

# VALLEY OF THE SUN Solar & Sustainable Buildings Tour



# Living With the Sun—Arizona Style

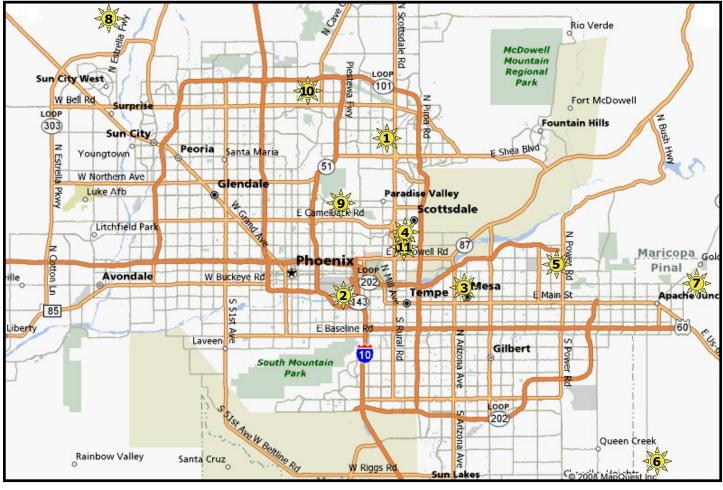
# October 18<sup>th</sup> and 19<sup>th</sup>, 2008



Presented by:







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### **Solar & Sustainable Building Tour Locator** Tours Begin at: 9am, 10am, 11am, 1pm, 2pm and 3pm

	Site	Address	Dates Open
1.	Beale Residence	6613 East Aster Drive, Scottsdale	Saturday
2.	Building Science Training Center	3051 South 45th Street, Phoenix	Saturday
3.	deFrancesco-Pribi Residence	463 North MacDonald Avenue, Mesa	Saturday
4.	Scottsdale Fire Station No. 2	7522 East Indian School Road, Scottsdale	Saturday
5.	vonBehren Residence	6240 East Hermosa Vista Drive, Mesa	Saturday
6.	Encanterra, A Trilogy Country Club	1035 East Combs Road, Queen Creek	Saturday and Sunday
7.	Strawbale Residence	4801 East Hidalgo Street, Apache Junction	Saturday and Sunday
8.	Trilogy at Vistancia	29780 North Trilogy Blvd. East #101, Peoria	Saturday and Sunday
9.	Beere Residence	3313 East Medlock Drive, Phoenix	Sunday
10.	Henson Residence	18223 North 16th Way, Phoenix	Sunday*
11.	McCay Residence	2647 North Miller Road, No. 21, Scottsdale	Sunday

<sup>\*</sup> Morning tours only.



# **Beale Residence**

### 6613 East Aster Drive, Scottsdale

This LEED Platinum home features:

- Roof-mounted solar PV panels
- Chlorine-free pool system: copper ionized and oxygenated
- Chlorine-free whole house water system
- Woven strand bamboo floors
- Low-flow faucets and shower heads
- Dual-flush toilets
- Open-cell spray insulation
- Dual-pane low-E windows
- Tankless gas hot water
- Energy Star appliances
- All finishes, stains and paints are no-VOC soy based
- Optimal solar orientation
- Xeriscaped garden and drip system with native Sonoran plants



#### DRIVING DIRECTIONS

From corner of Scottsdale Rd. and Cactus Rd., go west on Cactus Rd., turn North on 66th St., go to Aster Dr. Turn right (east). House is on the left.



Site open Saturday, Oct. 18



### 3051 South 45th Street, Phoenix

Foundation for Senior Living (FSL) Home Improvements is the sponsor of the national Home Performance with Energy Star program for the state of Arizona. In addition to serving as the local Energy Star sponsor they provide weatherization, energy efficiency and building science training for

contractors, weatherization auditors and technicians throughout the Southwestern United States.

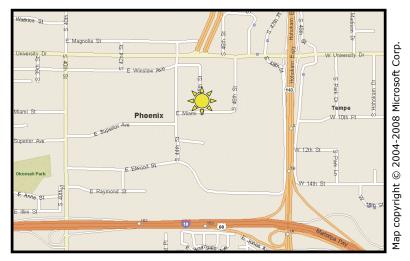
Activities include the Home Insulation Lab and Thermal Imaging: One of our certified training professionals will walk you through the various types of insulation available and what to look for during and after installation. Also, see how



thermal cameras can be used to expose poorly installed insulation and aid in planning improvements for your own home. For more information, please visit **www.azhomeperformance.org**.

