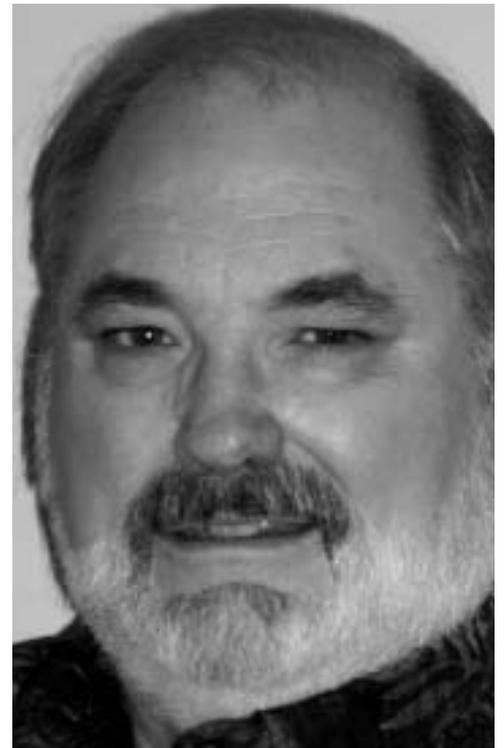
Prior to getting involved in the building industry, I drove nuclear submarines, so I was involved with some of the world's most advanced

technology, some of which is just starting to be seen in buildings. The thing that stands out most about my military experience was how important it was to get the basics right. What I find sad is that in this industry we don't do the basics very well. Water and air infiltration, the constant over-sizing of building systems and the resistance to commissioning are major problems.

WHAT KINDS OF BASIC THINGS HAVE YOU FOCUSED ON?

When I got started, one of the things we looked for was pure economics. We first started talking about it as resource management. For example, I was doing a 400-room hotel in Honolulu in 1974. We picked wallpaper that came in 27-inch- [686-mm-] wide rolls and it took about 18 single rolls to do a wall. It's a lot of money. I spoke to the wallpaper manufacturer and found out the wallpaper was actually printed in 54-inch [1372-mm] sheets and cut in half to make the 27-inch [686-mm] rolls. We asked them to just keep it at 54 inches [1372 mm], so rather than running it in three triple rolls, we ran it in 100- to 150-yard [91- to 137-m] reels. We wound up reducing the unit price and using a lot less material. Bottom line, we saved \$26,000.

When you do that early in your career, you realize there's a lot of money on the table. So I got into the habit of always looking into the details of where everything was going and coming from. What I found was there are enormous amounts of waste in design, construction and operation of buildings at all levels.



"THERE'S THIS WHOLE IDEA THAT GREEN COSTS MORE MONEY. GREEN ONLY COSTS MORE MONEY IF YOU'RE DOING IT WRONG."

What I've discovered over the years is that there are a lot of buildings that aren't very effective or space-efficient. You can have a building that is ideal for lawyers but not very efficient for programmers or back-office operation.

We've never gotten truly engaged in the ideas of effectiveness and efficiency. Sometimes we get so enamored with aesthetics we forget to be effective and efficient.

DO YOU THINK THERE'S A ONE-SIZE-FITS-ALL MENTALITY?

Oh yes. There is a concept called universal plan, which, when used correctly, is a very powerful, sustainable, efficient and cost-effective tool. But we've taken it to the illogical extreme. We try to fit everything in the same shoebox. Universal plan was more of a modular-based planning program where, for example, you could take an office and put in X-number of workstations. If you design workstations long enough, you realize about 80 or 90 percent of people can do their job effectively in a well-designed 6- by 6-foot [1.8- by 1.8-m] workstation. That said, there are many people who need 6- by 8-foot [1.8- by 2.4-m] or 8- by 8-foot [2.4- by 2.4-m] workstations. Ironically, those people tend to be clerical and support staff. Of course, people say, "Oh, you can't give them that much space because of political hierarchy." We take good ideas and shoot ourselves in the foot with them.

WHAT IS YOUR DEFINITION OF AN EFFICIENT BUILDING?

The underlying criteria I use comes out of the mission statement for the [Washington, D.C.-based] U.S. Green Building Council, and that's a building that's environmentally responsible, profitable and provides a healthy place to live and work. We spend a lot of time talking about the environmentally responsible and healthy aspects, but we don't talk enough about being profitable. I spend a lot of time talking about the money side of things because if you get the money side to work, everything else falls into place.

DO YOU FEEL THAT THE GREEN-BUILDING MOVEMENT IS BUILT MORE FROM THE STANDPOINT OF SAVING THE ENVIRONMENT THAN SAVING THE DOLLAR?

The green-building movement is, for the most part, a cultural movement that wants to make a positive impact. That's good because that's how you get the desire and passion out there. But the reality is there are a lot of green buildings that are just unadulterated pieces of crap. That may be a shocking thing to say, but if you look at the performance numbers out there, it's appalling.

