

BUILDING & DESIGNING GREEN

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Here might be the two most persuasive arguments in favor of the environmentally friendly home Gary Woods built: His September utility bill cost \$39, and his October bill cost \$24.

It gets better.

Woods, a librarian at the University of Texas at San Antonio Downtown Campus, walks to work from his King William home, so he's sliced his energy costs to a fraction of what most people pay.

His 900-square-foot house is part of a national green-building program being piloted in San Antonio and a handful of other cities across the country.

The Leadership in Energy and Environmental Design for Homes program, or **LEED** for Homes, is being developed by the U.S. Green Building Council as a way to build homes using sustainable practices.

The pilot project will put 250 housing units in the San Antonio area, including a 180-unit apartment complex for low-income families, said Abbey Ehman with Contexts Consultants and Architects, a firm that's helping coordinate the **LEED** program in Texas.

Green homes exceed the minimum requirements of a city's building code in terms of the efficient use of water, energy, building materials and land. Lower monthly utility costs, longer-lasting materials and improved indoor air quality are some of the major goals.

Limited construction waste also is a feature. Construction of an average-size home creates an estimated 40 cubic yards of waste, and 36 percent of all landfill waste comes from construction, Ehman said.

Green homes can reduce waste 75 percent by planning and a careful ordering of materials, which helps ensure lumber remnants aren't discarded. Recycling discarded metal and grinding leftover drywall, paper or wood and mixing them into the topsoil can virtually eliminate the need for construction trash bins, Ehman said.

"When you break down what green is, most people want it," Ehman said. "It's becoming more mainstream. Most people want a home that's durable."

It's also not that expensive. Green homes cost 4 percent to 5 percent more than a typical home, Ehman said, but save more money over time in utility costs.

Metals roofs, a common feature of green homes, also can save people 15 percent a year on homeowner's insurance because they are resistant to fire and hail damage.

Around the garden

Architect Stephen Colley and builder Peter Stainken, who teamed up to build Woods' home on a vacant lot in King William, said the **LEED**-certified house uses a lot of common-sense building techniques that have been around for centuries

But Stainken said many people hear the word "green" and shy away.

"There's no reason not to do it," he said. "I think it's overcoming the 'green.' People hear green and all of these other connotations come up. If it were just called 'smart building,' it wouldn't be a problem."

Colley designed two structures for Woods. A 450-square-foot living room and kitchen sits across a bricked, outdoor living space from another 450-square-foot structure with two bedrooms and a bathroom.

The site design for his house was essentially backward, with the primary emphasis on gardens and patios, Colley said.

Woods had long wanted a house inspired by outdoor living.

"I always wanted a courtyard house like in Mexico," Woods said. "That's the ultimate house to me."

The house is set on the lot to catch the southeast breezes, with windows designed to crank open to catch the prevailing winds and pull air through the house.

"You just get a whoosh right on through," Woods said.

The interiors feature yellow pine woodwork, concrete floors and so many windows and transoms that Woods doesn't have to turn on any lights until after dark.

Foam insulation, a metal roof and tight construction also means the temperature doesn't vary much from morning to night.

The living room and kitchen don't have central air or heat. And during a recent cold snap, the nighttime temperature in the house dropped 1 degree. Woods hasn't used the heater in his bedrooms yet.

Las Bougainvilleas II

The **LEED** for Homes program isn't just for custom homes like the one Woods moved into this fall.

Neighborhood Housing Services of San Antonio, a nonprofit affordable home builder, is developing a 23.5-acre site on the South Side that will be the largest **LEED** for Homes project in the country.

Neighborhood Housing Services will build 58 single-family **LEED** homes on 11.5 acres. On another part of the land, Alamo Area Mutual Housing will build a 180-unit multifamily complex, which they hope will meet **LEED** standards. The rest of the property will be set aside for open space, parks and walking trails.

The development, called Las Bougainvilleas II, is near Kingsborough Middle School. "We really see it as helping the average or very low-income family have significantly reduced utility bills," said Lori Hall, deputy executive director of Neighborhood Housing Services.

The neighborhood will break ground in mid-2007, and will help Neighborhood Housing Services redesign its entire portfolio of homes. The nonprofit hopes to build 300 **LEED**-certified homes in five years.

"This is a whole change in business in the way we build homes and help our families," Hall said.

