

WELLS BRANCH COMMUNITY SOLAR — PROGRAM RESOURCE GUIDE



A NEIGHBORHOOD EDUCATIONAL PROGRAM



Key Information:

- 5 Top FAQ's
- Alternative Solar & PowerSaver Energy programs
- Architectural Control Update
- Installation Notes & Requirements
- Online Energy Links: Visit NATIVE energy to access .PDF educational materials
- Power generation diagram
- Solar Energy Checklist
- Quotes from WB Solar Pioneers
- Useful WEB links and interactive .PDF files to access online
- Vendor Contacts
- Video links for current solar topics

This resource guide was designed by WB folks to help other WB folks get a better handle on managing their energy use.



Why Solar Energy? Why Now?

DID YOU KNOW?

- The sun delivers more energy to the earth in one hour than the world uses in one year
- Solar solutions reduce energy costs and help save the environment

IT'S THE BEST OF BOTH WORLDS!

Most homeowners might not realize how much they pay out in annual utility costs. A conservative example suggests that, over the next decade, the average homeowner will spend over \$12,000 on electricity—folks in the Wells Branch area will pay over \$25,000 in the same 10 year period.

In addition, electricity prices throughout the U.S. have risen approximately 50% since 1990 and that rate of inflation is expected to increase approximately 4% annually. Invest in solar energy, sooner rather than later.

Efficient Energy—Costs & Paybacks

The “BIG” question: Is the investment in a roof mounted solar system offset by the cost savings and paybacks? Recent changes in the solar industry suggest—YES!

The “real answer” is much harder to define. Your final result is based on individual energy consumption, overall efficiency of the home, cost of the improvements and the energy “buy-back” rate from the retail energy provider (homeowner selects).

- **Complete an Energy Audit:** Determine energy usage and system size
 - austinenergy.com (residential) review Energy Conservation Audit statement
- **Calculate your 12 MONTH kWh usage history** (Use electric utility statements)
- **Select Energy Provider:** The energy retail company you choose will buy and sell the energy you generate and/or use depending on your consumption
 - Start by investigating these plans: www.PowertoChoose.org/en-us/Plan/Offers
- **Explore all Financing Options:** Cash, Credit, Loans, Leases — the financing option you select will impact how the various rebate programs are applied
 - Review financial ROI: <http://pvwatts.nrel.gov/>

As with any other major investment in your home, your individual choices will impact the final financial outcome. There is no single “best” answer. The information, research and tools provided in this guide are designed to help get you started.

Strategic Energy Saving Ideas — Low Cost Solutions

Whether you're considering a complete roof mounted solar system, a solar appliance—or you just want to save a few dollars on your power bill, consider these solutions. Be aware that Austin Energy and some solar financial programs may require that many of these additional low cost solutions also be installed:

Seriously consider conducting an energy audit—(e.g. PowerSaver Wattmeter program—discover “phantom power loads”)

NOTE: Austin Energy requires an audit

- Inspect/Replace broken or weak seals or weather stripping on all windows and doors
- Professionally installed radiant barriers can significantly reduce cooling/heating costs
- Inspect/Update window treatments: solar screens, clear UV film, insulated blinds, UV window coverings, etc.
- Check/Update attic insulation

- Consider installing a “smart” or electronic thermostat to control your HVAC system
- Ensure that the HVAC duct system is clean and free from leaks
- Replace out-dated HVAC systems (funding programs available)
- Convert all lighting fixtures to CLF or LED energy saving bulbs and use lower wattage bulbs
- Consider a “critter guard” for a roof system

Note: Most certified solar installers will require that many of these items be added as part of the installation process.

Alternative Energy Saving Solutions

What if my home is NOT a good candidate for a complete solar roof system? Can I still use some form of solar energy to help save on utility costs—as well as helping the environment?

Yes, consider these solar or energy saver options and install as many low cost options as possible.

