Challenges abound when building green in New Jersey

Garden State developers discuss pitfalls, incentives

BY | EVELYN LEE

As it becomes more widely embraced in real estate and construction, green building is a major focus for a growing number of developers and policy makers in the Garden State. NJBIZ assembled a panel of experts to discuss the development of voluntary green building guidelines in New Jersey, the role that incentives and science play in developing sustainable properties and the cultural change needed for green building to become a mainstream practice. Participants included **Daniel Gans**, CEO of **Hoboken Brownstone Co.**; **Charles Richman**, deputy commissioner of the New Jersey Department of Community Affairs; **Jennifer Senick**, executive director of the Rutgers University Center for Green Building; and **Emanuel Stern**, president and chief operating officer of **Hartz Mountain Industries Inc.**

NEW JERSEY GREEN-BUILDING MANUAL:

Richman: The thought was to have legislation that created a manual, but a living document — not a hard, fast regulation. It started as an exercise within DCA, but we quickly recognized the need to expand it beyond a regulatory scheme.

Senick: We are going to be releasing the guidance for new commercial construction and guidance for existing commercial construction this summer, followed by residential, new and existing guidance at the end of 2010.

Richman: The Legislature's actually jumped us a bit, because they've now included the manual, or at least what we're posting on our website relative to the manual, and tied it to some of the economic incentive programs. The Economy Recovery [and Growth] grants, the [Urban Transit] Hub [Tax Credit] grants, are tied to a developer looking at and meeting the manual's requirements, but also we've built into those grant programs a way to finance this.

GREEN-BUILDING CHALLENGES:

Senick: Green buildings, whatever that means to different people — to me, it means you're trying to achieve environmental goals simultaneously with economic and social goals — is not that easy. You take LEED, which has become the most-recognized green-building program, and 25 percent of all those buildings that have been built underperform projected targets. And then another 50 percent of that 25 percent underperform code for buildings. What the guidance intends to do is to help people steer clear of the pitfalls and actually focus on the strategies that work, which work in terms of producing the intended result.

HOW MANUAL WAS DEVELOPED:

Senick: What we've done with the targets is, we've mapped them to existing green-building programs and existing standards that are out there. We have no intention of inventing something new, we're just doing something better. It's not a new program. You don't have to go and jump through a million new hoops to get whatever incentives are being offered by the state of New Jersey. However, things will be different. There's some things that LEED kind of misses. We add those. Where we really think we've added value is in, first of all, identifying the strategies that work — getting case sites from around New Jersey to illustrate those — and then bundling them together across the sort of water, energy, indoor air quality silos that most of the programs seem to have adhered to, like LEED.

Charles Richman

EFFECTIVE GREEN-BUILDING GUIDELINES:

Stern: If you want it to work, it's got to be practical and economic. The minute it becomes practical and economic, it's going to get done. It's going to get pulled through the system faster than anything government could possibly do. Figure out what's practical and economic, and instill that as code.

Richman: I think we're cautiously moving and creating an atmosphere to have some market penetration and to get the acceptance, because we don't know necessarily what the mandate is.

Stern: It's such a Chinese menu, that's what green building is. It's about energy efficiency and what standards of construction don't cost more but save money — or cost a little more, but the payback is so obvious that it makes sense to frontload.

Gans: Ultimately, I believe the code will push us that way. We are so far in this country behind what's going on in Europe. We're behind Canada, but we're even further behind in Europe. In Europe, they have energy-recovery ventilation. In most northern countries, it's part of a code requirement. As long as I've been in the industry, the codes keep getting pushed.

WINNING OVER TENANTS:

Stern: One of the problems we have is that we have a lot of buildings, but I control less than 10 percent of the [electrical] consumption in those buildings. So anything that I want to do to spend money that will make those buildings more efficient, the relationship is I'm not getting any return on it. I have to go to my tenants and say, "We think that this is a good idea, and here's why." There are some corporations with very established sustainability programs, and they embrace them. Then I've got the truckers who say, "You want me to change every light in the warehouse?" And I'm like, "Yes, here's the state program so you'll get payback in less than two

years, and you've signed a five-year lease." And he's like, "My contract is a year at a time."

