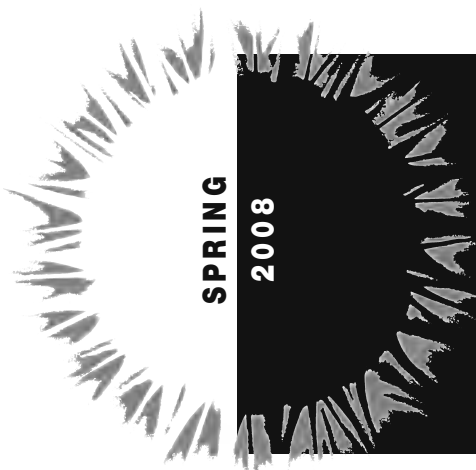


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The 12th Annual Cool House Tour, June 22

Come dream a greener future. The 12th annual Austin Cool House Tour takes place Saturday, June 22nd, noon to six. This event, co-produced by TXSES and the Austin Energy Green Building Program, showcases new and remodeled homes designed and built to maximize energy efficiency and residential comfort. And it is a great showcase this year! Eighteen finalists have been winnowed from a field of thirty-seven entries. Purchase a Cool House Tour Guidebook after June 1st at either Central Market location or online at www.txses.org. The book is your ticket to learn about advances in green building technology and enjoy the creative use of site features utilized to enhance efficient function.

As always, owners, builders, architects and artisans will be onsite to highlight and explain the outstanding features of each home. This makes the Cool House Tour an ideal place to not only observe, but to learn about, evaluate and compare the green technologies, materials and approaches demonstrated. Owners share their experiences in building or renovating a home. Many hours of planning, research, bureaucratic legwork and coordination with "the team" precede any of the physical work. These experiences provide the insight for those of us contemplating building or improvements of our own.

This year's tour encompasses a full range of green technologies. All projects were rated four or five-star on the Green Building Program's one through five scale. Six of the properties have solar energy.

One home uses geothermal air conditioning. Most feature an "inside the envelope attic", which reduces energy consumption; and green insulation materials are used in many of the houses. A couple of enterpris-



This new home integrates green design with a solar installation in an established Central Austin neighborhood.



The original 600 square foot cottage was moved to a new location and this new home built with a nod to the shade tree in the backyard.

ing owners will have the data available from the solar studies used to site their solar panels. The Discovery Channel will feature one of the homes in a new program, Greenovate, airing sometime in June.

There's more to it than technology, though. Every project employs passive techniques that amplify the energy-conservation potential of the green materials. Cross ventilation and daylighting enhance day-to-day living and reduce utility bills. Carefully planned landscaping conserves water, creates visual interest and provides privacy and sound buffers. Large trees become conservation features in project design. One owner, after living in the house for

seven years, had Habitat for Humanity deconstruct the old house and reuse many of the materials in the new construction. Another builder, living next door, acquired a tear-down and didn't, saving resources by renovating an existing structure. There was a notable attempt to obtain materials and expertise as locally as possible and to recognize reusable materials. In one case, architect, builder and subcontractors were more than just local. They all live in the neighborhood. Keeping building costs affordable was another of the characteristics of many projects.

Notably, we are including several larger-scale developments in this year's tour that are well worth taking in. An infill project in Buda is adjacent to the proposed commuter rail line and the rejuvenated downtown area. The condominium development is connected to shopping by walking and bike trails. Northwest, at 183 and Anderson Mill, another condominium project takes striking advantage of the natural beauty and advantages of its site. In central Austin a block development at



The air conditioning in this modern Westlake home starts in the ground with a geothermal system and ends in a Koi pond, fed by the condensate line.

the Mueller Redevelopment features solar panels and green construction in a community where schools and services are in the neighborhood.

So come check it out. There is a group of very happy, very enthusiastic, very satisfied green consumers out there just waiting to infuse you with the desire and knowledge to build green.