- Install a solar attic fan — reduce cooling costs
- Solar powered water heater
- Solar powered pool/spa climate control units
- Install a Solar Photovoltaic (PV) unit to control electrical devices, (e.g. solar outdoor lights)
- Use ceiling fans to evenly distribute air

- Install qualified high-efficiency appliances, such as HE washer/gas dryer, refrigerator, gas range, etc. There are several energy saving appliance programs available
- Install a **Power Partner Thermostat** (Internet connection required) with energy cycling feature
- Install a **Wattmeter** (available public library locations) and determine which electrical devices in your home are “wasting” electricity through “phantom loads”
- **TIME** your system usage to use heavy power load items during off-peak times

MORE INFO: austinenergy.com/wps/portal/psp/home

Installation Requirements



There are specific requirements to install a roof mounted solar energy system, and not every home will be a good candidate. You will need to have a registered solar installer evaluate your home. This is the key starting point in any solar installation.

A typical 1 kW roof system will require approximately 100 sq ft of roof space with good solar access. Solar panels must be mounted to face south and cannot be obstructed by shade. Your roof must also be able to support the weight of the system. The cost of an installation varies depending on the size and the specific system requirements.

A qualified solar company can estimate the cost, size and the amount of electricity you can expect from your system. To receive specific [rebate](#), [loan](#), or tax credits, your installation must be completed by a registered installer.

WB Architectural Control / Resident FAQ

TOP 5 Solar Questions from WB Residents :

Q1: How much does it cost?

- A: Costs vary depending on plans, products and rebates. Whole systems have gotten much cheaper—typically 10K or less, depending on the total wattage required. Current government rebates and special loans expire in 2016.

Q2: How long before the “pay backs” kick in?

- A: Depends on your specific plan, but a typical “full roof” solar system recovers your costs in about 8 years.

Q3: Is my house a good solar candidate?

- A: Most homes in WB will structurally support the panels. Exposure angles and square footage limitations are the main concerns. Clear roof area of tree limbs, unused satellites and excessive shade.

Q4: What about warranty coverage?

- A: Varies depending on products and plans. Use a registered solar company and get 2-3 quotes. The warranty should be transferable (for resale). Typical warranties cover 15-20 years.

Q5: What about Rebates, Loans or Leases?

- A: Solar financing programs offer many options. Most government programs end in 2016. Leasing programs are tricky and may not transfer. Austin Energy will not typically offer rebates on leased equipment.

ACC Approval Overview:

- WB ACC welcomes solar plans
- Your plan will require approval (standard process)
- HOA, if applicable, will require letters from neighbors
- Use of a licensed contractor
- Solar system documentation, which the installer provides
- Ensure any warranty coverage will transfer if you sell
- Leasing programs will require special consideration

ACC submission requirements and form can be found at wellsbranchmud.com under: **Other Resources -> Architectural Control Committee.**

Follow protocol on website to ensure an efficient response. Allow up to 4 weeks for approval.

Additional Online Resources

Below is a short list of online educational resources. The PDF documents from **Native Energy** are only available online as downloads and are well worth a read. Most of the video clips run about 10-12 minutes.

- **WEB:** Austin Energy PowerSavers Program: austinenergy.com/wps/portal/psp/home
- **WEB:** Go Solar to Save Water: <http://buildnative.com/go-solar-save-water/>
- **WEB:** Native Energy—Program Planning Tool: buildnative.com/residential-solar/
 - NOTE: This site has 4 excellent educational resources (.PDF format) available as downloads
- **WEB:** Renewable Energy World: [Choosing Solar Installer – www.myenergysolution.com](http://www.myenergysolution.com)
- **WEB:** Solarize Texas, Solar advocacy group: www.texasvox.org/solarize-texas/
- **WEB:** Sun Position Chart (GASIMA): gaisma.com/en/location/austin-texas.html
- **WEB:** US Energy/Database of Federal Tax Incentives: www.dsireusa.org/
- **VIDEO:** EDF—Mueller Pecan St project: <http://www.edf.org/climate/clean-energy-empowering-communities-now>
- **VIDEO:** Mueller Project: A Solar Community: time.com/2926417/is-this-americas-smartest-city/
- **VIDEO:** SolarAustin Success Stories: website: solaraustin.org clip: <http://vimeo.com/97847913>
- **VIDEO:** We’ve Got the Power: wevegotthepower.com Very informative clip
- **VIDEO:** The Yale Forum on Climate (TED news video): share.sierraclub.org/5/8828

What Happens to the Energy I Generate?

