

### 13 SEER To Be New Minimum AC Standard

After a three year struggle, the U.S. Department of Energy (DOE) says it has finalized a new regulation affecting the minimum efficiency standard of central air conditioners and heat pumps. AC equipment manufactured after January 23, 2006, will be required meet a 13 SEER (Seasonal Energy Efficiency Ratio) standard. The current nationwide minimum of 10 SEER was established by Congress in 1987. The raise to a 13 SEER standard was proposed in 2001 during the last days of the Clinton Administration. Because changes to the SEER standard will affect energy consumption and consumer price, the Bush administration first delayed the standard and then tried to weaken it. The Air-Conditioning and Refrigeration Institute (ARI), which represents 90% of U.S. air-conditioning manufacturers, also challenged the proposed 30% increase in efficiency, saying that they supported raising the current standard by 20% to 12 SEER standard as more economically justified for consumers and the best way to save energy. In May 2002, DOE attempted to withdraw the 13 SEER rule and issued a new regulation stipulating a 12 SEER standard. That rule was overturned in a U.S. Appeals Court and DOE is now prohibited from amending the SEER standards downward. The U.S. Department of Energy said in 2001 that the change from 10 SEER to 13 SEER will save 4.2 quads of energy by 2030, or the equivalent of all the energy used by 26 million American households in a single year. Projections made by the [Appliance Standards Awareness Project](#) found that even a one point decrease in the SEER standard would increase peak electric demand in the U.S. by 18,000 megawatts by 2030 and would require the construction of 60 average-sized, 300 megawatt power plants.

13 SEER units are readily available and cost approximately \$300 more than a 12 SEER unit. Many environmentally conscious installers feel they already have a jump on this change. Rick Ruehl, Owner of [Rick's Heating & Air Conditioning](#) says, "The change to 13 SEER will not effect my business at all since as a conscientious contractor, I have not put in less than a 14 SEER in nearly three years now except in apartment units. I use [Manual J Version 8](#) and the Manual D to accurately compute heating and cooling requirements and design the proper duct system."

Like many issues in Green Building, energy efficient appliances often cost more up front; however, they offer big savings over the long term. More than financial savings can be considered in energy efficiency decision-making. Homeowners should know that reducing the amount of energy used has a significant impact on reducing pollution, greenhouse gas formation, and the ever increasing Ozone Action Days. According to the American Council for an Energy-Efficient Economy (ACEEE), "Energy use by new air conditioners will be reduced by 23% relative to the current standard. This will reduce the peak demand for electric power by 41,500 Megawatts by 2020 (equivalent to 138 typical new power plants of 300 MW each) and save consumers approximately \$5 billion over the 2006-2030 period. It will also reduce air pollutant and

greenhouse gas emissions, saving 7.2 million metric tons of carbon in 2020, which is equivalent to taking more than 3 million vehicles off the road."

### **What is SEER?**

The energy efficiency ratio is determined by dividing the seasonal cooling output in Btu by the seasonal energy input in watt-hours for an average U.S. climate. It is especially crucial that central air conditioners and heat pumps operating in the cooling mode (as they usually are here in Central Texas) have high energy efficiency ratios. Many older central air conditioners have SEER ratings of only 6 or 7. To qualify for an [EnergyStar](#) label, equipment currently must have a SEER of 13 or higher. The Green Building Program prefers the 13 SEER standard, and for our rating system, we require a minimum 12 SEER **plus** one of the following: (a) home design allows for a minimum of 550 square feet of living space per ton of cooling; or (b) direct duct-pressure testing is performed with results showing no more than 10% air leakage; or (c) all indoor heating and cooling equipment and all ductwork are located within conditioned space. We do give additional points for higher SEER equipment. Austin Energy has a [tiered rebate schedule](#) for 13 SEER and above.

### **GBP Staff Nathan Doxsey Steps Out to Bright Future**



If there is such thing as a Green Building Legacy, Nathan Doxsey is surely it. Nathan's father, Lawrence Doxsey, along with Pliny Fisk, Gail Vittori and Doug Seiter, founded the Green Building Program in 1990. Nathan was lucky enough to grow up learning the principles of sustainability along with his ABCs. In his years with the Green Building Program, Nathan has been a wealth of knowledge and good ideas. He has definitely made his own mark on the Green Building Program.