When: June 22, noon to 6 PM
Tickets/Tour Books: \$15/\$10 for a companion ticket. Available June 1 at both North and South Central Markets and online at www.txses.org

Jackie O'Keefe serves on the TXSES Executive Committee and practices organic gardening full-time at The Natural Gardener.

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Visit our web site for a calendar of events:
www.txses.org



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Karl E. Dreher (January 19, 1945 - April 13, 2008)



EPSEA's most recent past President, Karl Dreher, passed away after a brave battle with cancer. Karl was a proud Vietnam-era veteran, having served in the U.S. Navy for 6 years aboard the nuclear submarine USS Nathan Hale. Karl received his Bachelor's degree from Iowa State University and moved to El Paso in 1975 where he became a home builder and home inspector. He joined EPSEA in 1994, serving as a Board member and Vice-President before finally becoming EPSEA President from 2002-2006. During the mid-1990s, Karl was also on the Board of Directors for El Paso Habitat for Humanity and served as their construction superintendent. He helped Habitat partner with EPSEA to build passive solar-designed homes in El Paso, the first passive solar homes Habitat built in the nation.

Karl joined the UTEP Energy Center on a variety of green building and solar projects from 2000-2007. He especially enjoyed working with low-income families building passive solar homes at the Tierra Madre Project in Santa Teresa, New Mexico. He was also a regular at the Texas Renewable Energy Roundup at the UTEP display.

Karl was recently honored with a Lifetime Achievement Award by EPSEA for his outstanding contributions to solar energy and green building for the El Paso area community. He will be greatly missed by EPSEA and TXSES.

Chairman's Corner

with Carol A. Harwell



What a fabulous spring we're having! And that's not just the weather. TXSES is off to a near perfect start with our regular activities as well as some brand new ones.

The Cool House Tour planning is well underway with 37 homes nominated! Certainly a jump up from last year's 14. Lucy Stolzenburg led the site selection committee through a whirlwind of visits in dizzying speed, coming out with 18 finalists. That's more houses than you'll be able to see in six hours, but with the increased interest in green building, more houses will eliminate long lines. I'd

recommend you buy your guidebooks/tickets as soon as they go on sale. It's going to be a phenomenal tour!

Our beloved Kathryn Houser has been recruited by Home Power Magazine to develop a brand new publication, Solar Pro, for solar contractors and installers. Just what she wanted! That leaves Natalie Marquis, our new Executive Director, squarely in charge of Roundup, along side Russel Smith of TREIA. Get ready to get involved. We need lots of help: securing advertisers for the guidebook, getting on all of the event calendars, volunteering at

the event, mailing out guidebooks, finding additional sponsors, vendors, exhibitors. Everybody knows someone who wants to be involved in one of those ways. Let us know who they are. Better yet, offer the opportunity to them yourselves. We can send you Exhibitor and Sponsorship packets. Volunteer to help coordinate the event: ride sharing? zero waste? What great ideas do you have to make Roundup the best ever?

TXSES is subcontracting for the Austin Solar America Cities grant just awarded. Our first task will be to work with teachers to develop a curriculum on renewable energy for elementary, middle and secondary schools. TXSES will also coordinate 50 presentations to community groups on energy efficiency and renewable energy programs available from Austin Energy. Would you like to learn more about energy efficiency and renewable energy? Be part of the presenting team.

Sutton Giese was voted in by the Board of Directors to fill the vacancy left by Michele

Hallahan. Sutton has already been part of the Cool House Tour team and brings tons of energy and enthusiasm. Welcome, Sutton, we're glad you're here.

New volunteers are jumping in to help redesign the web site, upgrade our ability to handle membership online, enabling us to move toward an online newsletter that will save natural resources, and coordinating all of our volunteers who are coming to do so many other things. Thanks to all of our volunteers for so much help and energy. TXSES will be able to do so much more!

There is a great awakening taking place. Increased awareness and interest about renewable energy and sustainability are bringing us very close to that "100th monkey" tipping point. What a truly exciting time we live in! Be part of it. Add your talents to our efforts.

Carol Harwell is the GreenChoice® Manager at Austin Energy.