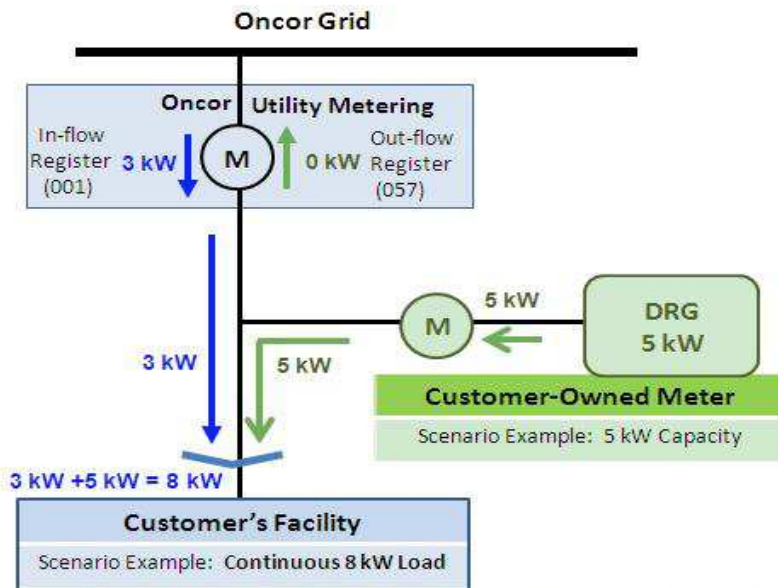


Figure 1 – Illustration of power flow: Customer Load is Greater Than Generation

If this condition existed for one hour:

- Total energy consumed by customer = 8 kWh
- Energy registered by Customer-owned meter = 5 kWh
- In-flow energy (consumption) registered by in-flow (001) Oncor meter = 3 kWh
- Out-flow energy (generation) registered by out-flow (057) Oncor meter = 0 kWh

If you are producing more energy than you are consuming, then the excess energy goes to the grid.

Conversely, if you are consuming more than you are producing, then all of your generated energy is being consumed by you, and any additional energy requirements you have will be provided from the grid (i.e., in-flow kWh).

The figures to the left and below illustrate two basic scenarios for power flow between the DRG, customer's facility, and the grid.

Images courtesy of **ONCOR**, refer to article: <http://www.askoncor.com/EN/Pages/FAQs/DG-99.3.aspx>

What about NET Metering?

Oncor utilizes metering that measures in-flow and out-flow energy in separate channels.

"Net metering" is commonly defined as a single channel meter (some say "spins forward and backward" if an analog meter) that allows for off-sets (some say energy banking) and results in one value being reported at the end of the billing period.

TDUs in Texas are not allowed to install meters that subtract out-flow from in-flow within the meter. Anytime you simultaneously generate and consume electric energy you are "netting" and avoiding using energy you would have purchased at retail rates.

For more information see, Common Metering questions: www.askoncor.com/EN/Pages/FAQs/dg-99.2.aspx

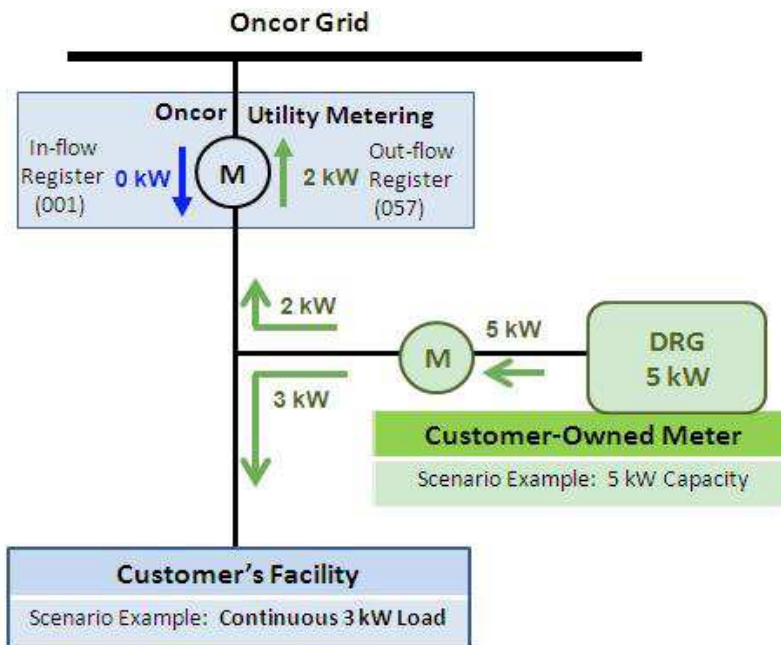


Figure 2 – Illustration of power flow: Customer Load is Less Than Generation

If this condition existed for one hour:

