

Austin's Municipal LEED Buildings

Austin is nationally and internationally known as a city on the leading edge of sustainable building. Of course there's always room for improvement, but overall Austin does a remarkable job of staying on the forefront of green building. In large part, the city's ability to stay on the leading edge comes from city departments who are charged with carrying out the sustainability measures mandated by Austin's City Council. One such mandate is the 2000 resolution requiring all municipal buildings to meet or exceed the LEED™ silver rating. The resolution is most often carried out by the city's Public Works Project Management Division (PMD) because they perform project management functions for almost all municipal buildings.

Municipal projects are built by the city for use by city employees or the public. For example, City Hall is a municipal project and so are the Carver Branch Library expansion and the Austin Resource Center for the Homeless (ARCH). All fire and EMS stations are municipal buildings, along with local Recreation Centers. Municipal projects encompass a huge variety of size, use, budget, and regulations.

The city's PMD has been involved with sustainable building for several years. PMD employees teamed up with Green Building Program staff to author the Sustainable Building Guidelines. Kalpana Sutaria, Architect/Project Manager, and Alison von Stein, Architect/Project Manager, both worked on the Guidelines back in 1994, and were again on the leading edge when the LEED system came along. Alison was the first person in the state of Texas to become a LEED Accredited Professional (LEED AP) and Kalpana was the second person in Austin to pass the accreditation test.

Commissioning Process

One of the most valuable aspects of the LEED™ system is that it requires buildings to undergo a commissioning process. "It was extremely valuable to have a commissioning agent on the Carver Museum and Library projects. Because of the lack of maintenance support (due to city budget cuts), Carver does not have a staff trained to provide building services. I recommend extended commissioning for projects with complicated mechanical systems," says Kalpana, who managed the Carver improvement projects.

Timeline of Sustainability in Austin's Municipal Buildings

1987

- Municipal Energy Conservation Program started.

1993

- Team formed to develop the "Sustainable Guidelines for City of Austin Facilities".

1994

- Austin City Council Resolution requiring municipal buildings to be designed and built to sustainable guidelines.

- "Guidelines for a Sustainable New Austin Airport" prepared for the City of Austin Aviation Department by the City of Austin Environmental & Conservation Services Department.
- First edition "City of Austin Sustainable Building Guidelines" prepared by Department of Public Works & Transportation, and Environmental & Conservation Services Department.
- City of Austin becomes EPA Green Lights Partner.

1996

- Texas State Lonestar Energy Conservation Program Participation.

1996-1998

- Second edition of the "City of Austin Sustainable Building Guidelines", now three volumes, prepared by Department of Public Works & Transportation, and Environmental & Conservation Services Department.

2000

- Austin City Council passes resolution requiring future City buildings constructed to the Silver standard of the USGBC's LEED™ rating system.

2002

- Austin hosts USGBC's first national conference.

2003-2004

- First City of Austin LEED™-rated building: Combined Transportation Emergency Communication Center (CTECC)

LEED™-Rated Municipal Buildings in Austin

Austin has two LEED-rated buildings on the ground and many more in the process of being rated.

CTECC - LEED™ Silver

The first City of Austin project to complete the LEED rating process was the Combined Transportation Emergency Communication Center (CTECC) in northeast Austin.

[View the Case Study for CTECC on our Web Site].

Far Southeast EMS Station - LEED™ Gold

The city's first LEED project to rate Gold.

[View the Case Study for Far Southeast EMS on our Web Site].

City of Austin Projects Seeking a LEED™ Rating

- Austin City Hall
- Austin Energy Sand Hill
- Austin Resource Center for the Homeless (ARCH)

- George Washington Carver Museum & Cultural Center and Carver Branch Library
- Austin EMS South Austin Station
- Austin EMS Circle C Station
- Austin Gus Garcia Recreation Center
- Austin Colony Park Recreation Center

Projects Designed Under City of Austin Sustainable Building Guidelines

- Rosewood-Zaragosa Health Clinic Renovation
- Parque Zaragoza Recreation Center
- Yarborough Branch Library
- Convention Center Expansion Deconstruction Project
- Municipal Annex Deconstruction Project
- Robert Mueller Airport Deconstruction Project
- Austin Bergstrom International Airport
- Ruiz Branch Library
- Convention Center Expansion
- St. John's Community Center
- Austin Harris Ridge Fire & EMS Station