In a study titled "Energy Performance of LEED Buildings" presented by the [Vancouver, Wash.-based] New Buildings Institute at Greenbuild 2007, the average LEED for New Construction-certified building uses 105 KBTU per square foot per year while the average building shown in the [Washington-based] U.S. Department of Energy's Commercial Buildings Energy Consumption Survey uses 91 KBTU per square foot per year. About 40 percent of LEED-NC buildings achieved an Energy Star rating of 75. One out of four LEED-NC buildings had an Energy Star rating below the national average of 50. Of course, the spin is this number includes energy-intensive buildings, like hospitals, but there are hospitals out there that use only 98 KBTU per square foot per year, so that doesn't hold water. Some green buildings are very energy efficient, but there are some energy hogs that have a LEED rating.

WHAT ARE SOME OF THE DEAD ENDS THAT PEOPLE ARE PURSUING?

The one that really fries me is when someone takes a mediocre building and sticks a photovoltaic array on it and people say, "Look how green that is!" That's usually the furthest thing from the truth because oftentimes that building is not energy efficient to begin with. People don't realize that most PV arrays today have to be operating at 100 percent for five years to generate the amount of electricity it took to manufacture them.

It's a cool technology but if your goal is to be energy efficient, it is much more effective to

reduce the lighting load and use the money you're spending on a PV array in other places in your building. Most buildings in the U.S. are overlit by 50 to 60 percent. A great example of doing lighting correctly is the New York Times Building in Manhattan. It was designed for a lighting load of 1.28 watts per square foot. They're down to 0.38 watts per square foot, and that's by using effective lighting controls.

Most buildings in the U.S. are built with about 3 watts per square foot for lighting and in this case, the New York Times Building is down to less than 0.5 watts. That's a tremendous amount of savings and a huge bottom-line impact. Not only is it a reduction in electricity, but remember about 80 percent of the energy that goes into a fluorescent lamp is turned into heat, which means you can downsize the mechanical system. So reducing that lighting load creates a giant ripple effect. Now you can buy a smaller chiller, which needs less power to operate, so it reduces your first costs and your operating costs.

DO YOU BELIEVE THERE'S A PREMIUM TO BUILD GREEN?

There's this belief that green costs more money. Green only costs more money if you're doing it wrong. It's one of those urban myths that won't die.

There's also a myth that you can charge more money for green buildings, but that's not the way the world works. Everybody is in cost mode. No one goes out seeking to spend more money for anything. Absent additional value, price is always the basis for selection.

HOW DOES BEING IN COST MODE IMPACT THE WAY BUILDING EFFICIENCY IS APPROACHED?

When I got into this business in the 1970s, landlords charged tenants rent and everything was included in that rent. The landlord hired the janitors and paid the taxes and utility bills.

As inflation and utility rates went up, the market moved to a situation where all risk for operating a building was passed to the tenant.

There is no financial incentive for the landlord to build a high-performance building because he or she is not the one on the hook for the operational performance.

This approach seemed prudent at the time, but in the long run, this strategy has backfired. With the improvements in building science, products and technology, we can operate buildings for significantly less than we currently do. The reason we don't is the financial incentive for landlords to do so isn't there.

HOW DO WE CREATE INCENTIVES FOR OWNERS AND LANDLORDS TO BUILD EFFICIENCY INTO THEIR BUILDINGS?

My firm is working with an advisory panel to roll out a model green-lease program. The idea behind it is everything starts with the lease document. If you start with a good lease document, everything else falls into place.

There are 10 steps we want to achieve. First, the owner and tenant need to have a common environmental objective that can be spelled out

in the lease. The next step is to move away from triple-net leases to a modified gross lease. This provides the financial foundation for the landlord to operate a sustainable and high-performance building. Third, the tenant is given a reasonable energy allowance and any energy the tenant uses over that allowance, he or she pays for. Energy is sub-metered. This does two things; first, it protects tenants that use less energy from tenants that use too much. Second, it makes high energy use an exception—something that stands out and needs attention. In buildings that have done this, energy use has declined.

Fourth, the operational performance of the building has to be defined in the lease so there are specific parameters to operate within. The ANSI/ASHRAE standards are excellent for this. Fifth, the landlord is to provide an annual performance report to the tenant, letting him or her know how much electricity and water was used and the results of the recycling program. The reasoning is simple: What is measured and reported gets improved. Sixth is to prohibit either landlord or tenant from bringing anything hazardous into the building that doesn't abide by federal, state and local laws.

Seventh is to address recycling and green cleaning. Eighth is to spell out the building's rules and regulations, so every tenant and employee can know what's expected of them. Leases are long-term documents, a building's rules and regulations can easily be updated without a lot of fuss. Ninth is for the contractor's rules and regulations that address indoor air quality and VOCs in the build-out of the tenant spaces. And 10th is to provide a tenant manual. When you think about it, a \$200 cell phone has a huge manual, but you sign a lease for 100,000 square feet [9290 m²] for \$100 per square foot for 10 years and what do you get? Nothing. Developers spent hundreds of thousands of dollars to design and millions of dollars to build the building, so they should let the tenants know how to get the most out of that building. It's a great selling tool for the building.

It's all about long-term savings and the best thing we can do is to move toward a performance-based system where owners are competing for the business of tenants interested in workplace effectiveness and efficiency. Landlords want to maximize their return on investment, and they do that by increasing their net operating income, which is done by lowering operating cost and having completely occupied buildings. Tenants are looking for a productive workspace. Running the building is the landlord's core business, not the tenant's. What we want to do is create an environment where landlords are landlords and tenants are tenants again. 



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