

It pays to be green

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Jan. 2--A new hospital building in Hackensack will have "rooftop meadows" to help keep its rooms cool on a hot day. A school in Somerset County harvests rainwater and uses it to flush toilets. A home in Paterson will run on two kinds of solar power.

The "green" building fad is taking off in New Jersey, and its supporters are as likely to be wearing wingtips as they are sandals.

Along with fervent environmentalists, bastions of Big Business such as Goldman Sachs and PNC Bank are now building with recycled materials, conserving energy and keeping heavy-duty chemicals out of the walls, floors and furnishings. Both companies received a "green" rating for offices they opened in New Jersey in the past two years.

"This is no longer being sold as saving the world. It's being sold as, 'You can make money saving the world.'" said Scott Chrisner, a founder of the New Jersey chapter of the U.S. Green Building Council. "It's not just the long-hairs and the Birkenstocks doing this. It's the suits."

Many businesses resist the green label, referring to their practices as "high-performance building" and "sustainable design." Their reasons for joining the movement are often a bottom-line consideration -- some businesses employ alternative energy technologies or water conservation measures simply to cut utility bills. Retro green

There are no "green" standards developed for retrofitting homes, but there are steps you can take to improve energy efficiency and indoor air quality:

Select paints and flooring materials that don't emit heavy-duty chemicals such as volatile organic compounds and polyfluorochemicals.

Replace standard light fixtures with ones that accept compact fluorescent bulbs.

Get an energy audit from a certified Home Energy Rater trained in inspecting heating and air-conditioning systems, and testing the walls, floors and air ducts for leaks.

Re-insulate if needed. A number of materials, including blue jeans, are being recycled into insulation that can be blown into walls and floors.

Switch to a solar water heater, a fairly simple and inexpensive retrofit.

Upgrade to energy-efficient appliances that have the government's Energy Star rating.

Install photovoltaic solar panels. The costs can be high, but a rebate program through the state Board of Public Utilities can make it more affordable.

Others worry about "sick building syndrome" and the potential liability of offices with poor indoor air quality.

The first New Jersey building to be officially certified as "green" by the Green Building Council -- the Willow School in Gladstone -- was completed in 2004. Five more have been added to the rolls since,

including the Goldman Sachs high-rise in Jersey City and three PNC Bank branches. Fifty-eight more buildings are in the pipeline in New Jersey.

In addition, more than 2,100 units in 39 different projects in New Jersey have been built under a program by the New Jersey Green Homes Office. That program offers up to \$7,500 per unit in subsidies to builders of affordable homes who spend more to add solar panels, energy-efficient windows, recycled roofing materials, low-emitting paints or other green features. By summer, the agency is hoping to launch a similar incentive program for builders of market-rate housing, said Darren Port, program director.

Nationally, most of the green building has been commercial or public buildings, projects large enough for it to be easier for accountants to grasp the long-term benefit of spending 3 percent to 5 percent more in construction costs to have lower costs in the future.

Some companies see opportunity in being able to sell a green building product or attract eco-conscious investors, Chrisner said. In August, the Dow Jones created a "Sustainability Index" for North American companies. The investor rating grades a company not just on its worth but on environmental and social factors, including how much energy the firms use and how much pollution they generate.

Across the country, 399 buildings have been certified by the Green Building Council. But the more telling number is the 3,073 in the building stages, said spokeswoman Taryn Holowka.

The numbers are also expected to grow rapidly in New Jersey as the government encourages -- and sometimes mandates -- the use of green features.

The New Jersey Meadowlands Commission has set aside \$700,000 to green its offices and provide incentives to developers who use green technologies in projects built in its jurisdiction.

An executive order signed by former Gov. James E. McGreevey in 2002 spurred a green schools movement by requiring that all new buildings constructed with grants from the Schools Construction Corp. conform to the Green Building Council's standards.

A partnership of 40 colleges has been shepherding green campus building projects. The New Jersey Institute of Technology has "greened" its roof and installed solar cells. Ramapo College is planning a Sustainable Center, which will feature a solar greenhouse and floor-to-ceiling windows on its southern exposure, a feature that will provide students with a pastoral view and warm the building in colder months.

The colleges are also being encouraged to teach sustainability concepts, said Donald Wheeler, a global studies professor at Kean University and executive director of the New Jersey Higher Education Partnership for Sustainability. "Colleges and universities in the country should be leading us to a more sustainable society," he said.

The subject has become such a hot educational topic that in 2004, NJIT began offering four green building courses, said Tony Schuman, graduate program director.

Three green building bills have been introduced in the Legislature. One would create a green building task force. A second would require all new state buildings to meet the Green Building Council standards. A third would require that existing buildings be examined to see if they could be retrofitted.

"You can add a few green features, or you can do a massive green project," said Keith Lesser, a Glen Rock architect. He is designing a new earth science building for Rutgers University that will be made with recycled roofing and siding, a rainwater-reuse landscaping system and energy and water efficient operations systems.

In some cases, greening a building means a return to the design strategies used before electricity, when buildings had to be situated just right on a plot of land to maximize sunlight and breezes.

In deciding to green the new women and children's hospital of Hackensack University Medical Center, planners couldn't make use of a common strategy of having windows that open -- a safety violation in buildings with sedated patients.

Instead, the hospital is working to get its green rating by using as much recycled material as it can -- including insulating the building with recycled, shredded blue jeans. Native shrubs on the building's many-tiered roofs will create a "meadow effect" that will keep air conditioning costs down and offer patients a "healing" view, said Suzen Heeley, the hospital's director of design and construction.

The greenest building in New Jersey is the Willow School, a private elementary school that achieved a "gold" rating from the Green Building Council. The school hopes to receive the highest rating -- platinum -- for a planned addition.

In addition to reusing the rainwater that falls on grounds landscaped with native plants, the school's designers built a wetlands to treat its sewage on site. The waste is flushed through the ground, which acts as a natural filter.

The treated water is clean enough to earn "recreational quality standards, meaning you could fill a pool with it," said Anthony Sblendorio, a landscape architect who oversaw the project.

"It's not any harder to build this way," Sblendorio said recently, as he gave a tour to Meadowlands officials looking for ideas on how to green the commission's Lyndhurst headquarters. "It's just a change in the way we think about building."

The Green Building Council assesses projects on features such as indoor air quality, water efficiency, the suitability of the site, and the extent to which recycled materials are used. A major focus is on reducing energy costs -- and some interesting marriages have been made to achieve this goal.

The home being built in Paterson, for example, is a partnership between the building council and a chemical company, BASF Corp. The two-story stucco structure will run on two types of solar power. It will be insulated with plastic foam blocks, a product that's a close cousin to Styrofoam.

Used as insulation inside concrete walls, these Styropor blocks have won a good rating from scientists who measure a product's environmental safety. Because they don't break down over time, they will not crack and allow heat and air conditioning to leak out or allow rainwater or bugs to get in, said Jack Armstrong, a business manager for BASF.

The foam blocks also don't emit chemicals that foul air quality inside the home.

BASF Corp. sees a potential new market emerging for a product previously made into coffee cups and fast-food containers. "We know this is a safe product that won't emit chemicals in the home," Armstrong said. "We've drunk coffee out of it for years."

The Paterson house, when finished this winter, will be a demonstration home -- one of hundreds around the country the building council is sponsoring to raise the public's awareness.

"Certainly if the public is out there clamoring for it, even the most cynical builder is going to build it," said Jim Hackler, director of the council's homes program.

But the council is hoping most of the tours of these homes will be taken by the folks who have the most power to make building practices more environmentally friendly -- architects, engineers and contractors.

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