One of the big pinch points of this from a commercial building perspective is the fact that generally speaking, landlords are responsible for building out those infrastructures and tenants are responsible for paying for their consumption. Unless the tenant demands it, historically, we have not put in the most efficient air conditioning systems or lighting systems — although now we are. Our standards have completely changed in the last couple of years. I'm passing the cost on as much as I can, because at the end of the day, the users are the ones who get the benefits of the frontloading, of the more efficient energy stuff.

Gans: The percentage of people that care is fairly low. It's growing, but if you had a tenant and they had a choice between going into an apartment that had a beautiful granite countertop or a less-expensive countertop, but a much more efficient building, they're going to say, "Look, I'm only going to be here for a year, so it's going to cost me another $1,000 or $500 for the year. I'd rather have this nicer kitchen."

BUILDING SCIENCE:

Senick: Green buildings have this broadly disseminated, but not well-proven, benefit of increased productivity and worker satisfaction. That is the search for the Holy Grail in green building, and I do believe that will be the biggest driver of green building in the residential space, for sure. I'm starting to see it in large homebuilder surveys, and when they conduct their focus groups of potential buyers, in terms of key factors about why they would buy a green home, it's the better indoor air quality for their families. … This is cutting-edge research. This is really important, because what's the biggest cost for most corporations? It's not your energy bill. It's people. … The mechanical systems we use were developed by engineers that are trying to find that midpoint that everybody is comfortable at, which means nobody is comfortable at it. That's how we manage buildings in the U.S., as opposed to having underfloor air systems that every cubicle occupant can control, and so on, which is the European model. I think what we're going to do is find ourselves gravitating more toward that model, because we're going to have to have buildings that are more adaptable and flexible if they're going to perform well. But that's a huge thing, because culturally, it just spins us 180 degrees.

Stern: I get the efficiency of being able to control the climate in an individual cubicle, but the additional incremental cost in building out,

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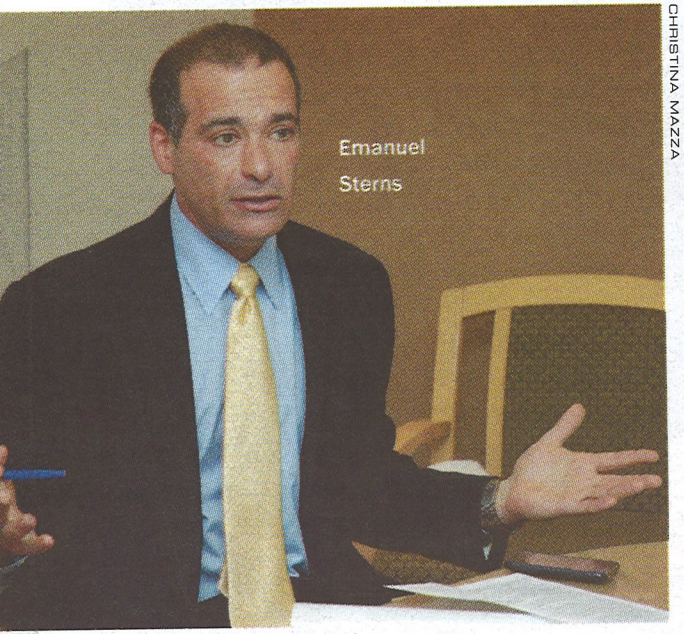
rather than controlling one floor of an office building — I'm thinking about how much is the incremental cost, and it's shocking. I was just in the new Goldman Sachs building, which has to be considered the most modern trading floor in [New York], and you have lots of really smart people



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who work literally shoulder-to-shoulder, each with two screens. They're cooling it from the floor up — and trading floors don't want to be 9-foot-clear ceilings, they want to be 16 feet. It's wild — they're not cooling the top four feet, because they're going from the bottom up, instead of the top down, they don't have to worry about the top four feet. It doesn't cost any more money to design a building that's being cooled from the bottom up, with a similar rough number of vents. But when you start talking about every cubicle being able to veritably control it, the incremental hard costs — that's going to cost me a lot more money to build out.

CULTURAL CHANGE:

Stern: If you want to make a cultural change, think $4-a-gallon gas. ... If you don't somehow make people realize that our practices are costing us more money than we can afford, they will not change.