Member Profile - Peter Pfeiffer

Peter Pfeiffer is a LEED-accredited professional architect and building scientist who has spent the past 30 years developing pragmatic high-performance building design strategies.

In 2004 he was named a Fellow of the American Institute of Architects for his life-long commitment to "mainstreaming green building in North America". He is a founding principal of Barley + Pfeiffer Architects, a firm recognized nationally for its pioneering use of environmentally responsive building design and construction techniques. Their work has been published both in the United States and abroad in such diverse venues as the *Washington Post*, *The New York Times*, *Fine Homebuilding*, and *Better Homes & Gardens* magazine. On multiple occasions he has been a guest on National Public Radio as well as the HG-TV network.



This Barley & Pfeiffer house was the largest on last year's Cool House Tour, at 5000 sq. ft., with a GBP 5 Star rating.

Green Advocate of the Year" in 2003 for his life-long achievements in "mainstreaming" green building. Peter has been an active charter member of the NAHB Green Building Subcommittee since its inception in 1999 and has been active in the recent US Green Building Council's LEED for Homes pilot program.

In 2006, *Residential Architect* cited him as one of the 10 most influential residential architects of the past decade.

The National Association of Home Builders honored him as the "National

Advanced Metering on the Horizon

Texas is in the infancy of a very large change in the way we think about electric usage data. House Bill 2129, passed during the 79th Legislative Session, requires the Public Utility Commission of Texas (PUCT) to study the efforts of electric utilities in Texas to benefit from advanced metering and allows utility companies to deploy advanced metering systems (AMS), recovering the costs from their customers. The devices are intended to increase the reliability of the electric grid, encourage dynamic pricing and demand response and provide more choices for customers (PUCT Substantive Rule §25.130).

In addition, during the 2007 80th Texas Legislature, the House passed HB 3693, which states that "...it is the intent of the legislature that...advanced meter information networks be deployed as rapidly as possible to allow customers to better manage energy use and control costs, and to facilitate demand response initiatives."

The Rule: §25.130 Advanced Metering

In order to qualify for cost recovery, advanced meters must meet certain minimum functionality requirements. The meters must have automated remote reading; two-way communications; remote disconnection/reconnect ability and the ability to provide 15-minute or shorter interval data.

The rule also requires that an AMS have the capability to capture meter readings at least every 15 minutes and to provide the customer and their Retail Electric Provider access to the data no later than the day after it is created. Access to meter data will likely be provided over the internet on a web portal.

Utilities are not required to deploy advanced metering systems, and it is not clear to what extent the utilities will deploy them. The advanced metering rule requires that utilities file a deployment plan with the PUCT as a prerequisite for cost recovery. However, no utilities have filed such a plan as of the writing of this article. It is generally expected advanced meters will be widely deployed across the state over a five to ten year period.

Implementation of Advanced Metering

The PUCT Project (34610) relating to the Implementation of Advanced Metering was opened to address impacts on retail and wholesale markets resulting from the deployment of advanced meter systems (AMS) in ERCOT, and to help ensure that customers receive benefits from AMS investments. Many of the issues in this

project are complex, interrelated, and independent. AMS implementation is a large task, containing issues that span all market segments. It will require a fine tuning of existing market processes in order for consumers to receive the full benefits.

The Benefits

The anticipated benefits of advanced metering range from more efficient use of electricity to improved pricing programs (based on time-of-use or interruptible service) to greater consumer control of the energy consumption of the premise.

Two definitions that we need to know:

Advanced Metering System (AMS) — A system including advanced meters and the associated hardware, software and communications systems including meter information networks. They collect time-differentiated energy usage and perform the functions and have the features specified in this section.

Advanced Meter — Any new or appropriately retrofitted meter that functions as part of an advanced metering system and includes the following list of features: automated or remote meter reading; two-way communications; remote disconnection and reconnection capability; the capability to time-stamp meter data for purposes of wholesale settlement; provide direct, real-time access to customer usage data (15-minute or shorter interval data) on a web portal; and communicate with devices inside the premises.