City of Austin Policies, Programs, Ordinances and Resolutions Supporting Sustainable Design in Municipal Buildings

- Adoption of energy codes 1983, 1985, 1989, 1992, 1995, [2000](#)
- [Ozone reduction](#) initiatives
- Bicycle/pedestrian program
- [Watershed Protection Development Review](#) Water Quality Ordinance
- [Tree Planting/Protection Ordinance](#)
- Grey water/reclaimed water
- [GreenChoice](#) program
- [Water conservation](#)
- Xeriscape resolution
- [Waterwise landscaping program](#)
- [Smart Growth](#) initiative
- [Urban Heat Island Mitigation](#) initiative
- [Smoking ordinance](#)
- Light trespass ordinance

Austin Energy and Conservation

Austin Energy has a number of conservation focused programs, including the [Green Building Program](#), [GreenChoice](#), the [Residential and Commercial Energy Efficiency Programs](#), and the [Solar Rebate Program](#). Austin Energy Programs work closely with several City of Austin departments, including [Water Conservation](#), [Watershed Protection and Development Review](#), and Public Works.

More About LEED™

The [LEED \(Leadership in Energy and Environmental Design\)](#) Green Building Rating System™ is a rating tool for commercial buildings similar to the one developed by the Green Building Program for residential buildings. LEED is based on widely accepted energy and environmental principles and strikes a good balance between known effective practices and emerging concepts. Participation in LEED is voluntary; however, [several cities have passed resolutions](#) requiring municipal buildings to meet LEED standards. LEED standards are currently available or under development for:

- [New commercial construction and major renovation projects \(LEED-NC\)](#)
- [Existing building operations \(LEED-EB\)](#)
- [Commercial interiors projects \(LEED-CI\)](#)
- [Core and shell projects \(LEED-CS\)](#)
- [Homes \(LEED-H\)](#)
- [Neighborhood Development \(LEED-ND\)](#)

Member Bulletin Board

EPAct 2005 Includes Incentives for Energy Efficiency

The Energy Policy Act of 2005 (EPAct 2005) was signed into law on August 8th. EPAct 2005 is the first effort by the government to address U.S. energy policy since the Energy Policy Act of 1992. The 2005 Act contains numerous incentives for many industries, and while many believe that it doesn't go far enough in addressing the fundamental issue of our culture being completely dependent on petrochemicals, it does contain tax incentives for a number of energy efficiency measures. [Read More....](#)

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](#).

2006 Texas Environmental Excellence Awards

The deadline to submit applications for the 2006 Texas Environmental Excellence Awards has been extended to November 14, 2005. Presented annually by the [Texas Commission on Environmental Quality \(TCEQ\)](#), the awards honor environmental projects across the state that significantly reduce waste, prevent pollution and conserve natural resources. Awards are given in 10 categories: agriculture, civic/nonprofit, education, government, individual, innovative technology, large business/technical, large business/nontechnical, small business, and youth. For more information, criteria, or to download an application, visit www.teea.org or contact the TCEQ at 512-239-3150 or awards@tceq.state.tx.us.

ASHRAE Compliance Forms

[Compliance forms](#) for ASHRAE 90.1-2004, -2001, and -1999 are now available, for free download, on the ASHRAE site to anyone, not just ASHRAE members. These forms show compliance for LEED ratings, so they are the surest way of achieving those credits associated with 90.1.

Interesting Points From the [HBA \(Home Builders Association\)](#) Newsletter

- After a request from the HBA, the City will require builders to write their state registration number on building permit applications starting in October. The City is also looking at increasing reinspection fees from \$50 to \$65 in October.
- City of Austin staff discussed proposed changes to drainage criteria manual (DCM) with the public in late September. Email jean.drew@ci.austin.tx.us for copies of the proposal.
- If you are having inspection problems, please have your project managers or construction directors/vice presidents (not superintendents) contact chief building official carl.meuth@ci.austin.tx.us. He wants to be aware of problems before they become a crisis.
- Austin is considering initiating amendments to height regulations for single-family residential construction or significant addition to an existing structure. It would apply to infill sites even if the property was not resubdivided.
- On October 1, Austin will begin charging \$750 for temporary certificates of occupancy (COs). If builders take care of issues within 30 days, they will get \$500 back. If the issues are not taken care of, the money is forfeited.