He started with the Program as an intern in 1998 and accepted a full-time position in 2000. In between running with the bulls in Spain in 2001 and running marathons in New York, and most recently Paris, Nathan found plenty of time to work with the Residential side of the program. He's always had an interest in our affordable builders so taking on the SMART Housing single family projects in 2001 was a natural fit for him. Nathan also worked closely with many of our remodeling members, and has laid the foundation for a GBP remodeling rating tool. Around the office, he's known as the Ratings Champion, and is responsible for getting more ratings by far than any other staff member. We have all appreciated his zealous rating collection tactics over the years! Nathan has a lot on his plate and will be stepping into a long list of projects and ideas that he's been looking forward to focusing on for some time. We know that his creativity, energy,

and passion for sustainability will make him a powerful, positive force in the world no matter what project he undertakes next. Please join us in wishing Nathan all the best in this new chapter!

## Getting Involved With UT's Solar D Team is a SNAP

The Solar Decathlon (aka, Solar D) is a competition sponsored by the [U.S. Department of Energy \(DOE\)](#). The 2005 Solar Decathlon consists of 19 teams from colleges and universities around the globe competing to design and build a house that demonstrates the advantages of a solar lifestyle. The purpose of the competition is to promote solar energy as a viable, healthy, and cost effective alternative to traditional energy.

You may have seen the UT Solar D team at the Renewable Energy Roundup in Fredericksburg at the end of September. They also have a great [website](#), a [newsletter](#), and are gratefully accepting [all kinds of donations](#). There are lots of ways YOU can [help the Solar D team](#), and be a part of this exciting competition! Solar D needs money (tax deductible), materials donations, help with transportation, and more. A complete [list of their needs is available here](#). This is a perfect opportunity for Green Building Program members to be part of a worthwhile project, and get some public kudos for supporting of green building. A project like this requires input from so many different areas, we think that almost all of our GBP members would be able to contribute in some way.

### **About the House**

The UT team's design goal is to minimize material waste, reduce energy consumption, and speed up completion time of the building process. What they are designing is being referred to as a SNAP house: SNAP = Super Nifty Action Package. The wall system will be SIPs (Structural Insulated Panels) and the SNAP House will be prefabricated - built in a factory, not on site, as are most houses. However, it's not your typical manufactured home, which is built on top of huge steel beams that are designed, manufactured, and welded for the sole purpose of keeping the house in one piece during its movement to the site. Because the Solar D competition is in Washington, DC, the SNAP house will be built first in Austin then disassembled, loaded onto several semi-trailer trucks, and driven over 1,500 miles across the country where it will be reassembled on the National Mall. Obviously, the building materials must be able to withstand the stresses associated with such a long journey. Once the competition is over, the house will be shipped back to Austin, where it will be donated for educational purposes to one of several organizations now under consideration.

Along with transportation and assembly concerns, the UT team is very focused on creating a healthy, comfortable home with good indoor air quality. Effective ventilation and dehumidification

processes, and the use of no or low VOC materials, will play a major part in creating healthy indoor air quality. Plants will be used to clean the air, and the dehumidification system will be separate from the air conditioning component because with all the passive cooling strategies designed into the home, air conditioning may not be needed as often as dehumidification in our hot, humid climate. A green roof is even planned for the SNAP house. About 75% of the roof will be dedicated to a 6 kW (or smaller) PV array while the rest of the roof will be a living roof - great for insulation and stormwater retention.

The house will even have it's own central control center -- referred to as the SNAP comm. The SNAP comm will be a user-friendly way for the homeowner to manage several aspects of running the house. It will control temperature and humidity, track incoming wattage from the PV array and outgoing user load, track hot water production and storage, and battery charging. The UT team is working to design a predictive forecasting component into the SNAP comm that will analyze 3-day weather predications and compare the amount of solar energy likely to be available to the home's energy output and advise the homeowner on upcoming needs.

### 2005 Solar D Schedule

Through December they will be working on Prototype Development and Construction Documents. In January, they will start construction on the home. A construction location has not yet been finalized, though it is likely to be somewhere on the UT campus. The construction site will be open to the public, if you are interested in seeing the site, [contact the Solar D team](#) directly sometime after the first of the year.