The advances in home networking technology address devices inside the premise which include but are not limited to usage monitoring devices, load control devices, and prepayment systems through a home area network. Examples include ZigBee (<http://www.zigbee.org>) and Home-Plug (<http://www.homeplug.org>).

Progress Report

The Transmission/Distribution Service Providers (TDSPs), or utilities, are in various stages of getting their feet wet.

CenterPoint (Houston area) has installed about 10,000 advanced meters and has thus far reported very limited success regarding data collection, storage and transmission.

TXU Electric Delivery (Dallas and other areas) has installed about 600,000 advanced meters and has also reported limited success regarding data collection, storage and transmission.

continued next page

Business Profile - Meridian Energy Systems

Meridian Energy Systems was founded in 1999 to fulfill the need in Texas for a high-quality renewable energy system design and installation company. While continuing to work with multiple forms of renewable energy systems such as wind and solar thermal, Meridian has focused primarily on solar-electric systems. With more installed solar-electric capacity and more nationally certified solar professionals than any other company in the region, Meridian is the leading solar electric contractor in the state of Texas.



The McKinney Green Building in McKinney, TX is a 42 kW system

renewable energy systems for commercial, institutional and high-end residential clients who demand expert consultation and the best components available. With hundreds of installed systems, from small lighting systems to the largest operational system in the state, Meridian understands the value of honesty, high-quality materials, careful planning, and attention to the smallest of details.

Meridian's founder, Andrew McCalla, served on the TXSES Board for four years, volunteering for events and serving as Vice President and liaison to Earth Share of Texas.

At Meridian, we are passionate about our profession and believe deeply in the promise of renewable energy.

A full-service design and installation firm, Meridian specializes in customized

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VOLUNTEERS MAKE A DIFFERENCE

These last few months, TXSES has been busy getting ready for the events of 2008. We would like to thank the following members and friends who have made our lives so much easier: Lisa Nutt, Frieda Reinhart, Miki Cook, Fina Ross, Patricia House, Yvonne Hansen, Sarah Talkington, Sutton Giese, Bob Murray, Bill Glass, Mike Albrecht, Chuck Wright, Judy Pearson-Wright and Charles Schneider.



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Do your *Earth Share* for the Texas Solar Energy Society!

Members, supporters, volunteers and friends of the Texas Solar Energy Society have the opportunity to support the work of TXSES through workplace giving programs at workplaces all across Texas.

TXSES is represented by Earth Share of Texas, an umbrella group for the leading local, statewide, national and international environmental and conservation organizations. Earth Share of Texas was created as an efficient means of communicating with literally hundreds of thousands of potential new donors throughout the state. Approaching these potential contributors would not be efficient for one organization, but by pooling resources and creating Earth Share of Texas, environmental organizations found an efficient way to reach out to hundreds of workplaces.

Not only does Earth Share of Texas put TXSES in front of thousands of potential donors that would not otherwise be reachable, it helps our credibility by associating with other respected organizations: the Nature Conservancy of Texas, the Galveston Bay Foundation, the Lady Bird Johnson Wildflower Center and the World Wildlife Fund to name a few.

Donations may be designated to one or more organizations, like TXSES, or an undesignated gift to the environment can be made to Earth Share of Texas. General gifts to Earth Share of Texas are divided evenly among participating organizations. All Texas state employees, federal employees in Texas, city employees in Dallas, Houston, El Paso, San Antonio, San Marcos and Austin, school district employees in Houston and Austin and many other public employees, and employees of many leading private sector employers, including American Airlines, Hewlett Packard, Dell Inc., Green Mountain

Energy and Wal Mart, already have Earth Share of Texas groups as part of their charitable choices. For the past three years, TXSES has raised about \$10,000 each year through Earth Share of Texas. These donations represent valuable unrestricted funding that can be used where they are needed most.