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](#).

Green Building Program Turns 15; 2005 Year in Review

During our 15 years in existence, the Green Building Program has made remarkable progress in its goal of bringing sustainable building practices to the mainstream building industry. Our membership program is growing at a phenomenal rate - we currently have 321 members, with about 5 new companies joining every month. We're also really proud of the [Green by Design Workshops](#) which allow us to educate hundreds of people a year about sustainable building. We offer the workshop four times a year and they consistently sell out - our most recent workshop had 145 attendees, our largest ever. Our members help us offset costs to attendees by [sponsoring the workshop](#).

We quantitatively measure our success in a variety of ways, including number of homes, apartments, and commercial buildings rated using our rating system; amount of kW hours saved; and pollution reduction related to kW savings.

In 2005, we broke the 1,000 mark in rated homes! We rated a total of 1,087 homes in the Austin Energy service area. That's about 25% of all new homes completed in the AE service area (based on the reported 4,324 Certificates of Occupation issued by the City of Austin). How great is that? Nearly 1 of every 4 homes built in the AE service area in 2005 was green rated. Consider that between 1993, when the rating tool was introduced, and 2002, we rated a **total** of 3,113 homes in the Austin Energy service area. Between 2003 and 2005 we rated 2,423 homes, which is 77% of our lifetime total in only 3 years. Our new lifetime total is 5,536. Our rating tool is really making an impact, which is why it is important for us to continually raise the bar -- an updated rating with more stringent standards is in the works now.

Chart 1 shows the growth in the total number of homes rated per year between 1995 and 2005.

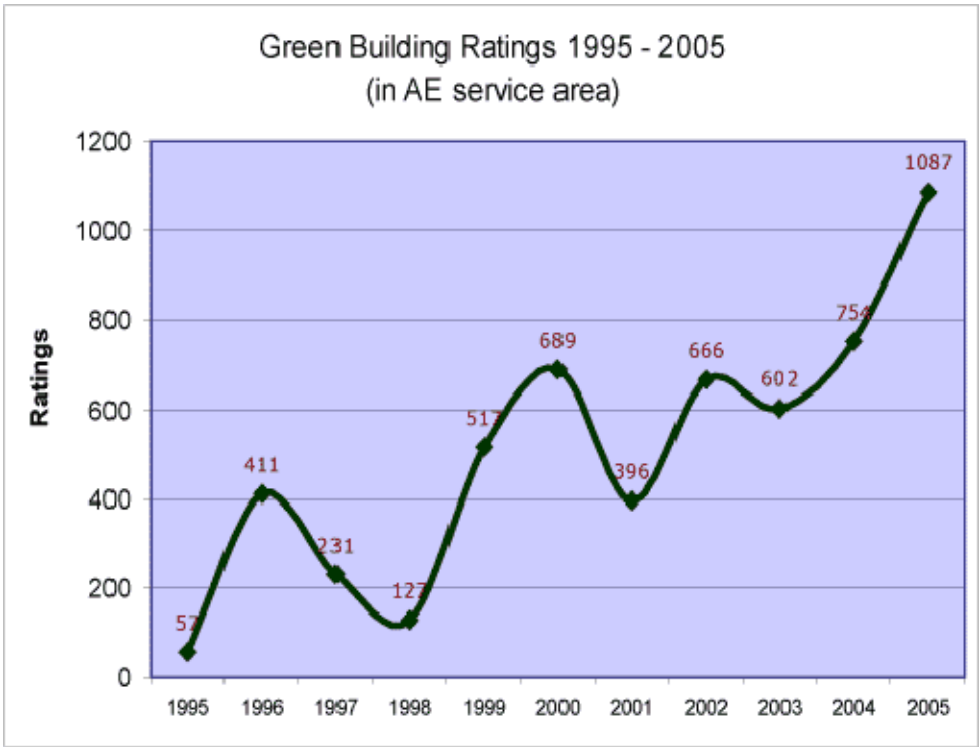
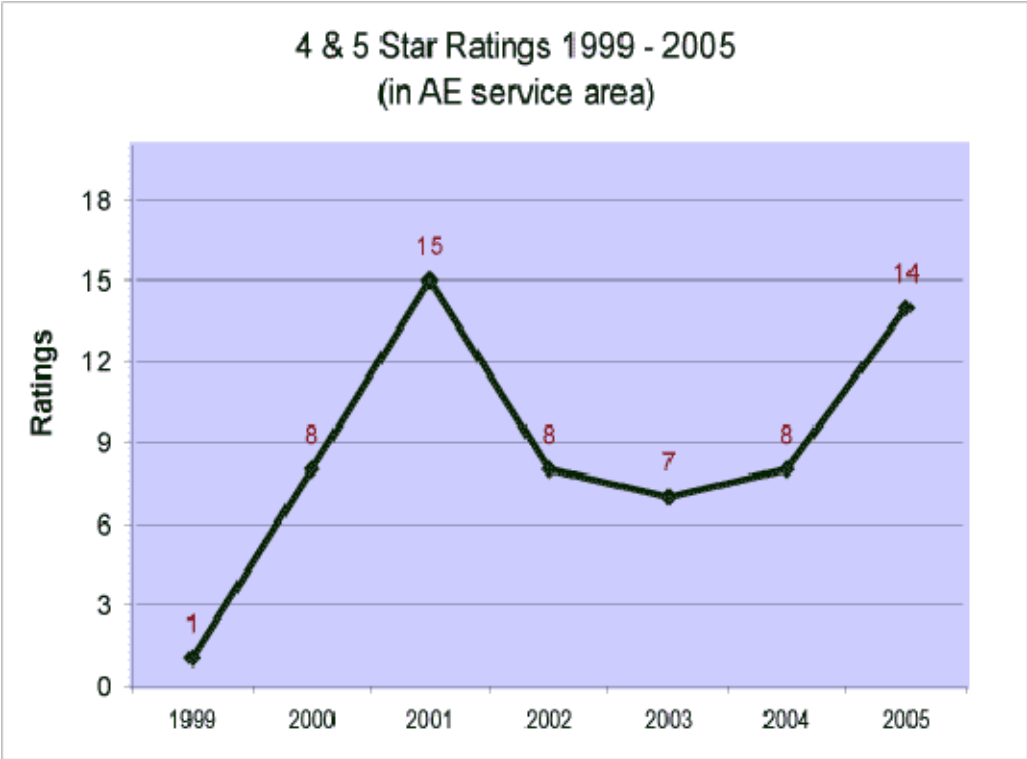


