

Water Conservation Measures in Austin

Water conservation is an important aspect of green building and it's clear that water conservation will be especially critical in the future. Portions of South and West Texas have been in a long-term drought for several years. Climate and weather experts say that a three-month drought is likely to occur in some part of the state every nine months. Droughts lasting six months or longer will likely occur once every 16 months, and year-long droughts are likely somewhere in the state once every three years.

The [droughtreporter.com website](http://droughtreporter.com) reports that central Texas, including Austin and Travis County is currently experiencing extreme drought conditions. The current drought began to intensify in August 2005 and at the end of October, a stage one drought was declared for the Barton Springs portion of the Edwards Aquifer. Then, in early December, the [Lower Colorado River Authority \(LCRA\)](http://www.lcra.org) asked the public to voluntarily reduce their water use by 10 percent. We don't usually hear much about water conservation in winter but with Lake Travis at less than 75% full and drought conditions expected to last well into 2006, water supplies could be very low this year, especially as more people begin watering their lawns in the spring. "The latest forecasts and trends that we've been looking at, don't really show much improvement through the winter months and even going into the spring. We are in a dry pattern that will probably last well into 2006," says LCRA meteorologist, Bob Rose.

In early January, the [Texas Commission on Environmental Quality \(TCEQ\)](http://www.tceq.texas.gov) issued a letter to water system officials, encouraging them to review and, if needed, implement their drought contingency plans immediately.

Effects of the Current Drought

Parts of Texas received 20 fewer inches of rain this year than in 2004. Some lakes in the region are more than 12 feet below normal. Droughtreporter.com monitors reports on the effects of drought conditions. Consider the following effects from our current drought:

- On December 18, the Texas Interagency Coordination Center says that federal, state, and local fire crews in Texas fought 13 fires over 879 acres. During 2005, the state recorded a total of 676 fires involving 30,441 acres. Outdoor burning bans are currently in effect in 104 of the state's 254 counties because of drought conditions.
- In December 2005, owners of a feed store in Johnson City told Texas agriculture officials that they did not have enough hay in stock and that they were cutting off sales to everyone but their long-standing customers.

- Across Oklahoma and Texas, ranchers are selling cattle because there isn't enough grass to feed the herds. The federal government has estimated that the national net farm income for 2005 will be down nearly \$11 billion from 2004, with losses in Texas and Oklahoma likely accounting for a significant portion of the decline.

Green Building Options

It's easy to lessen the impacts of drought or water shortages on your home and community and to do your part to conserve potable water. Water conservation technologies are widely available, affordable, and easy to use. All three of the GBP's rating tools give points for indoor and outdoor water conservation measures. For example, you can choose to install water conserving appliances such as the washing machines listed on the [City of Austin's WashWise rebate list](#). We also encourage you to take advantage of the [toilet replacement program](#) and the [low flow showerheads and faucet aerator program](#). These are all good choices that can significantly lower indoor water use. In fact, conventional 3.5 gallon toilets consume over 30% of all household water. Low flow toilets (1.6 gallon) can cut that number nearly in half. The City's approved toilet list has recently been updated and reflects the latest data on toilet performance, including performance over time, and dual flush models. Often, older low flush models would start out flushing well but as flappers were replaced, toilet performance would deteriorate. Now, the only toilets on the list are ones that performed well over time.

Indoor water conservation is a great start; however, keep in mind that lawn and landscape watering accounts for 50% of Austin's water use in the summer. This means we have a lot of room for improvement! Getting rid of thirsty grass, planting only native and adapted species and harvesting rainwater for irrigation are ways to significantly reduce your outdoor water use. If you must water, minimize evaporation losses by watering in the coolest and least windy part of the day (early mornings and evenings). Using drip irrigation, soaker hoses, or bubblers will also greatly reduce evaporative losses. Be sure you water only when plants need it - allow the soil to dry out between waterings - and water deeply to support healthy roots.

Storage, Storage, Storage

One of the most popular ways to conserve potable water is to harvest rainwater and use it for lawn and garden irrigation. If you've lived around Austin for any length of time, you know that we usually have big rain events followed by long dry spells. The key to managing this feast or famine of rain is storage. Plan a rainwater harvesting system that is large enough to capture water during a heavy rainfall. Then, it's easy to store and use rainwater during our long dry spells. The City of Austin has an excellent rainbarrel rebate and sales program and the State of Texas offers tax exemptions for rainwater harvesting and other water conservation equipment.