If your employer offers a charitable giving program, look for Earth Share of Texas and TXSES in the campaign literature and on pledge cards, then fill in TXSES's code number on your payroll contribution pledge form. You can also help TXSES and Earth Share of Texas by promoting participation in your workplace giving program. You can request an environmental speaker, campaign brochures, posters and giveaway items during campaign season. You can also help spread the word through e-mail and workplace newsletter articles.

If your employer doesn't offer the choice to support TXSES and the other Earth Share of Texas environmental groups, the staff at Earth Share of Texas can help you learn more about your workplace giving program. You can also learn how to support TXSES or other organizations and help you start an environmental giving program at your workplace.

For more information on helping TXSES or workplace giving please contact Edie Muehlberger or Max Woodfin at Earth Share of Texas at estx@earthshare-texas.org or 512-472-5518 or 1-800-GREENTX. For more information about Earth Share of Texas and the workplaces that currently have an Earth Share of Texas campaign, visit Earth Share of Texas on the web at www.earthshare-texas.org.

Edie Muehlberger is the Director of Earth Share of Texas.

Metering con't.

The remaining TDSPs have not yet begun any deployment of advanced meters. Substantive Rule §25.130(h) states that ERCOT shall be able to use 15-minute interval data from advanced meters for wholesale settlement purposes no later than January 31, 2010. It will be interesting to see how this long term transition impacts the market, consumers and energy efficiency. Please stay tuned.

Reference:
http://www.puc.state.tx.us/electric/projects/34610/121907/Staff_Memo_121407.pdf
<http://www.puc.state.tx.us/electric/projects/34610/34610.cfm>
http://www.puc.state.tx.us/electric/projects/34610/Commission_Report_on_Advanced_Metering.pdf

Rob Beville is Market Operations Manager for Green Mountain Energy Co.

Houston and San Antonio Join Austin as Part of DOE Solar Cities Program

Texas now has three "Solar America Cities"—Austin, Houston and San Antonio—and is second only to California with the most solar cities qualified. The U.S. Department of Energy (DOE) will make available up to \$400,000 in direct funding to San Antonio and Houston, recently selected in March (Austin was selected last year). As new Solar America Cities, they were selected for their commitment and comprehensive approach to the deployment of solar technologies and the development of sustainable solar infrastructures. These projects further DOE's Solar America Initiative (SAI), which aims to make electricity from solar photovoltaics cost-competitive with conventional electricity by 2015.

"These Solar America Cities aim to jumpstart integration of solar power and encourage other cities across the nation to follow suit," Secretary of Energy Samuel Bodman said. "With the President's leadership, the Energy Department is working aggressively to make clean, abundant and affordable solar energy the norm, and no longer an 'alternative' source of energy. The innovative programs already underway in each city will help us raise the bar of what's possible, and will help cities and towns across America harness the tremendous potential of the sun."

DOE is investing a total of over \$5 million for 25 Solar Cities across the nation. In 2007 Austin received a \$185,000 DOE award, including a \$35,000 subcontract to be awarded to TXSES assisting with solar educational development. In addition to Austin, TXSES looks forward to working through its local chapters, Solar San Antonio and the Houston Renewable Energy Group, in supporting the new DOE Solar Cities in Texas.

DOE will also provide hands-on assistance from technical experts to help cities integrate solar technologies into energy planning, zoning and facilities; streamline local regulations and practices that affect solar adoption by residents and businesses; present solar financing options; and promote solar technology among residents and local businesses through outreach, curriculum development, and incentive programs. Technical assistance is estimated at \$3 million (Fiscal Years 2008-2009). Sandia National Laboratories, the National Renewable Energy Laboratory, CH2MHILL, and New Mexico State University's Institute for Energy and the Environment will provide technical assistance to all three Texas Solar Cities.

Robert Foster is Program Manager for the Institute for Energy and the Environment, NMSU College of Engineering.