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| January - April | Construction in Austin possibly on campus - open to public                               |
| May             | Testing and Revision to Structure  |
| June - July     | Refinement and Final Testing   |
| August          | Disassembly  |
| September       | Transport to Washington, DC  |
| October         | House Assembly and Solar Decathlon Competition, Disassembly and Transport back to Austin |

### Central Texas USGBC-Balcones Chapter Approved

by [Katie Jensen](#)

On August 5, 2004, the [United States Green Building Council \(USGBC\)](#) approved an organization of its members in Central Texas as the [USGBC-Balcones Chapter](#). Leading up to that, a committee met monthly to set a firm foundation for the organization. By-laws were sculpted,

events and activities were planned, and nominations for upcoming Board of Directors elections were held. So far, the chapter, which is still awaiting its 501(c)3 status to become a non-profit, has had a presence at many community and building industry gatherings including the [World Energy Engineering Congress](#), the [Renewable Energy Roundup and Green Living Fair](#), and the [San Antonio Green Building & Hybrid Source Expo](#). The group has entertained visits from current Chairman of the Board of the USGBC, Jim Hartzfeld, and USGBC President, CEO, and Founding Chairman, Rick Fedrizzi. They also held a very successful reception in March 2004 that was attended by around 180 people. Since that time quite a few companies in the local area have become new members of the National USGBC.

If your firm is planning on joining the national Council, mention the Balcones Chapter to ensure part of your first year dues help support your local chapter. Membership in the USGBC-Balcones Chapter is available to any individual of a member company or organization in good standing with the USGBC. The chapter may also have associate non-voting members who do not work for a USGBC member company, but who want to participate at the local level. Visit the web site to learn more: <http://www.usgbc.org/chapters/centraltexas/>. Though nominations have closed for the chapter's first Board of Directors, local USGBC members can get involved by voting in the election that will be held November 9 - 30, 2004. Other upcoming events include a strong presence among the other chapters at the [USGBC's Greenbuild](#) in Portland, Oregon, November 9 - 11 and a social event planned for early December in San Antonio (location and specific date and time to be determined) in which building industry professionals are welcome to attend.

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## Member Bulletin Board

- **Legislation Introduced to Promote Green Building Construction**

(from an [ASHRAE website](#) article)

The "High-Performance Green Buildings Act of 2004" was introduced by U.S. Senators Jim Jeffords (I-Vt.) and Frank Lautenberg (D-NJ). The bill, which has not passed, but has been referred to the Committee on Environment and Public Works, authorizes \$35 million over five years to support federal buildings and schools that are designed and operated to boost environmental, economic, health and productivity performance above that of conventional buildings. Directs the Administrator of General Services to create, within the General Services Administration (GSA), and appoint an individual to, a position to establish and oversee the Office of High-Performance Green Buildings within GSA. Directs the Office to establish an interagency steering committee.

- Authorizes the Administrator of the Environmental Protection Agency (EPA) to provide grants to State and local educational agencies for use in: (1) providing technical assistance for and assisting implementation of the EPA's Tools for Schools Program; and (2) the development of State-level school environmental quality plans.
- Requires the EPA Administrator to develop school site acquisition guidelines that: (1) take into account the special vulnerability of children to chemical exposure where the potential for site contamination is assessed; (2) include an analysis of means for maximizing transportation choices.
- Requires the EPA Administrator, in partnership with the Secretary of Education, to carry out an education research program in support of the education-related provisions of this Act.
- Directs the Comptroller General to review the budget process and develop and submit to Congress an implementation plan for life-cycle costing that identifies and incorporates cost savings that accrue from high-performance green buildings.
- Requires the Office to establish guidelines for, and carry out, specified demonstration projects at Federal buildings and universities to contribute to the research goals of the Office.

In the United States, buildings account for: 36% of total energy use; 65% of electricity consumption; 30% of greenhouse gas emissions; 30% of raw materials use; 30% of waste output (136 million tons annually) and 12% of potable water consumption. According to the U.S. Green Building Council there are 118 LEED certified green buildings across the United States with 1,395 in the pipeline. [Read the entire ASHRAE article.](#)

### **Habitat for Humanity Does Deconstruction**

[Habitat for Humanity](#) has several years' experience doing deconstruction. Deconstruction is the process of breaking down a building by hand in order to save the materials for re-use or recycling. As much as 90% of deconstructed materials can be re-used or recycled; this is a great way to keep construction materials out of our landfills! Habitat works on both large and small projects. Their program has emerged as one of the leading deconstruction programs in the nation and has earned several awards including an award from the U.S. Army Corps of Engineers. Bill Bowman is Habitat's Deconstruction Director -- he can be reached at 512-472-8788, ext 407 or [bbowman@ahfh.org](mailto:bbowman@ahfh.org).