The storage container is usually the highest cost involved in installing a rainwater harvesting system. There is an excellent article on the [Harvesth2o.com website](http://www.harvesth2o.com) that compares storage options. A variety of new and unusual storage options are discussed on the [RainHarvesting.com](http://www.rainharvesting.com) website and Green Building Program member Chris Maxwell-Haynes of Innovative Water Solutions has a lot of great information about rainwater harvesting in general on his website: <http://www.watercache.com>. When you live in a drought-prone area, it only makes good sense to proactively conserve as much water as possible and to at least supplement your outdoor watering with harvested rainwater.

More About Drought and Texas

There is growing speculation among climatologists that, during the next few decades, Texas could see even more frequent droughts, of longer duration. If this happens, water conservation will become even more important. You may even choose to design a harvesting system that filters rainwater for drinking and cooking.

The fact is that droughts occur regularly in Central Texas and are considered a "normal" condition here. On average, a yearlong drought takes place somewhere in Texas once every 3 years and a major drought (which can last for many years) every 20 years. Austin has had 19 drought years between 1893 and 2002. According to [Todd H. Votteler, Ph.D](#), Director of Natural Resources and Special Assistant to the General Manager for the Guadalupe-Blanco River Authority and Executive Director of the Guadalupe-Blanco River Trust, "Texas experiences so many droughts in part because of its location along 30 degrees north latitude, a climate transition zone called the Great American Desert. This is the latitude where many of the earth's deserts are found, including the Sahara. It is not uncommon for portions of Texas to be suffering through a drought while other parts are experiencing heavy rainfall. Annual rainfall varies from eight inches in El Paso to 56 inches along the Texas-Louisiana border."

The Drought of Record

Texas's worst recorded drought lasted from 1950 to 1957. By the end of 1956, 244 of Texas' 254 counties were classified as disaster areas. The Panhandle experienced huge dust storms and dust piled up on the highways in drifts, requiring snowplows and bulldozers to remove it. Wells went dry, as did creeks, rivers and springs.

The water supplies of some cities, including Llano, were exhausted, requiring water to be hauled in by trucks. A few cities actually lowered their water rates to ease the cost of increased consumption, which simply aggravated the crisis as cheaper water led to more use. The drought ended in 1957, with a flood that saturated the ground. Soil moisture conditions returned to normal and depleted surface water reservoirs and aquifers were replenished.

As bad as this drought was, the increase in our population coupled with the amount of land development and the continued depletion of groundwater sources, means that if a drought of this magnitude were to occur in Texas again, the effects would be far worse. Water is a precious commodity in our world and will only become more valuable in the future.

Resources

[Texas Water Foundation](#)

[Water Conservation Tips](#)

[Water Use Calculator](#)

[Texas Manual on Rainwater Harvesting](#)

[Harvesth2o.com](#)

Green Building Program Member [Innovative Water Solutions](#)

[GBP Rainwater Harvesting Factsheet](#)

[GBP Lawncare Factsheet](#)

[GBP Sourcebook Chapter: Water](#)

[Rainwater Collection System Diagram](#)

Wind is Finally Cheaper Than Oil

It's finally happened. Austin Energy's renewable power option, [GreenChoice](#) (GC), is actually cheaper than traditional power! Great news for those who are already subscribers! If you subscribed to GC early, you paid more than traditional power users in the beginning but the payoff for your environmental concern and foresight is here now.

GreenChoice™ Subscriptions Almost Sold Out

Renewable energy is bought in batches by Austin Energy and resold to GC subscribers. The program began in 2000, and to date, AE has purchased four batches of renewable energy. The current batch of GC power (batch 4) is almost sold out. According to Carol Harwell, Austin Energy's GreenChoice Program Manager, AE has enough green power left for 1,400 residential customers and 200 businesses. Additional green power will not be available until next fall at the earliest. Because of the limited amount of power left, AE is implementing a lottery system for customers in order to give all customers an equal chance to sign up for the lower cost renewable energy. Customers wanting to switch to GC must send a postcard to AE to be entered in a drawing in March - the exact date of the drawing has not been set. Pre-printed postcards are available at all HEB and Whole Foods stores, as well as Parks and Recreation centers, City Hall, and Townlake Center (721 Barton Springs Rd). However, you can send any postcard with your name, address, and electric account number as they appear on your utility bill to: Austin Energy

GreenChoice, 721 Barton Springs Road, Austin, TX 78704. A GC waiting list for the next batch of green power will be established after the drawing.