TECHNOLOGY CORNER

By David Brearley

Green technologies have made it to the mainstream of public discourse. Presidential candidates are advancing "green collar" jobs as a salve to the nation's flagging economy. Even amateur investors took notice last year as First Solar's stock value increased 1000% in a 12-month span. Solar stocks as a whole were one of the brightest investment opportunities in 2007. Conventional news outlets feature solar technology and market developments as part of their ongoing coverage of global warming and energy security. This increased visibility is a boon to solar professionals as well as an ongoing source of misinformation and confusion.

As installers, advocates and industry representatives, we are often myopically focused on our day to day jobs. For us change often seems slow and incremental, whether that change is legislative or technological. Nevertheless, there are a number of significant market developments that are worth noting.

RECENT DEVELOPMENTS

Projects making the news in 2007 came in two sizes: big and bigger. Google and Applied Materials garnered attention with projects that pushed California's 2 megawatt net-metering ceiling. Projects of this size are becoming more and more common nationwide, as companies leverage rebates, the 30% Federal Tax Credit and positive media attention.

Large net-metered installations are themselves eclipsed by the rise in utility-scale solar power plants. In 2007 SunPower Corporation commissioned a 14MW solar power plant for Nellis Air Force Base, currently the largest flat-plate solar installation in the country. In the same year, Sun Edison commissioned an 8MW solar plant in Alamosa, CO. The largest of the multi-megawatt power plants in development use "concentrating solar thermal" technologies. The apparent increase in market traction for "concentrating solar thermal" is a trend to watch. It is also worth noting that thin-film technologies currently represent about 10% of global solar manufacturing capacity, most of which goes to large scale power plants.

New financial models and sources of capital are another interesting market development. Hardly a week goes by without the announcement of a new solar startup financed with venture capital. Perhaps of more significance is the increased role of conventional financing institutions. GE Financial for example, has partnered with SunPower on several large solar power plants. The financial tool most often used by solar power plant developers is the Power Purchase Agreement, or PPA. Simply put, a PPA allows a customer to purchase solar energy at an agreed upon price for a fixed period of time. Recent PPA contracts reportedly offer solar electricity at \$0.12/kWh for 20 years. This large-scale market expansion is enabled by, and underscores the importance of extending, the Federal Investment Tax Credit for solar.

PRICE TRENDS

According to Solarbuzz, an international solar market research firm, the worldwide solar market grew by 62% in 2007. This brisk expansion was possible, in part, due to a 30% increase in the global supply of refined silicon. This may mark the beginning of the end of the silicon shortage. Ongoing price surveys by Solarbuzz reveal that after several years of trending higher, retail prices for solar modules recently started trending downward.

The conventional wisdom is that module prices will continue to decline over the next five years. Solar cell manufacturers are increasingly signing long-term silicon supply contracts. Also, some of the silicon now coming to market is specifically a "solar-grade" product, meaning that solar manufacturers will not compete as directly with other industries for raw materials. Whether the drop in module prices will be slow and steady, or abrupt and precipitous is where analysts seem to differ.

The "abrupt and precipitous" school of thought predicts that so much module manufacturing capacity will come on-line in the next three years that module supply will greatly exceed demand. These analysts predict that module prices will drop so significantly that many new and under-capitalized solar manufacturers will go out of business.

The "slow and steady" school of thought, predicts that as fast as new manufacturing capacity is brought to market, new markets for solar will consume supply. An example of this is Spain, which saw a 300% market expansion in 2007. Some analysts had predicted that a slowdown in Germany's market would lead to a worldwide glut of modules as early as 2008. Instead Spain and other European markets grew faster than Germany's market slowed down.

It appears likely that solar module supply and demand will track each other closely for the next couple of years. We may see more of a buyer's market developing after that, which bodes well down the supply chain. Distributors, installers, and potential customers of solar electric systems all stand to benefit from falling module prices.

FIVE-YEAR OUTLOOK

The most important development over the next five years could be the closest to home. Will Texas finally see the light? Technological advancement and diversification is obviously important to the solar industry. It is also important that we continue to drive down the installed cost of solar, always striving for grid parity. Without market expansion, however, these other advancements are impossible to imagine.