#### **DRIVING DIRECTIONS**

From the I-10, take the 40<sup>th</sup> St. Exit. Head north on 40<sup>th</sup> St. Right on Superior Ave. Left on 44<sup>th</sup> St. Take next right on E. Miami. Left on 45<sup>th</sup>.



Site open Saturday, Oct. 18



#### 463 North MacDonald Avenue, Mesa

Located within a historic district, this new residence incorporates numerous Green Building/Sustainable strategies while keeping with the neighborhood. The east-west axis with large south-facing windows coupled with stained concrete floors and countertops for

thermal mass provide much of the winter heating requirement. Gray water lines to the landscape and many other water-saving strategies are incorporated.

Exterior walls are constructed of OmniBlock with an additional inch of "outsulation" (insulation applied to the exterior of the wall) and interior insulation is made from recycled denim blue



jeans! Lots of natural daylight provided by windows and solar tube, high-efficiency air cooling, tankless water heater and a PV solar power system make this a super livable home.

#### **DRIVING DIRECTIONS**

From University Dr. and Country Club go east on University approximately 3/8 of a mile to MacDonald. Head north on MacDonald—home is the 5<sup>th</sup> house on the right.



Site open Saturday, Oct. 18



### 7522 East Indian School Road, Scottsdale

This LEED Gold certified building features:

 Energy consumption is reduced by using dual pane windows, improved insulation, and north-south building orientation, providing

natural sunlight, energy efficient equipment, and overhangs that shade the building.

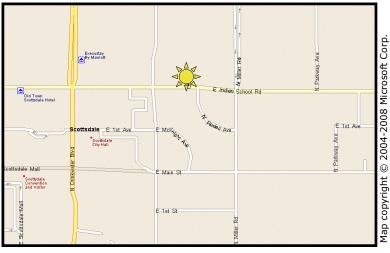
- Light monitors shut down or dim lights in all unoccupied spaces in the building.
- A solar hot water heater will provide 95% of all the hot water needs. It will also heat the building during winter season.
- The flooring in the physical conditioning room is made from 100% recycled tires.



• Cotton batt insulation is used in the building, which is essentially recycled denim jeans.

#### **DRIVING DIRECTIONS**

From 101 in Scottsdale. Exit on E. Indian School Rd. Head west. Fire station is two miles down on the north (right hand) side of the street.



Site open Saturday, Oct. 18



### 6240 East Hermosa Vista Drive, Mesa

Numerous Green building design, construction and equipment strategies; passive and active solar solar building design; Green materials; and effective site and building space planning. Solar orientation for effective passive heating and cooling, and utilization of the earth's natural ability to

mitigate undesired heat in the summer while providing a tempered thermal envelope for effective winter night comfort.

The home also features:

- Tankless hot water
- 10.3 kW of solar PV on the roof
- Xeriscaped landscape



#### **DRIVING DIRECTIONS**

From the intersection of McKellips and Recker: drive north on Recker Rd. to Hermosa Vista Dr. Turn right on to Hermosa Vista and proceed east. The home is on the north side of the street.



Site open Saturday, Oct. 18

🌜 Encanterra, a Trilogy Country Club

### 1035 East Combs Road, Queen Creek

We display all of our energy efficient & Eco-friendly features in our Superiology House in the model gallery. In the house there are demonstrations of: Motion and occupancy sensor lighting, energy-efficient windows, insulation and fresh-air indoor ventilation are just a few of the

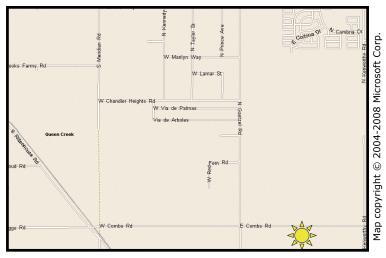
ways Trilogy homes conserve energy. For a limited time only, all new homes at Encanterra come with a free 3 kW solar power system.

