

Solar Energy Shines On

While interest in solar energy is increasing, actual use of photovoltaics is still low. The Green Building Program's residential rating system gives 5 points for photovoltaic (pv) installation, with a 1.5 kW minimum system size. Of more than 3,000 homes rated by the Green Building Program, only one is registered as using photovoltaics of any type (excluding garden/pathway lighting). This is a home built by [Casa Verde](#) in 2002. The pv panel was donated by [Meridian Energy Systems](#) and installed by participants in a hands-on workshop supervised by Andrew McCalla, President of Meridian. Casa Verde staff says that the panel works great and they plan to incorporate more photovoltaics into upcoming homes. According to our data, only four custom built homes have solar domestic hot water or swimming pool heating systems. Solar water heating doesn't use a photovoltaic system to create electricity, instead a solar collector captures heat from the sun and transfers it to the water. Even passive solar strategies, such as daylighting, showed up in less than 1% of the rated homes. For more information on solar water heating, see the [Rocky Mountain Institute's](#) website.

The upside of solar power is clear: it uses a renewable energy source that causes no pollution and decreases our dependence on fossil fuels; photovoltaics are a safe, reliable alternative to being on the grid; and many panels are made in the US which may lower its embodied energy costs. On the downside, it still has a high first cost for a typical home installation. However, with the cost of conventional fuels generally increasing, and the cost of pv technology decreasing, the two energy sources may soon be more equitable.

Solar Facts from Environmental News Network

Roughly 2 billion people on the planet aren't connected to any type of electricity distribution network. Over 200,000 homes worldwide depend on photovoltaics to supply all of their electricity. Power plants in the US account for 35% of emissions of carbon dioxide, the leading greenhouse gas; 66% of sulfur dioxide, the primary component of acid rain; 30% of nitrous oxide, the principal component of smog; and 21% of mercury, a heavy metal which poisons fish in freshwater lakes.

Other Resources

[Homepower](#)

[US Department of Energy](#)

[The Million Solar Roofs Project](#)

[Florida Solar Energy Center](#)

[Zero Energy Homes](#)

[Solar Energy Industries Association \(SEIA\)](#)

City of Austin Solar Projects

There are three municipal solar energy projects under way: the Palmer Events Center parking structure project, the Austin Convention Center project, and the Sand Hill control building project. Green Building Program member, [Meridian Energy Systems](#), recently completed the installation of a 15 kW photovoltaic array on the roof of the Sand Hill control building. The panels were furnished by AstroPower and should generate about 24,000 kWh per year (equal to the usage of two average Austin houses). Meridian will also be installing the Palmer Events Center system. The top deck of the center's parking garage will be partly shaded by a 3600 square foot solar array mounted on columns over the south side of the structure. The array will generate



Meridian Energy Systems' crew installing the photovoltaic system at Sand Hill.

approximately 55,000 kWh per year (equal to the electricity consumption of 5 average Austin houses). To be erected in June, the solar electric system will use 240 photovoltaic panels furnished by Shell Solar, each one 62 inches by 30 inches. Funding was provided through Austin Energy by GreenChoice subscribers and Solar Explorers. The Solar Explorer program has been discontinued since 1999; however, about 1000 Solar Explorers continue to pay \$3.50 per month

voluntarily and that money is being contributed to the Palmer photovoltaic array.

SpawGlass is overseeing the Convention Center photovoltaic installation, currently underway. The Convention Center's giant 60 by 80 foot window on the northwest corner will be shaded by an array consisting of nearly 200 panels. These custom-designed panels will allow some light transmission between the cells to create a striking pattern of shadows in the atrium of the Center's north wing. This array is unusual because of its vertical orientation to the southwest. Photovoltaics generally have a horizontal or south facing tilted orientation. The array will generate power at a rate of approximately 6 kW in the late afternoon. The kWh output has yet to be computed. The panels were furnished by TerraSolar USA.

GBP Staff Assigned to Afghanistan

Nathan Doxsey, one of GBPs Conservation Associates, will be leaving for Afghanistan in early June. Nathan is an Army Reservist who will be deploying with the 321st Civil Affairs Brigade. This group will oversee the Civil-Military Operations designed to help rebuild the country. The year-long assignment will likely focus on city planning, rebuilding or creating infrastructure, and capacity building.

Although Nathan is not looking forward to spending a year away from home, he hopes to make a difference for the people of Afghanistan by putting his green building and other environmental knowledge to use during the rebuilding.

Nathan's last day with the Green Building Program will be May 2. While he is gone, his members will be split between Mary McLeod, Dick Peterson, and Shirley Muns. Shirley will be handling single-family SMART Housing projects until Nathan returns. Nathan's contributions to the Green Building Program are invaluable and we will all miss him.

Member Bulletin Board

GBP Member Wins "National Green Advocate of the Year" Award

Peter L. Pfeiffer, AIA, of Barley + Pfeiffer Architects, was recognized for his life long commitment to mainstreaming green building during the opening ceremonies of the National Green Building Conference in Baltimore, Maryland. **Pfeiffer Receives Advocacy Award**

Peter is the founder and principal of Barley + Pfeiffer Architects and has been a member of the Green Building Program since 1993.

Seeking Local Renewable Energy Projects

Are you using renewable energy in your Texas residence or business? The Texas Solar Energy Society is creating a poster demonstrating the variety of ways Texans are using renewable energy. The poster will be displayed at the annual National Solar Energy Society Conference to be held in Austin this June. Contact Gary Vliet at 512-471-3120 or gvliet@mail.utexas.edu for more information, but hurry, the deadline for submitting a home, building or project is May 9th. And speaking of renewable energy.... the Green Building Program would like to recognize our members who support GreenChoice in their businesses or projects. See the next story for more details.

Recognizing Our GreenChoice Members

Although GreenChoice is a separate program from the Green Building Program, we do notice a lot of crossover between our Members and GreenChoice's Business Partners. GreenChoice is the renewable energy option available from Austin Energy.

The bulk of our renewable energy comes from 61 wind turbines located on King Mountain in West

Texas. Our other renewable sources are a landfill biogas project near San Antonio and a small hydroelectric facility in Cuero, on the Guadalupe River.

The Green Building Program wanted to recognize our members and/or member's projects who have chosen to join GreenChoice for their continuing commitment to the environment.

Austin Lyric Opera

Barley & Pfeiffer Architects

Carter Design & Associates

Center for Maximum Potential Building Systems

Chipotle Burritos and Tacos

ClayWays Pottery Studio & Gallery

Guerrero-McDonald & Associates

Hatch Partnership

Living Architecture

Ray Tonjes Builders

Strand Brothers

The Green Commercial Broker - Childers Commercial

Graeber, Simmons & Cowan

Habitat Suites Hotel

Tivoli

Enrolling in GreenChoice is an easy and inexpensive way of protecting our environment. You can also encourage your residential and commercial clients to join.

[GreenChoice's Online Enrollment Form for Businesses](#)

[GreenChoice's Online Enrollment Form for Residences](#)