- Total energy consumed by customer = 3 kWh
- Energy registered by Customer-owned meter = 5 kWh
- In-flow energy (consumption) registered by in-flow (001) Oncor meter = 0 kWh
- Out-flow energy (generation) registered by out-flow (057) Oncor meter = 2 kWh

Wells Branch Community Solar— Program Resource Guide

Determine which UTILITY PROVIDER covers your home: it's either Austin Energy (AE) OR Oncor (ON)

STEP 1: Read a Solar FAQ sheet: Determine if solar is right for your home	
<p>AUSTIN ENERGY: Austin Energy FAQ and www.solaraustin.org/is-solar-right-for-you/</p> <p>Your home must be 10 years old or newer OR meet Austin Energy Efficiency standards to qualify for AE rebates. Additional rebates may apply for energy efficient upgrades.</p>	<p>ONCOR: www.askoncor.com/EN/Pages/FAQs/Category.aspx?q=Renewable</p> <p>Consider following the AE Guidelines and complete any recommended energy efficient upgrades</p>
<p>NOTE: Review/remove possible obstructions (e.g. Prune trees, remove unused satellites, antennas, etc.)</p> <p>NOTE: Determine the size of solar energy system required</p>	
STEP 2: Contact at least 2-3 solar installers for proposals - There are over 30 companies	
<p>AUSTIN ENERGY: Complete list of installers (PowerSavers Program: www.austinenergy.com)</p>	<p>ONCOR: Complete list of solar installers http://www.takealoadofftexas.com</p>
<p>REQUEST CONFIRMATION of INSTALLATION PROGRAM QUALIFICATIONS from your utility provider (AE or ON) (Compliance of installation program qualification is critical to receive rebates)</p> <ul style="list-style-type: none"> • Confirm installer is qualified to work with your utility provider (this is critical) • Request a detailed on-site system review and quote <p>ONCOR ONLY: Confirm ROI calculation based on ONCOR service area considerations for distributed renewable energy generation programs/excess solar energy buyback programs. http://pvwatts.nrel.gov/</p>	
STEP 3: Decide how you want to finance your system	
<p>Austin Energy and Oncor both partner with Velocity Credit Union: https://www.velocitycu.com/loans</p> <ul style="list-style-type: none"> • Review financial ROI: http://pvwatts.nrel.gov/ • Cash OR Credit Card Account (Some credit accounts offer additional reward program points) • Loan direct from Solar Installation Company • Loan through Commercial Bank or Credit Union • Lease – Note: Any lease program MUST BE fully transferable in order to sell your home <p>Note: Leasing options may offer flexible 3rd party savings, but savings from other solar programs (e.g. rebates) may be reduced if a leasing option is selected – AE disallows rebates for leased equipment</p>	
STEP 4: Review Proposals	
<p>Select a QUALIFIED Solar Installer — Consideration points:</p> <ul style="list-style-type: none"> • Verify solar program qualifications • Verify state licensing and proof of insurance -- Ask for copies of current information • Compare pricing, materials and system design • Compare warranty coverage • Follow up with reference checks, customer feedback, etc. (Overall professionalism) 	
STEP 5: Submit Materials to WB Architectural Control Committee (ACC)	
<p>The WB ACC will work to get the required approval confirmed within 2 weeks, but allow 4 weeks.</p> <p>Online Form: http://wellsbranchmud.com/general_information/architectural-control-committee.html (.PDF)</p> <p>Send the completed STANDARD ACC form (via: mail, drop-off or email: sclarkson@wellsbranchmud.com)</p> <ul style="list-style-type: none"> • Project layout sheet – copy provided by solar installation company • Materials list – copy provided by solar installation company • Some areas with an HOA will require written notice to neighbors or approval letters from neighbors 	
STEP 6: Confirm WB Architectural Control Committee (ACC) Approval	
<p>RECOMMENDED CHECKPOINT: Keep a project file on hand with a list of all contacts. Keep copies of all e-mails</p> <ul style="list-style-type: none"> • Finalize project with your installer -- update your installer with the ACC approval • Ensure the installer has obtained all required permits • As courtesy, let your immediate neighbors know you are starting this project 	

