



# The Green Standard

by Lesly Rascoe, *Vice President, Communications*

**W**aco is on its way to becoming known as Texas' green, livable city. What does this mean as communities are competing for jobs and businesses are vying for customers? It means the gap between being green and making green is closing, and businesses and communities can gain an advantage by the way they manufacture goods, construct buildings and operate on a daily basis.

What was once financially prohibitive is now smart business—both from bottom line and environmental standpoints.

Going green has gotten cheaper now that more earth-friendly materials are readily available, and any investment in energy savings is a must.

It's happening here. Green construction is taking place all over town, and businesses are taking what they do to the next level—a more environmentally responsible level—recognizing a slight cost increase pays off later.

Read on for a look at what's going on here and watch the *Waco Chamber & Business Quarterly* for more to come.

## McLennan Community College

McLennan Community College is continually working toward its sustainability goals as it constructs three buildings. MCC is implementing measures that will qualify all three buildings for certification by the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System.

The 96,000-square-foot Classroom Building, set to open in March, will become a dominant feature of campus with its 25 classrooms, 40 faculty offices, two computer labs, several small study rooms, a new lecture hall and a new bookstore.

At 102,000 square feet, the new Science Building, set to open in August 2009, will be the largest structure on campus, as well as the most technologically up-to-date with 12 classrooms, 14 labs, 17 offices and a greenhouse.

The Emergency Services Education Center (ESEC), located off campus at Steinbeck Road, is set to open next June. MCC partnered with the city of Waco to build this 49,000-square-foot facility, which will house several of MCC's human services programs and will provide a central location for training regional police, fire and emergency medical professionals. The ESEC will include a two-story training building and six-story burn tower for simulated fires.

The building uses natural light and solar panels, a geothermal HVAC system, environmentally friendly flooring, low-flow water fixtures, dual-flush toilets and recycled wood products. Wood from trees that were cut down during construction will be recycled into furniture and mulch for landscape. Rainwater also will be collected into storage tanks for use in a fountain and landscape watering.

Photo by Laura Sorrell



The presses at Central Texas Printing stay busy producing "green" printed materials.

## Central Texas Printing

Central Texas Printing is the only Forest Stewardship Council (FSC)-certified printer in Greater Waco. For a printer, this means your products promote responsible management of the world's forests. Only around seven percent of the world's forests are FSC-certified.

The printing process involves every one from foresters to printers creating a chain-of-custody accountability system in which each participant is certified. Baylor University is requiring all of its printing to be FSC-certified with a designated seal. The Greater Waco Chamber prints on FSC-certified paper and many of its printed products carry the seal.

Central Texas Printing became FSC-certified earlier this year and is one of only 48 certified printers in Texas. Many of the certified printers in Texas are in larger cities.

According to Chip Allen at Central Texas Printing, it costs a little extra to print on FSC-certified paper, but with larger companies beginning to "go green," the extra cost is well worth it.

"Currently, larger cities use more of the FSC printing, but we're here now and more people are starting to hear about it in Waco," said Allen.



Photo courtesy of MCC

The 96,000-square-foot Classroom Building at McLennan Community college is expected to meet gold LEED™ standards.

## Caterpillar Logistics

The open space of a cavernous warehouse presents certain lighting challenges. The requirements of illuminating such a large open area can be expensive so when older, less-efficient lights are replaced with “greener” options it can be a huge money saver.

The Caterpillar Work Tools lease located at the former General Tire facility occupies 975,000 square feet of space that was built in the early 1970s. The area originally was fitted with traditional high bay lighting using 400-watt high-pressure sodium fixtures that produce a color rendering index of only 22.

Gordon Robinson whose Waco Distribution Centers, Ltd. owns the building, worked with Caterpillar in getting the facility converted to a brighter, lighter and much more energy efficient option—T5 fluorescent bulbs with occupancy sensors.

With about 650,000 square feet already converted, the warehouse now uses its energy more efficiently, said Robinson.

The 1,200 new T5 fluorescent bulbs that have been installed so far have a color rendering index of 85 and more resemble natural lighting. With a wide-open reflector, these fixtures are 25 percent more efficient because more of the light is useful.

All the new fixtures have light detectors to take advantage of the skylights in the warehouse, said Robinson. Motion detectors turn off the lights when workers are not present.

The retrofit has been so successful from a savings standpoint that Caterpillar has

Photo by Lesly Rascoe



The fixtures with T5 fluorescent bulbs shown here have a light detector to turn off when the skylight provides sufficient lighting.

decided to retrofit the remaining 325,000 square feet of the building, which will result in about 300 more new lights.

The T5 bulbs, which are installed in sets of four for about \$300, are far more expensive initially compared to the high-pressure sodium bulbs at \$90 each, but the pay off is evident, said Caterpillar facility manager Bob Christensen.

“Caterpillar is big into environmental measures and energy savings, and we estimate a pay back on this investment in about two years,” he said.

Caterpillar also is going green with its new distribution center, which will be built and operated with sustainable development principals as a focus.

Motion sensors and side lights will reduce the use of indoor lighting. Water conservation measures and efficient heating and cooling systems are aimed at attaining a

LEED™ certification.

The building will be Greater Waco's first green distribution center and is in line with the company's new sustainable facilities policy that requires design and construction to minimize adverse environmental impact, yield life-cycle economic benefits and demonstrate a commitment to sustainable operations.

This policy is the first enterprise initiative in support of sustainable facility design and applies globally to all new Caterpillar facilities or greenfield sites. Plans are underway for more than a dozen new facilities designed to comply with the policy.