AE does not yet know what the price of the next batch will be, but more than likely it will be higher than the current batch. GC is a multi-year commitment by both the subscriber and AE. Residential customers commit to remaining on GC until the end of their batch (usually about a 10 year commitment). The first GC batch is set to expire March 1, 2011. Look for more details in the January utility bill insert.

Triad C&D Recycling Opens to the Public

Green Building Program member, Triad Construction & Demolition Recycling is taking another step toward making sustainable building practices easier for everyone. A look at the characteristics of waste disposal in Travis County in 2000 shows that nearly 17% of the total waste stream is C&D (construction & demolition) waste, totaling 356,433 tons. These numbers reveal how important it is for Austin find avenues to divert C & D waste from landfills. Triad is an Austin-based homegrown company originally formed to provide maintenance and clean-up services for construction sites as well as occupied facilities. In 2002, Triad was contacted by a general contractor seeking help developing a waste management and recycling plan for Austin's City Hall project.

After successfully diverting 2,000 tons of C&D waste from the City Hall project, Triad continued to consult with developers on ways to divert waste from the landfill. C&D waste is diverted to a wide variety of places. Concrete and stone are re-used in highway projects, metals and wire are melted down and re-used, wood, sheetrock and cardboard are recycled into compost and mulch. Triad recycles as much as possible, down to the paper, cardboard, aluminum cans used on site. Triad's goal is to recycle 80% of all waste from any site. They have always succeeded in reaching this goal, sometimes reaching even a 98% recycle rate.

Triad C&D Recycling is now accepting construction and demolition recyclables from the public. Recyclables include untreated, unpainted wood and sheetrock; concrete; metal; wire; pallets; cardboard; and plastic bottles. Triad C&D Recycling cannot accept the following items: PVC, painted or treated wood or sheetrock, hazardous waste materials (i.e., asbestos or chemicals).

Tipping fees* are as follows:

Trucks and Trailers

Pick-up:	\$25.00
6' Trailer:	\$25.00
8' Trailer:	\$46.00
12' Trailer:	\$69.00
16' Trailer:	\$92.00

Roll Offs

14 yd:	\$91
20 yd:	\$130.00
30 yd:	\$195.00
40 yd:	\$260.00

*Tipping fees for pickups and trailers are negotiable should it fall short of being a full load. Roll off tipping fees are firm.

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Triad C & D Recycling is located east of Austin, just south of Burleson Rd, at 6807 F.M. 973. For more information, contact Adrian Neely at (512) 385-1189.

Member Bulletin Board

Looking for a Way to List Your Green Property?

GBP staff is regularly asked by prospective buyers "Where can I find a list of Green homes for sale or rent?" We refer buyers to [Sustainable Sources](#), a long-time GBP member, that provides a variety of online services. The Sustainable Sources website has a [Green Real Estate database](#) that allows builders/sellers to list their properties for a small fee. The database is searchable by construction method, size, and price among other variables.

USGBC Launches First Web-Based Training Course

The three hour web-based course entitled "Essentials of LEED Professional Accreditation" includes selected case studies, interactive learning exercises, and a practice exam with questions similar to those encountered on the LEED Professional Accreditation exam. The cost of the

course is \$150 for USGBC Members and \$200 for Non-Members. After purchase, the course is accessible online for 60 days. See details on the [USGBC website](#).