Chart 2 shows the growth in 4 and 5 Star rated homes (combined) between 1999 and 2005.



Residential Member Ratings Table

Be sure to see the [member ratings table](#) (Note: this is a pdf file) which shows how many ratings have been completed and which star level has been achieved by each member.

Commercial and Multifamily Green Building

The commercial side of the Green Building Program also continues to experience significant growth. They completed ratings on two projects in 2005: LCRA's TENSOCO Building and Horizon Bank and continued or began work on the Dell Children's Medical Center of Central Texas, the Medical Office Building at RMMA, Lowe's in S.W. Austin, 721 Congress, LCRA's Emergency Operations Center, the Southpark Meadows Retail Center, the North and South Retail Projects at RMMA, the DOD Learning Center in San Antonio, and several AISD school projects among others. In fact, our commercial program staff is currently consulting on more than 20 projects totaling over 3 million square feet of space.

Over the past six years, 36 multi-family construction projects--almost 5,000 units--have been rated by the Green Building Program. Our multi-family program continues to see steady growth. In 2005, multi-family logged over 1,000 kW in energy savings and rated seven projects totaling over a 1,000 units. One of our major multi-family projects was the Pedernales Live + Work development in East Austin. Currently, multi-family has 34 projects in various stages of construction including Milago (Rainey Street Apartments) and Saltillo Lofts on East 5th. Based on our projections, we expect multi-family unit ratings to almost double in 2006. Be sure to attend our [Multi-family Case Studies Seminar](#) on November 17.

