After a Tornado, a Kansas Town Rebuilds Green

By KEITH SCHNEIDER SEPT. 22, 2009 (The New York Times)

The town's new Arts Center uses three forms of renewable energy including geothermal wells, wind turbines and solar panels. Credit Fred Hunt for The New York Times

GREENSBURG, Kan. — Even if it were the only one of its kind, Mike Estes's brand-new, energy-efficient, wind-powered, water-conserving, environmentally sensitive John Deere dealership here would attract considerable attention in Kansas. This is a state that consistently ranks among the top 10 in oil and natural gas production, and routinely elects to Congress skeptics on matters of energy conservation and environmental regulation.

But in July, Mr. Estes's 28,500-square-foot, $3 million BTI Greensburg dealership (BTI stands for Bucklin Tractor and Implement, the name of the original store, which has since expanded to four locations) earned the United States Green Building Council's Leadership in Energy and Environmental Design platinum certification, the highest designation, Six other buildings anticipate LEED certification.

While many of the nation's biggest cities do not have a single platinum development, BTI was not even the first building in Greensburg to receive it. That distinction goes to the 1,670-square-foot Arts Center at the center of town, designed, built and opened a year ago by graduate students of the University of Kansas School of Architecture. The center is powered by windmills and a bank of solar photovoltaic panels, and heated and cooled by a state-of-the-art geothermal system. It was the first LEED-platinum building in Kansas.

Mike Estes in his 28,500-square-foot, $3 million BTI Greensburg dealership. Credit Fred Hunt for The New York Times

That such visionary development is occurring in this sun-washed, wind-whipped agricultural community of 900 residents can be attributed to a single event: a monstrous tornado in May 2007 that killed 11 people.

In the weeks after, as federal and state officials assessed the damage and estimated the cost of rebuilding, business and civic leaders gathered with residents to come up with a reconstruction plan. The most important goal, city leaders said in interviews, was to build a sense of economic dynamism that would generate new businesses and jobs and persuade Greensburg's talented young people not to leave.

“We had the chance to start over,” Mr. Estes said. “What do you do when you start with a clean slate? You want to build it better. Right?”

And so his company decided to incorporate in the new dealership — the old one was wrecked in the tornado — design features like skylights and electrical systems that cut energy use by half, plumbing fixtures that save almost 40,000 gallons of water a year, and two wind turbines out back that spin in a steady wind and generate a part of the dealership’s electricity.

The first gatherings after the tornado produced a surprising civic consensus in a community where “green roofs” and the “heat island effect” were foreign concepts. As Dea Corns, a real estate agent who manages the Greensburg State Bank with her husband, Thomas V. Corns, recalls, “We decided to put the ‘green’ in Greensburg.”

These days, the technical language of the green building world is in everyday use as Greensburg sets out to achieve the distinction that the former Kansas governor, Kathleen Sebelius, now the secretary of Health and Human Services, described in a news conference two years ago. "We have an opportunity of having the greenest town in rural America,” she said.

Last year, leaders approved a redevelopment plan drawn up by the architectural firm BNIM, based in Kansas City, Mo., that called for Greensburg to be a “truly sustainable community that balances the economic, ecological and social impacts of development,” and “a laboratory for research on sustainable design and community development.”

Greensburg also approved an ordinance requiring that all municipal buildings larger than 4,000 square feet be built to LEED-platinum standards, putting it in the forefront among communities in the United States in energy conservation standards.

BTI’s John Deere dealership is a small part of a bustling panorama of development whose total cost is expected to reach $100 million. Financing comes from a mix of federal, state and local sources, and to a surprising degree, private donations.

In April, for example, the city’s 10,000-square-foot $3.4 million business incubator opened on Main Street. Financing for the office building, which offers temporary space at low rents for 10 small businesses, was provided by Frito-Lay, the federal Department of Agriculture and the actor Leonardo DiCaprio.

The 4,700-square-foot $2.9 million City Hall, designed to achieve LEED platinum designation, is about to open at the center of town.

A block away, the 18,800-square-foot Kiowa County Courthouse, built in 1914, is being renovated at a cost of $5 million. The reconstruction includes highly insulated walls, geothermal pumps for heating and cooling, high-performance lighting and controls and other environmental and clean energy features that qualify for LEED gold designation.

Along United States Route 54, the Kiowa County Memorial Hospital, a 48,500 square-foot, $25 million medical building, is under construction and scheduled to open next year.

According to Kiowa County, the new hospital is seeking to become the first LEED platinum critical-access operation in the country. The building incorporates natural light; high-performance insulating glass; light-sensing dimmers; motion sensors; an on-site wind turbine to generate electricity; a bio-swale filtration system to process all waste water from the laundry, showers and lavatories; and a system to capture rain water to flush toilets. Those and other energy conservation

features mean that it will not need fuel oil boilers to back up its heating and cooling systems, drastically reducing costs.

“People saw that a terrible tragedy could be made into something valuable and durable and better,” said Daniel Wallach, founder and executive director of Greensburg GreenTown, a nonprofit organization that has provided technical assistance and organizational support for the reconstruction. “They said, ‘Look what we can do when we think about this in a new way.’ ”

Not everybody in town is so sure. Some residents and business owners, particularly in the months after the tornado, expressed concerns that the green plan would increase costs and slow the process of getting construction permits.

But Mr. Estes and others who have added energy-saving designs and equipment report that the higher initial installation costs have been more than offset by significantly lower operating costs. Mr. Estes said he was saving the equivalent of $25,000 to $30,000 annually in energy and water costs compared to his old building.

Greensburg’s green showcase also includes a 32-unit LEED-certified town house complex, comprising 40,000 square feet and built at a cost of $4 million, and 200 new homes, most of which were built with energy efficiency, water conservation and other environmental values in mind.

The National Renewable Energy Lab, a unit of the federal Department of Energy that advised the city in green development, tested 100 of Greensburg’s recently built homes and found that, on average, they consumed roughly 40 percent less energy than those they replaced.

Greensburg is also among the first in the nation to light its streets with LED lamps, which focus their beams on the ground and make it possible to see the stars. The new lamps also save 70 percent in energy and maintenance costs over the old sodium vapor lights, and reduce carbon dioxide emissions by 40 tons a year, city leaders say.

And Greensburg is planning to generate all of its electricity from the wind. Outside of town, John Deere Renewable Energy, an Iowa-based unit of the equipment maker that has built wind farms in other Midwest states, is planning to break ground on a 12.5-megawatt wind farm that consists of 10 turbines capable of supplying electricity to 4,000 homes.

Mr. Estes is so enthusiastic that he embraced a new clean energy business plan that responds directly to the city’s goal of generating new jobs.

BTI is now the national distributor of Canadian-built Endurance Wind Power turbines capable of powering homes and businesses. “Two years ago, the whole town needed to be rebuilt,” Mr. Estes said. “And we needed industry. We are learning that green makes sense.” ■

Courtesy of The New York Times online:
http://www.nytimes.com/2009/09/23/realestate/commercial/23kansas.html?_r=2. A version of this article appears in print on page B6 of the New York edition with the headline: After a Tornado, a Kansas Town Rebuilds Green.

To view videos of Greensburg’s recovery process, visit the GreensburgGrows.com website.