Austin's [Habitat Suites Hotel](#) Wins National Green Business Leader Award

Habitat Suites, located at 500 East Highland Mall Boulevard, was honored with the "Green Business Leader Award" given by Co-op America's Business Network at the third annual Green Business Conference held November 1st - 4th in San Francisco. The Green Business Leader Award was created to recognize an extraordinary company or business leader that has led the way in using business to help create a just and sustainable society, and whose efforts are at the forefront of the green business movement. [Read More...](#)

Austin Energy Deputy General Manager Roger Duncan Honored by [Business Week](#) (from [In Fact Daily](#))

Roger Duncan, who heads up AE's Distributed Energy Services Department, was included in an international list of 20 individual achievers recognized for their efforts to cut gases that cause global warming. Heading up the list is British Prime Minister, Tony Blair. California Governor Arnold Schwarzenegger is number four on the list. Duncan is listed at number 13, with Business Week stating, "The capital of Texas wants to be cleanest city in the U.S., and Duncan is making sure his municipally owned utility does its part. For the last three years, Austin Energy has topped all U.S. utilities in sales of renewable energy." Duncan served on the Austin City Council from 1981-1985 and is the only Texan on the Business Week list. Duncan's newest project is a [plug-in hybrid vehicle](#) technology which would allow consumers to plug their vehicles into an electric outlet but allow for the flexibility of gas-powered travel on longer trips.

City of Austin Bans Coal Tar Sealants

On January 1, 2006, Austin became the first city in the country to ban the use of coal tar sealants. Coal tar sealants are used as surface finishes for parking lots, driveways and airport runways. The City has banned the coal tar-based products because they are a potent source of PAHs (polycyclic aromatic hydrocarbons), an organic contaminant known to be carcinogenic and toxic to aquatic life. Many Austinites remember the 90-day closure of [Barton Springs pool](#) in 2003 that coincided with the City's findings that PAH runoff had caused sediment contamination upstream of the pool. National attention is now focused on this issue as other cities are finding significant increases in PAH levels in their streams. Visit the [City of Austin website](#) for more information.

Urban Forestry Board (UFB) to Hold Public Hearing

The UFB will meet at 6:30 p.m. on Wednesday, January 18, 2006, at the [Parks and Recreation Department](#) Board Room, 200 South Lamar Blvd. The UFB will report on the need to conduct a city-wide tree inventory as a first step to creating an Urban Forestry Management Plan for Austin. Reports will be heard from the Parks and Recreation Department, Austin Energy, Watershed Protection Development Review, and Neighborhood Planning and Zoning Department. Call 326-9944, or email mahoney1@infohiwy.net for more information.

Dow Ends Production of Green Fiberboard

(From [Building Design and Construction](#), November 21, 2005)

Dow Chemical Canada Inc. has announced it will stop manufacturing WOODSTALK™ brand products from its plant in Elie, Manitoba, Canada by December 31, 2005. In June 2001, Dow BioProducts was created through the acquisition of a majority of the assets of Isobord Enterprises which produced WOODSTALK, a more environmentally-friendly, high quality alternative to wood-based [medium density fiberboard](#) (MDF) and particle board. The company said in a statement that the demand for high-quality, low VOC fiberboard was not at a level high enough to generate the returns necessary to sustain the business. Higher operating costs due to increased natural gas and oil prices were also a factor in the decision to cease production, according to Dow.

Air Filter Manufacturer Opens Residential Online Store

[Camfil Far](#) — which provides air filters to schools, hospitals, businesses and governments — is now making its products available to consumers via a new Web site. Camfil Far sells a 30/30 pleated panel filter. [Pleated media filters](#) capture dust, mold and other common allergens. Consumers can order the 30/30 and other pleated panel filters in virtually any desired size. The site also includes technical background on the products and tips on selecting an air filter.

Another Reason to Skip the Carpet

Some carpets may contain [perfluorooctanoic acid](#), a Teflon-related chemical also known as PFOA or C8 that may be present in various stain repellents. Carpets are coated with Teflon-related chemicals called fluorotelomers at various manufacturing facilities. Fluorotelomers may break down into PFOA. Fluorotelomers can also be included in grease resistant coatings for food packaging, personal care items and cleaning supplies and are also found under the name Zonyl. According to a Chief Executive Officer Magazine article, researchers from 3M Corporation, which in 2000 stopped manufacturing PFOA, “speculated that children might be exposed [to PFOA] by crawling on carpets treated with stain repellants.” 3M submitted data to the EPA in 2001 that found PFOA in the blood of 96 percent of 598 children studied across the country. A draft report by the EPA’s Science Advisory Board identified PFOA as a “likely human carcinogen.” DuPont Company is a major manufacturer of stain repellants and the EPA has proposed a \$16.5 million settlement with the company over charges that they withheld documents on the health and environmental risks associated with PFOA.