Gans: The other problem with cultural change is not the users or the purchasers ... it's the whole industry. The construction industry as it sits today, and developers as we sit today, what I want to know is business as always. ... That cultural change is just as important. The desire to change the construction industry, and the push and the desire to educate the construction industry in new systems, will make these types of floors and make the installations. Right now, if you showed that HVAC system to most contractors, that they'd look at you and say, "You're crazy. This is going to cost a fortune" — even though, maybe if they really understood it very well, and they've done it 20, 30, 40 times like they've done before, those prices are going to come down.

Richman: I get nervous about using tax policy necessarily to judge these changes, because you get a lot of unintended consequences.

Stern: I'm not suggesting that the state throw a $100 tax on gasoline. I'm just saying that for the first time in years of thinking about this and observing, it seemed to me that there was a cultural shift happening.

Senick: Even from the level of my doctoral

research, I've done this text analysis, looking to see like in the 1970s, how many journals and newspapers were talking about the energy crisis, how broadly disseminated was this. There's no comparison. Since the 1990s, it's become much more broadly disseminated, there's much more awareness, so for a lot of reasons, I feel like this sticks. Also, at least on the policy level, there's more awareness of opportunity costs. You're never going to be able to communicate to the average person the opportunity costs of not taking action. You've got to do something direct to get individual people to change their behavior, but nevertheless, now what we're talking about is the ability of the U.S. economy to be competitive with the global economy.

A HARTZ MOUNTAIN GREEN BUILDING PROJECT:

Stern: We're doing a major, but normal, renovation of a mature hotel in Weehawken, and we're applying for LEED standards for the retrofit. The Rutgers Center for Green Building has come in and asked while we're doing this to monitor it, and simultaneous to our LEED application process, we're doing internal air monitoring.

Senick: It's a nice kind of controlled experiment, to look at rehabbed rooms versus the ones that aren't rehabbed. So we have a contract that involves a bunch of chemists at Rutgers who do indoor air quality. And we're not only looking at indoor air quality but satisfaction of guests, and it's mainly around that as opposed to energy, just because of what points are being pursued within LEED.

Stern: We're happy to do it, but when you look at the different kinds of asset classes, buildings, hotels, office buildings, warehouses, parking buildings or homes, I think the customer satisfaction with the indoor air quality in a hotel is probably the lowest threshold compared to when we're talking about a nicer kitchen for a year, or nicer thread counts for the night.

A HOBOKEN BROWNSTONE CO. GREEN-BUILDING PROJECT:

Gans: Our project is on the Van Leer site [in Jersey City]. It's a 450-unit development; the northern building is 220 units. Our concept is based on something that we call the tripod of building science. The first part of that is the enclosure, building a quality enclosure. We're doing that with what we think is an advanced technique, a material called autoclaved aerated concrete, manufactured right now in Georgia and Florida right now in the U.S. It's something that's been around in Europe for over 75, 80 years. Again, this is cultural change. … What makes this special is that this is a solid-wall system and it's insulated, it's thermal quality.

The second part of our tripod is ERVs, energy recovery ventilations. What we do right now is we turn a fan on in the kitchen, a fan on in the bathroom, take the air and shove it out and exhaust it, and bring in fresh air from outside to cool or heat our boilers or air conditioners. ERVs, we put these things on so that the air is going out, is helping to condition the air we're drawing in. You can recapture a total 80 percent.

Then the final piece of it is alternative energy. On that site, we've decided now to use a closed-loop geothermal system. … We're using solar hot water systems, evacuated tubes, and solar water for something that is 80 percent efficient, as opposed to solar [panels], which is about 20 [percent], 25 percent efficient. You put it on the roof, it'll feed the central system.

PUBLIC SUBSIDIES:

Gans: It [the Van Leer site project] wouldn't happen without the public subsidy.

Stern: We installed 3.5 megawatts of solar capacity last year. I think Hartz Mountain installed 10 percent of the state's capacity last year, and this state did more than any other state — and we wouldn't be doing it if the state's policies weren't incenting us to do it, because it wouldn't come close to making economic sense. | RER

Daniel Gans

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