Ehman said Las Bougainvilleas II also should help convince mainstream builders that green construction can be done on a budget.

"What's great about these is that they're both affordable housing projects," Ehman said. Although prices haven't been set for Las Bougainvilleas II, Neighborhood Housing Services normally builds homes that cost about \$85,000.

Volume builder

Medallion Homes, one of San Antonio's large builders, recently completed two **LEED**-certified homes in the Trophy Ridge subdivision near Loop 1604 and Potranco Road on the far West Side. The homes in Trophy Ridge cost about \$160,000 to \$240,000.

"We treated it as no big deal," said Dan Curry, director of development and architecture with Medallion. "Our experiment was to see if we could do this on a production level."

A few of the elements they included to reach **LEED** certification: adding an irrigation system and protecting trees during construction by surrounding them with bales of hay instead of the typical orange plastic barrier.

Once the homes were complete, the hay was spread around on the site and mixed with the topsoil.

The 1,870-square-foot, two-story home and a one-story, 1,507-square-foot home have both sold.

Curry said the company, which already builds Energy Star-rated homes, is considering whether to build more **LEED**-certified homes, and is still looking at how

much more it would cost to build under the **LEED** program.

"We're weighing all options, but it looks promising," Curry said. "We're still evaluating costs, results and buyer interest."

Infill project

Buyer interest drove builder Bill Reisenecker to try the **LEED** for Homes program.

He had started working on one of three single-family homes on a large vacant lot in the Lavaca neighborhood when one of his buyers read about the program online.

Reisenecker, who already had green features and energy efficiency in mind, made a few modifications to have the homes certified with the national program.

"The idea was to be compact, well-designed and have a low impact on the land," he said.

The homes feature cement-based stucco, metal roofs, stained concrete, cork and bamboo flooring and interior paints with no headache-inducing volatile organic compounds. Exterior woodwork features cedar from East Texas mills -- a key green feature because the wood didn't have to be transported far. Green builders prize local materials over imported ones because fewer greenhouse gasses are used to ship or truck them to a job site.

But it wasn't all smooth sailing.

Because the three single-family residences are grouped together on a large lot that once housed a carpentry business near Hemisfair Park, he spent a year going back and forth with the city over permitting.

"All of the rules and regulations are designed for north suburban sprawl," he said.

But all three homes, which have second-floor views of the Alamodome and the Tower of the Americas and were priced in the \$300,000 range, sold quickly and will be completed this month. Reisenecker may build a fourth on the site for his own residence.

A farmhouse

Architect Anastacia Sequoyah is building a sustainable farmhouse on her land in Natalia.

"The idea is the house can be fully functional if some kind of catastrophe happens," she said.

She'll use a 30,000-gallon rainwater-collection system to water her garden and is adding solar panels to help power the house. Other features include an outdoor solar-powered shower.

Sequoyah's three-bedroom, two-bathroom home has about 1,900 square feet. A screened-in porch on the north side and a covered porch on the south bring the covered area to about 3,000 square feet.

A Depression-era farmhouse that once stood on the home's footprint was too dilapidated to renovate. Sequoyah is reusing much of the yellow pine, hardware, fixtures and windows from that home. Old concrete was broken up and reused in the driveway.

That kind of recycling keeps construction materials from getting to landfills.

"This is a template for other people to use later on," Sequoyah said. "Being green doesn't have to be really wacky and expensive."

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S.A. has several
green building
programs

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Energy Star -- a joint program of the U.S. Environmental Protection Agency and the U.S. Energy Department that can save families about a third on their energy bill with similar savings of greenhouse gas emissions. Homeowners can choose Energy Star-certified homes and appliances, and the program offers remodeling tips.

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Build San Antonio Green -- developed by the Metropolitan Partnership for Energy and co-administered with the Greater San Antonio Builders Association. The goal is

creating awareness and interest among builders and homeowners in resource-efficient building methods, materials and technologies.

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Leadership in Energy and Environmental Design for Homes -- a national program being rolled out in San Antonio and a handful of other cities as a way to come up with national green building standards. This is considered the 'greenest' of the programs.

On the web:

Energy Star: www.energystar.gov/

Build San Antonio Green: <http://www.buildsagreen.org/>

Leadership in Energy and Environmental Design: <http://www.usgbc.org/>