Wells Branch Community Solar— Program Resource Guide

STEP 7: Complete Interconnection Application Process – This is a **CRITICAL** step

Austin Energy: www.austinenergy.com

- Review program details to apply for AE Rebate (PowerSaver – Residential): [Solar Photovoltaics \(PV\) Rebate](#)
- Complete AE Renewable Energy Credit (REC) Agreement (Solar installer should provide documents)
- Submit completed forms to AE, installer submits forms for you
- Confirm the REC Agreement is received by AE.
- Austin Energy provides final Letter of Intent

NOTE: [Download Distribution Interconnection Guide \(pdf\)](#)

Once the installation is complete and LOI is received, you are guaranteed rebate money from Austin Energy in 120 days.

ONCOR: Complete the application:
<http://www.oncor.com/EN/Pages/Interconnection-Applications.aspx>

- Oncor will send you an interconnection agreement to sign
- Return the signed agreement to: dg@oncor.com
- Oncor will return the completed interconnection agreement, signed by you and Oncor
- Provide your installer with the completed interconnection agreement
- The in-flow/out-flow meter will be scheduled for reprogramming once the interconnection agreement is complete

If your system meets all of the requirements, Oncor will send your service provider an incentive check. (Allow 2-3 weeks)

STEP 7A: ONCOR ONLY: Oncor initiates process to connect the in-flow/out-flow meter. Please allow up to three weeks for completion from receipt of application. ONCOR installs 2 meters (output/net metering)

STEP 8: Call Your Insurance Company

- Ask about any energy efficient discounts – some companies offer this
- Ensure you have sufficient replacement coverage for your solar panels
- The Tax Appraisal District may submit the solar installation details to your insurance company

STEP 9: Review your options for retail electric providers (**ONCOR only**, Austin Energy requires AE as provider)

It's important to understand how your Solar Energy In/Out flows impact your energy cost/return. Programs vary by company and the energy “buy back rates” may differ from your actual electricity costs—choose carefully.

- <http://www.powertochoose.org/en-us/Content/Resource/Selling-Renewable-Power>
- <http://www.powertochoose.org/en-us/Plan/Offers>

STEP 10: Installation Checkpoint

Austin Energy

- Solar Installer completes hardware installation
- **Austin Energy** inspects and approves installation
- AE installs 2 meters (output/net metering)
- Final system explanation and operation

ONCOR:

- Solar Installer completes hardware installation
- **ONCOR** inspects and approves installation
- Final system explanation and operation

STEP 11: File Property Tax Exemption (Travis Central Appraisal District, 512-834-9138) - Form 50-123

File for a solar exemption every year, reminders are usually sent by Travis Central Appraisal District office
<http://www.traviscad.org/forms.html>

STEP 12: Federal Energy Improvement and/or Solar Tax Credits (One time file, 30% credit) - IRS Form 5695

- Take detailed pictures of the system (or find an aerial shot of your roof online, e.g. Google Earth)
- Print out several copies of the photos and save the images along with copies of your invoice and specifications
- If you are unable to use the entire credit in one year, this can be carried forward into future years

STEP 13: On-Going Reporting / Energy Usage Review: **HOW TO:** www.centerpointenergy.com/cehe/res/usage/

- Review Electric Usage Statements and monitor metering equipment
- Ensure your system is operating as planned -- via internet-based monitoring program, track energy usage, solar production, etc.
- Verify that you are receiving credits for the solar energy power generated

WB Solar Pioneers (Early Solar Adopters)

Currently there are roughly 20-25 homes in the Wells Branch Community that have installed roof mounted solar panels. These community members have been identified as “Solar Pioneers” or early solar adopters. Many of these folks are willing to share their experiences.

Energized Feedback: *”We first looked into solar in 1999. It just seemed like a no-brainer to harness this free, clean solar energy source here in Texas. However at the time, the initial outlay (\$25-30K) was prohibitive and it would have taken 20+ years to recoup our investment. My how times have changed!*

In 2010, we purchased a house in Wells Branch, and we took another look at solar. We couldn't believe how much the pricing had come down! When comparing installers and programs, the pricing got even better and the rebates were incredible. Our out of pocket cost was less than \$4000, and we expect our solar investment to pay for itself within five years. In the first year we paid less than \$10 (monthly) on electric. Our latest August bill, in peak season, was less than \$75.00. That was only the second month this year we have not had a credit.