New markets must rapidly develop to justify continued investment throughout the solar supply chain. Home to three of the top ten most populous cities, one of the nation's largest ports, and a technological sector rivaling Silicon Valley, the Lone Star State is the most highly prized of all emerging U.S. markets for solar. The most exciting solar market development imaginable over the next five years is that Texas will finally claim a leadership role in the development of this next generation clean, renewable, and distributed energy technology.

David C. Brearley is VP of Design at Meridian Energy Systems and is a NABCEP Certified Solar Installer.



TXSES Chapter News:

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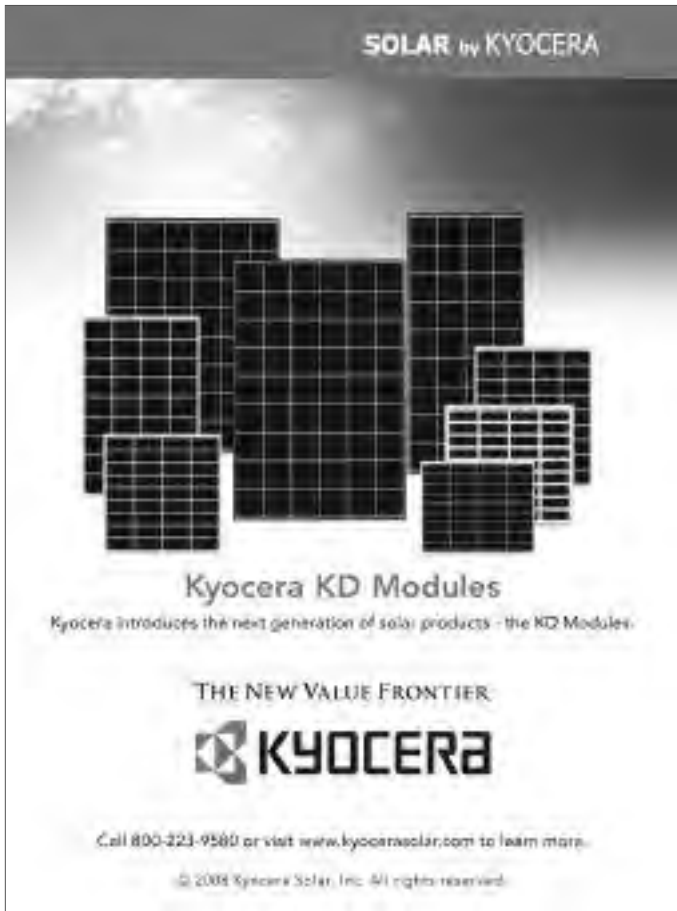
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Texas Solar Energy Society wishes to thank the following members who have contributed to us with \$100 or more level memberships:

Robert Foster, Tom Fitzpatrick, Carol Harwell, Teresa Hershey,
 Jane Pulaski, Heidi Schrab, Chuck Wright & Judy Pearson-Wright

The following companies have chosen to support the Texas Solar Energy Society's educational mission by joining at the business level:

Today'sWater.Com, Suntricity Solar Electric, Gary Gene Olp Architect, Lighthouse Solar, Beacon Energy Solutions, William Parker, Big Grass Bamboo, Milton Odom, Cinco Solar, Solar Pathfinder, James Roemer, Ken Starcher, Lelia Bentley, Venti Energy, Texas Solar Power Co., Solarplex of Texas, Jeffrey Lee Bashore

And special thanks and kudos to the following business for joining at the higher Business levels of support:

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Randalls/Tom Thumb Good Neighbor Program - 11394

At the service desk of your Randalls or Tom Thumb supermarket, request the number 11394 be the designated charity for your Randalls/Tom Thumb card. Texas Solar Energy Society automatically receives a donation from the Randalls/Tom Thumb Good Neighbor Program for 1% of your total grocery bill.

The Texas Solar Energy Society (TXSES) was founded in 1976 and is a non-profit educational organization formed to increase the awareness of the potential of solar and other renewable energy applications and to promote the wise use of these sustainable and non-polluting resources.

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