Other features include:

- Solar attic fans
- Dual-pane Low-E windows
- Fresh air systems
- Solar electric (PV) systems
- Energy-efficient lighting
- Energy-efficient air conditioning
- High-performance blown-in wall insulation
- Energy Star appliances and high-efficiency water heaters

#### **DRIVING DIRECTIONS**

Head East on US-60 toward Mesa-Globe. Take exit 195, Ironwood Dr. Turn Right onto South Ironwood Dr. Ironwood Dr. becomes North Gantzel Rd. Go east on Combs Rd. 1/2 mile and Encanterra will be on the right. At the gate let the host know you are there for the Solar Tour and they will guide you to the Tour Center. 480-677-8000.



Site open Saturday, Oct. 18 and Sunday, Oct. 19





### 4801 East Hidalgo Street, Apache Junction

This passive solar straw bale home provides many examples of passive solar design and building techniques. The home is currently listed for sale. For more information, go to: **www.PhoenixGreenHomes.com**.

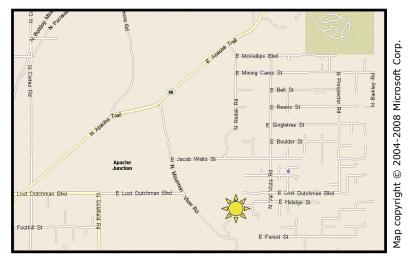
Notable features include:

- Steel frame construction with R-44 straw bale infill insulation
- R-40 radiant barrier ceilings
- High-performance HVAC
- Finished concrete floors and counters
- Energy Star appliances
- Double-pane Low E windows
- Detached two-car garage and carport



#### **DRIVING DIRECTIONS**

US 60 East to Idaho Exit. Turn left on Idaho go 2 1/2 miles to Route 88. Turn right on Route 88. Go 4 miles to Nodak. Turn right on Nodak (Mining Camp restaurant exit), follow curve to left. Nodak becomes Mining Camp. Right on Val Vista to Hidalgo. Right on Hidalgo. Last home on left. The street dead ends at state land. Note that Hidalgo is not a paved road.



Site open Saturday, Oct. 18 and Sunday, Oct. 19

# **B** Trilogy at Vistancia 29780 North Trilogy Blvd. East #101, Peoria

We display all of our energy efficient & Eco-friendly features in our Superiology House in the model gallery. In the house there are demonstrations of: Motion and occupancy sensor lighting, energy-efficient windows, insulation and fresh-air indoor ventilation are just a few of

the ways Trilogy homes conserve energy. For a limited time only, all new homes at Trilogy come with a free 3 kW solar power system.

Other features include:

- Solar attic fans
- Dual-pane Low-E windows
- Fresh air systems
- Solar electric (PV) systems
- Energy-efficient lighting
- Energy-efficient air conditioning
- High-performance blown-in wall insulation
- · Energy Star appliances and high-efficiency water heaters

#### **DRIVING DIRECTIONS**

Go west on Happy Valley Parkway approximately 5 miles. Trilogy will be on the left. At the Gate please tell the host you will be going to the Tour Center and they will guide from there. 623-215-6315.



Site open Saturday, Oct. 18 and Sunday, Oct. 19





### 3313 East Medlock Drive, Phoenix

This residence is Arizona's first LEED-certified remodel of an existing 1960 single-family home.

A Gold rating was attained by implementing energy efficient construction, including 2 x 6 framing, foam insulation, Low-E windows,

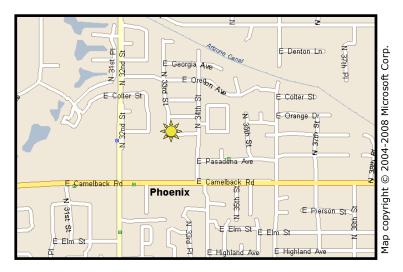
shading from plants, and duct air tightness. Other features include a professionally landscaped exterior which includes permeable pavers, drip irrigation, native plants, and limited use of turf; nonformaldehyde bamboo floors; countertops constructed from recycled paper; no-VOC clay paints; a framed barrier between the garage and the home; low flush toilets, motion activated faucets;



Solatubes for natural lighting; and Energy Star appliances. Recently recognized by the City of Phoenix.

#### **DRIVING DIRECTIONS**

From the  $32^{nd}$  Street and Camelback, go east on Camelback to  $34^{th}$  Street. Head north on  $34^{th}$  Street then west on E. Medlock Dr. Head west on Medlock Dr., home is near the end of the block.