Longhorn Solar installed our system and we couldn't be more pleased with their service. They made the process easy to understand, install time was short, and they filed the City of Austin rebate paperwork. It's a great feeling knowing that we are generating a large portion of our own power in a way that's sustainable, clean, and that we're saving so much money on those cooling bills! Consider solar; don't assume that it's too expensive - you may be pleasantly surprised at how much sense it makes!”

— Jeaneane, WB Resident, Solar Pioneer

Solar Input: *“Earlier this year I crawled up into my attic to try and install a radiant barrier. I was tired of high electric bills and I wanted to do something about it. That experience taught me that installing radiant barrier is not fun and there was a tremendous amount of energy hitting my roof every day and turning into wasted heat. This realization sent me down the road of investigating solar panels.*

I was looking for a way to reduce our energy costs, increase our home value, and help reduce our reliance on a volatile electrical market. Solar panels achieved all these goals! It's a home improvement that is kid-proof, environmentally friendly, and will actually pay for itself—four months later, I'm making almost as much power as I'm using. Win, win.”

—Joe, WB Community Solar Group, Solar Pioneer

Positively Charged: *“I love knowing I am producing clean, green energy and thus directly contributing to the change I want to see in the world!”*

—Elaine, WB Community Solar Group, Solar Pioneer

Financial Sparks: *I have had a 3KW system on my roof for 10 years now. Savings have averaged about \$30 - \$40 per month. Summer electric bills rarely go over \$85. The biggest savings come from staying below the 500KW monthly usage, which keeps the unit rate low. I have had minimal maintenance issues.*

— Alan, WB Resident, Solar Pioneer

If you would like to speak with a Solar Pioneer to gain additional background or insight, please contact: Elaine Betterton — 512-771-0642 — d_e_betterton@sbcglobal.net



Solar Energy Event Vendors

UTILITY PROVIDERS:

AUSTIN ENERGY 512-505-7072
2526 Kramer Ln, #E
Austin, TX 78758
Mike Van Zandt
austinenergy.com

ONCOR 214-486-2750
1616 Woodall Rodgers Fwy
5M-027
Dallas, TX 75202
Kristy.Tyna@oncor.com
oncor.com

SOLAR INSTALLERS:

CIRCULAR ENERGY 720-879-8764
2111 W Braker Ln #600
Austin, TX 78758
circularenergy.com

FREEDOM SOLAR 512-228-1222
4111 Todd Ln #100
Austin, TX 78744
robert@freedomssolarpower.com
freedomssolarpower.com

GLOBAL EFFICIENT ENERGY (GEE)

512-827-2249
5321 Industrial Oaks Blvd., Suite 105
Austin, TX 78735
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LIGHTHOUSE SOLAR

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LONGHORN SOLAR

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201 Cole St, Austin, TX 78737
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buildnative.com

REVOLVE SOLAR

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TEXAS SOLAR POWER COMPANY

512-459-9494
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TREEHOUSE HOME IMPROVEMENT

512-861-0712 x 129
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treehouseonline.com

Special thanks to all
our participating
vendors.



Special Thanks to Our Solar Program Supporters

Ms. Carmina Eaton, State Farm Insurance and WB Resident
Mr. Dan McAfee, Mueller Community Resident
Ms. Cathy Redson, Sol Power People
Mr. Chuck Walters, Chairman, WB Architectural Control Committee
Ms. Kaiba White, SolarizeAustin, Board of Directors, President (non-profit) kaibawhite@gmail.com
WB MUD Board – provided the meeting room and event facilities
WB Neighborhood Association – provided public communication and web resources
WB Soccer Association, Ms. Julie Goebel – provided the refreshment service
WB Recreation Center Staff, and Mr. Matt Fuller, Recreation Manager
WB Solar Pioneers, and Ms. Elaine Betterton, Solar Pioneer Leader
WB Solar Energy Fair Committee Members:

- Elaine Betterton, Bob and Darlene Bauhs, George Holcombe, Vicky Linsalata, Shelley Palmer, Margaret Sufke, Debby Thompson and Joe Wieck