Green By Design Sponsorships

We are now accepting sponsors for the February 4th [Green by Design Workshop](#) which will be held at the [JJ Pickle Research Campus](#) between 9 a.m. and 4 p.m. The aim of these full-day seminars is to help the general public understand the importance of green building, so they will ask you--the building professional--for greener homes. Most attendees are **ready to remodel or build new homes** and many of them are looking for architects, designers, builders and trade contractors. These workshops have proved to be very popular and usually sell out. Audience size is dependent on the venue, but typically ranges from 80 to 120 highly motivated people. [Read More....](#)

Let Us Help You Educate Your Clients

If you're a member of the Green Building Program, be sure to use our logo on your website and link to the GBP site. The Green Building site has tons of information designed to educate

prospective home builders and buyers. Some thoughts about where to link: our [homepage](#), the [member directory](#), your company's listing in the member directory, the [Sustainable Building Sourcebook](#), the [member case studies page](#) (especially if you have a case study on our site), the [Seven Steps to Green Building](#) (pdf download), or the [factsheet section](#). If you have any questions or need a web suitable copy of our logo, just [contact us](#).

High-Quality Digital Photographs Needed

We have an ongoing need for high-quality photos of rated projects (300 dpi in 8"x10" size) to use in advertisements, exhibits, and PowerPoint presentations and on our website. We would like exterior, interior, and detail shots. Photos should be well-composed, well-lit, with debris and clutter removed. Pictures of projects with established landscapes are particularly needed. Please e-mail them to your [Green Building Program staff representative](#).

Building Code Basics

The DOE is required by law to periodically reassess the standards derived from the [National Appliance Energy Conservation Act](#) (NAECA) developed in the 1970s. As a result, the U.S. Department of Energy (DOE) has adopted a new minimum seasonal energy efficiency ratio (SEER) of 13 for residential air conditioning systems (Federal Register, Vol. 69, no 158, August 17, 2004).

This new law states that any residential air conditioning equipment manufactured after January 23, 2006 must have a minimum 13 SEER. However, previously manufactured equipment with lower SEERs will still be available for sale. Installation of lower SEER equipment is governed by city or state building code. The Green Building Program rating tool will require 13 SEER equipment. The upgrade from the 10 SEER to the 13 SEER represents a 30% increase in energy efficiency. According to the [DOE](#), the upgrade will save U.S. consumers 4.2 quadrillion Btu, or quads of energy, between 2006 and 2030. This 4.2 quads of energy equals the annual energy use of 26 million U.S. households, and creates a net savings of approximately \$1 billion to the consumer by 2020.

Insulation Requirements for Ducts in Unconditioned Space

The current 2000 International Energy Conservation Code (IECC) requires ducts located in attics to have R-8 insulation. After the Code was adopted, concerns were raised about the availability of R-8 ducts and the problem of the larger R-8 ducts not fitting into existing home designs. As a result, [Texas A&M University's Energy Systems Laboratory](#) performed studies proving that equal savings could be gained by using 12 SEER equipment with R-6 ducts. This is commonly known as the [R6/12 SEER trade-off](#).

As of January 23, 2006 the [R6/12-SEER trade-off](#) will no longer be accepted. However, an R6/14 SEER trade-off will be allowed as an alternative approach to meeting energy code duct insulation requirements for unconditioned spaces. The trade-off may be used for all one and two-family dwellings and multi-family dwellings three stories or less. The 14 SEER air conditioner may not

be used to offset any other lower energy efficiency substitutions when the R6/14 SEER trade-off is used.

[Carl Meuth](#), Supervisor of Residential Inspection Team, has stated that permits issued starting February 1, 2006 must comply with the R6/14 SEER trade-off.

(Building Code Basics is a new addition to the newsletter, written by [Larry Brinkmeyer](#) - the GBP Code Guru)

January's Green Links

Your Carbon Footprint (calculator)	2006 Affordable Comfort Home Performance Conference	Karacadir: Mexico Center for Sustainable Development
Info on the EAct 2005 Energy Incentives	Sustainable Building Sourcebook	City of Austin Guide to Art in Public Places
Converting Agricultural Land to Wildlife Management	Building Science: Joe's Top Ten	Texas Campaign for the Environment Reports

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