Development Areas and Overlays

The following areas or overlays require a Green Building Program rating:

- [SMART Housing](#) projects (single and multifamily)
- Central Business District (CBD) or [Downtown Mixed Use](#) (DMU) zoned projects
- All projects (commercial, multifamily and single family) in the following Public Utility Districts (PUDs):
 - Comanche Canyon
 - Wildhorse
 - Pioneer Crossing
- Projects in [Robert Mueller Municipal Airport redevelopment](#)

Manage it Green

Our [Manage it Green](#) consulting arm continues to work with clients all over the country, creating new partnerships and new green building programs modeled on our program's success. This year, we continued our contact with California Public Utilities Commission (CPUC) to help them raise awareness of green building in the San Francisco Bay area and establish local green building programs in several northern California counties. Closer to home, we worked with a small development group in east Texas to create a subdivision based on conservation development

principles. We gave Manage it Green presentations in Florida, Oklahoma, and Mexico. Our latest contract is with Springfield, Missouri, where we will be working with utility companies to evaluate existing conservation programs and find opportunities for them to improve their energy efficiency standards.

Avoided Energy and Pollution

Overall, Austin Energy's Green Building Program members are responsible for reducing Austin's peak energy load by over 10,000 kW in 2005. Austin's peak energy load time occurs during the hot summer months when people naturally run their cooling equipment most frequently. In fact, September 2005 saw Austin Energy hit its all time [peak demand record](#). Reducing peak load is important because it reduces Austin Energy's need to build more power plants to keep up with demand. Green Building's contribution to electrical energy conservation for 2005 was 16,202 Mwh hours (Mwh). This energy conservation will save Austin ratepayers about \$1,280,000 per year. Even more important than fiscal savings is the amount of pollution reduction that these numbers indicate. Saving 16,202 Mwh of energy reduces carbon dioxide (CO₂) emissions by 12,744 tons, nitrogen oxide (NOx) emissions by 10 tons, and sulphur oxide (SOx) emissions by 31 tons. This is equivalent to removing 2,810 cars from the road (don't you wish we could really do that!?) or planting 57,929 trees.

Thank you and congratulations to all our Green Building Program members who are making a difference in Austin.

Building Code Basics

The Department of Energy (DOE) has initiated regulations mandating that as of January 23, 2006, air conditioning and heat pump manufacturers can produce only components that meet a 13 SEER or higher rating. This is great news because upgrading to 13 SEER can provide up to a 30 percent increase in energy efficiency over the current 10 SEER rating. The 10 SEER rating standard has been in effect since 1987; however, the incremental cost of the technology (SEER 13 adds three to eight percent to the cost relative to a SEER 10 unit) is economically justifiable when compared to the energy savings achieved by homeowners and renters.

Because the law only addresses manufacturing after January 23, older, lower-rated systems will still be available for purchase. The law allows the existing less efficient inventory to be sold and installed until the supply is depleted, similar to when toilets changed to 1.6 gallons per flush. Thanks to Austin Energy's excellent [rebate programs](#), most installed residential systems are 12 SEER or higher, so we should be ahead of the curve on this upgrade, considering that other areas conventionally install 10 SEER equipment.

The End of the 12 SEER Tradeoff

When the [International Energy Conservation Code](#) (IECC) was adopted by the State of Texas, the required insulation value of air conditioning ducts was increased from R-6 to R-8. This increase caused a demand for duct insulation that was not commonly available. The [Energy Systems Laboratory](#) (ESL) at Texas A&M University came up with a trade-off calculation that allowed R-6 ducts to be approved if a 12 SEER air conditioning system was installed.

Engineering calculations showed that the R-6/12 SEER system would result in the same energy savings. Because the 12 SEER trade-off reduced the R-rating of the duct system, Austin Energy ceased offering rebates on 12 SEER systems.

Effective January 23, 2006 the R-6/12 SEER trade-off will no longer be acceptable because of the 13 SEER federal mandates. In place of the previous trade-off, ESL has calculated an R-6/14 SEER trade-off to meet the intent of the Energy Code. Therefore, contractors desiring to install less expensive R-6 ducts, instead of the Code-required R-8 ducts, will have to install a minimum 14 SEER system. Rebate levels have not been established at this time, but due to of the R-6/14 SEER trade-off, [Austin Energy rebates](#) will not be available for any equipment 14 SEER or lower.

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

November's Green Links

Consumer Reports: Greener Choices	2006 Affordable Comfort Home Performance Conference	Building and Social Housing Foundation
Global Footprint Network	Sustainable Building Sourcebook	Rainhouse.org
GreenBUILD 2005	Urban Land Institute	Austin BioFuels

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