- **Searchable National Database of Construction Waste Recyclers Now Available Online**

The U.S. General Services Administration (GSA) has recently updated its online Construction Waste Management Database to assist the building industry in reducing

construction and demolition waste. Recyclers of construction and demolition waste may advertise their services free on this site. [Access the database](#) to include your company's information. The U.S. EPA estimates that each year 136 million tons of construction and demolition waste are generated in the United States. GSA's Construction Waste Management program promotes the responsible disposal of this waste, including concrete, asphalt, masonry, wood, and other materials, much of which can be recycled or processed for reuse if handled properly.

Created in 2002 by GSA's Environmental Strategies and Safety Division, the Construction Waste Management Database is a free online service for those seeking information on companies that haul, collect and process debris from construction projects. To assist end-users, the database has also been improved to allow searches by state and zip code and by over 15 commonly-recycled construction waste materials.

The database is currently housed on the [Whole Building Design Guide](#), a web-based portal providing government and industry practitioners with one-stop access to information on a wide range of building-related guidance, criteria and technology.

### **Congratulations to Grow Green Program**

The EPA has awarded [Texas Commission on Environmental Quality \(TCEQ\)](#) a \$650,000 grant to expand the Grow Green landscaping program to large cities statewide. The Grow Green Fact Sheets and public outreach information will be customized for the soil and climate variations in those cities. The grant will also provide funding for Austin to increase promotion of it's earthwise information locally, with air time and print media that has been beyond their budget to date. Grow Green hopes to increase demand for least toxic products around the state, which will in turn encourage manufacturers to develop and market more environmentally friendly, low toxicity products.

### **Ray Tonjes to Head Texas Association of Builders**

Congratulations to Austin builder and Green Building Program member, Ray Tonjes, who recently became president of the Texas Association of Builders. Tonjes is president of [Ray Tonjes Builder Inc.](#), a custom home building company.

### **LCRA Introduces "[Land Online](#)"**

LCRA (Lower Colorado River Authority) has a new quarterly E-newsletter that is useful for both large and small landowners. Land Online tackles present day land conservation issues facing Central Texans such as: effective brush management techniques, healthy ways to dispose of household hazardous waste in rural areas, how to live in harmony with desirable (and undesirable) wildlife, maintaining healthy stands of desirable native plant species, tree care and more. Visit the [LCRA Website](#) to sign up for Land Online.

### **[Solar Austin](#) Wins Best-Of-Austin For Best Grassroots Effort!**

Congratulations Solar Austin!! As part of Austin Chronicle's yearly Best-Of-Austin competition,

Solar Austin captured the number one spot in the best-grassroots-effort category. For more information, please visit the [Solar Austin website](#).

### **Survey Released on Career Trends in Green Building**

USGBC has formed an educational partnership with the Environmental Career Center to survey the impact the green building industry is having on careers and hiring trends. Two surveys are available, one for design and construction team members and one for manufacturers and product suppliers. The survey results are intended to provide green building students and professionals with insights on how they can position themselves to meet the needs of the industry and also to help employers develop a recruitment strategy. The results will be shared at Greenbuild.

### **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 on our website and in PowerPoint presentations, exhibits, and advertisements. 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 By Design Sponsorships**

We are now soliciting sponsors for the next [Green by Design Workshop](#). 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. We offer four \$250 sponsorship spaces at each workshop.

Sponsors are featured on the Green by Design webpage and on signs at the workshop; and they get a tabletop exhibit at the workshop, with the opportunity to interact with potential customers during breaks and the lunch period.

Members who have sponsored Green by Design in the past include:

[All Year Heating & Cooling](#)  
[Barley + Pfeiffer Architects](#)  
[David Weekley Homes](#)  
[Images Of...](#)  
[Meridian Energy Systems](#)  
[Newmark Homes](#)  
[Premier Building Systems](#)  
[Rick's Heating and Air Conditioning](#)  
[Sans Souci Gardens](#)  
[Shelter Design and Construction](#)

South River Construction  
Strand Brothers  
Termimesh

Contact [Toye Goodson](#) (512- 482-5300) or [Mary McLeod](#) (512-505-3702) if you would like to participate.

**Get All the Info on [Austin Energy's Solar Rebate Program](#)**

Rebates available as of June 1! The residential rebate cap will be \$15,000 with a \$100,000 cap for commercial installations. The program has just over a million dollars in funding for this year. Get your application in soon!!