## Glazer's

Glazer's Wholesale Distributors in Texas Central Park has experienced a significant savings since they retrofitted the lighting in their warehouse, offices and restrooms.

“We installed a new lighting system in January 2007, and we have seen significant savings to say the least, about \$4000 per month,” said branch manager Jon Lamar. “When they told me that we would pay for the system in 18 months, I quite frankly was a little skeptical, but we have paid for it in about a year.”

The seven-year-old facility's 350 high wattage bulbs were replaced with T5 high output reflector fixtures significantly reducing the kilowatt usage and improving the lighting.

“Glazer's decided to do this for two reasons: financial savings, because we are all trying to find ways to save money, and to reduce our carbon footprint, which is very important to a company the size of ours,” said Lamar.

## Mars Snackfood US

Mars Snackfood US initiated early this year an innovative program for capturing methane gas from the local landfill to power the steam boilers in its Waco plant.

The facility that makes Skittles®, Starburst® and Snickers® is collecting the naturally produced methane, a renewable energy source that would otherwise go wasted, and using it to gain a competitive edge in the world economy.

This project had the effect of reducing annual greenhouse gas released into the atmosphere by an amount equal to the emissions from more than 1,900 vehicles, reducing oil consumption by 24,000 barrels per year, or planting 2,300 acres of forests. The annual energy savings is equivalent to heating 2,700 homes.

“These savings translate into greater efficiency for our plant, and ultimately a more sustainable operation in Waco, a good thing for both the city and our business,” said Todd Lachman, president of Mars Snackfood US.

Available quantities of methane will cover approximately 60 percent of the Waco plant's total boiler fuel requirements for the next 25 years, and MARS anticipates an energy savings of more than \$500,000 annually.

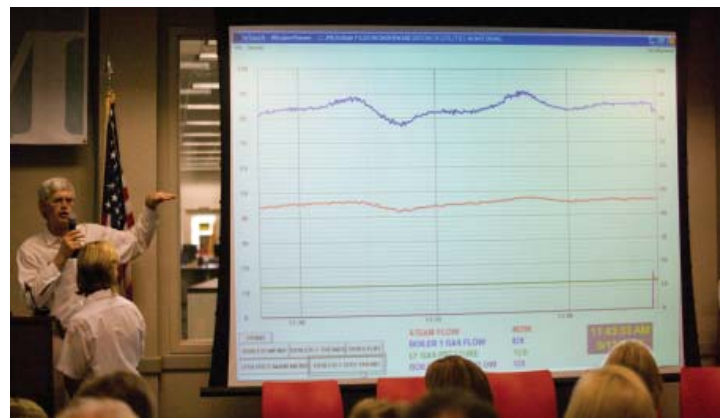


Photo by Brett Jameson / BNC Imaging

Mars Snackfood US officials show the release of methane, a renewable energy source, that will be used to power the steam boilers at its Waco plant.



Don Dameron, owner of AZTEC Solar Solutions, will make solar panels available soon in the local market.

### AZTEC Solar Solutions

AZTEC Solar Solutions, Waco's new solar energy system dealer, will help residential and commercial buildings turn sunshine into energy beginning in late August.

The size and price of the solar panel systems depends on how much energy the building requires. An energy audit is done to determine size of the system needed.

"It is more like how much you want to save," said Don Dameron, owner of AZTEC Solar Solutions. "That's why we do the energy audit."

According to Dameron, the sun's peak hours are from 9 a.m. to 3 p.m. The panels are used to capture solar energy, and excess energy is pushed to the state's electric grid. In some cases, credits can be earned to offset electricity costs for night time hours.

Dameron also said that the earth receives more energy from the sun in an hour than the world uses in an entire year. That is one reason why solar panels are becoming more efficient, cheaper and reliable.

### Green homes

Ray Smith's Robinson home is part of the new trend of "green" residential construction with a focus on energy efficiency.

Built by Echterling Builders, the home was insulated with an expandable spray foam that cuts energy bills in half, said Burt Echterling, who builds only "green" homes now.

The Icynene Insulation System was installed by Robinson-based E-6 InSEALation Company. In addition, the 14 SEER heat pump was reduced from a four-ton unit to a 2.5-ton unit due to the foam insulation.

The home also has a tankless propane water heater so that hot water is not stored. The savings that result from eliminating



Photo by Laura Sorrell

Green residential construction applies energy efficient principals that result in savings for the homeowner.

energy lost from warmed water sitting in a tank can be as much as 10 to 20 percent.

The home is lit with only compact fluorescent bulbs, and the new LED technology is used for the recessed lights to meet the requirements of the Energy Star's Advanced Lighting Program.

Also, a water collection reservoir under the vanity sink allows water to be reused from the lavatory to flush the toilet.

### Barsh Construction RBDR Architects

The Greater Waco Chamber's new green headquarters was designed by RBDR Architects and built by Barsh Construction.

RBDR also designed the Hampton Illinois branch library in Dallas that is projected to attain LEED™-certification.

Barsh Construction followed the specifications designated in the LEED™ guidelines at the gold level for the Chamber building. Clearing wall cavities before sealing, steam cleaning the floors before laying carpet and keeping the site free of contaminants were some of the ways Barsh managed the project to meet LEED™ standards. ■



Photo by Lesly Rascoe

Tate Christensen (left) president of Barsh Construction and Keith Bailey, principal architect at RBDR Architects, designed and built the Greater Waco Chamber headquarters.



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