Site open Saturday, Oct. 18 and Sunday, Oct. 19



This 1,325 SF residence—an owner remodel in process—features a 1.9 kW PV system and a solar hot water system. The combined savings is expected to be 5,900 kWh per year, which will reduce purchased energy by 56% from previous levels.

The environmental benefit will avoid over 190,000 pounds of  $CO_2$  emissions, saving 15-tree acres over the systems' 25-year operational life.

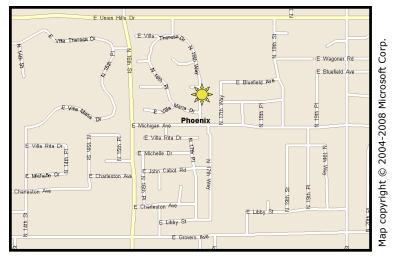
The PV system also adds to the quality of life by acting as a shade canopy for the main entrance. The home also features a resource-efficient site, and adoption of Green strategies, techniques and materials in the redevelop-



ment of this once-typical tract house.

#### **DRIVING DIRECTIONS**

From the intersection of Cave Creek Rd and Union Hills go west on Union Hills then turn south on  $16^{th}$  Way (1 block east of  $16^{th}$  Street) into The Cove at North Canyon development. Bear to the left on  $16^{th}$  Way—home is about 1/4 mile down on the left.



Site open Sunday morning, Oct. 19



This home features a 1.92 KW grid-connected solar PV system, programmable thermostat, CFLs and solar tubes to provide natural daylighting in interior spaces.

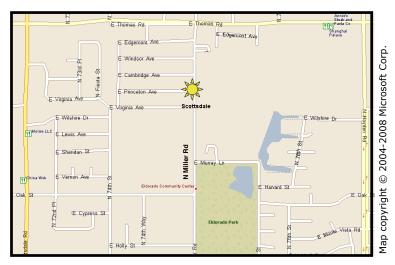
Rainwater harvesting, recirculating hot water and soon-to-be-installed tankless water heater provide

water conservation features.



#### **DRIVING DIRECTIONS**

Entrance to this neighborhood is directly across from E. Princeton Ave. off Miller (south of Thomas). Upon entering, turn right and park by the swimming pool. The home is east of the pool.



Site open Sunday, Oct. 19

# About the Arizona Solar Energy Association

The Arizona Solar Energy Association (ASEA) is the Arizona affiliate of the American Solar Energy Society (**ASES.org**). Founded in the 1970's as a technical association of early solar technology professionals, the group has evolved into a diverse assemblage of individuals from all walks of life who share a common interest in sustainable human activity and the use of solar energy. ASEA reaches out to both professionals and non-professionals alike.

As a founding and sustaining organizational member of the Arizona Solar Center (AzSolarCenter.com), ASEA provides a platform for its members to educate and advocate for a sustainable future for Arizona. Depending upon local preferences, local chapters may have meetings, workshops, a newsletter and other activities.

Members are active in industry associations, workshops with the Arizona Corporation Commission (ACC), the State Legislature, Maricopa Association of Governments (MAG), the Governor's Solar Energy Advisory Council (SEAC), and other groups that welcome our input.

In addition, ASEA conducts lectures on sustainability and solar technology at the invitation of groups from all over the State. A long-standing lecture series in Scottsdale continues to draw large attendance. Our speakers' bureau is available to address your organization on many sustainability and solar-related topics.

Your donation supports ASEA efforts. ASEA is entirely a volunteer, nonprofit organization and welcomes new supporters. Whether you simply want to support our efforts with your donation, or want to also become actively involved, we welcome your participation. Please join us in our efforts to achieve a sustainable future for Arizona. Visit the ASEA website for more information. You may also visit the ASES website for a combined ASES/ASEA membership.



Arizona Solar Energy Association P.O. Box 5583 Scottsdale, Arizona 85261 arizonasolarenergy.org azsolarnews@gmail.com



# **ASEA Membership Registration**



#### Basic \$25

Member receives: Newsletter, voting rights for one, solar alerts, members programs, and free/reduced price for one person to ASEA fee-based events.



#### **Basic PLUS \$35**

Member receives: All of the above, plus free/reduced price for two people to ASEA fee-based events/programs.



#### **Professional Basic \$50**

Member receives: All of the items listed in the Basic membership and an optional listing in ASEA's Professional Members Only section of the website, plus free/reduced-cost access for one to fee-based ASEA Professional series lectures, workshops and events.



#### **Professional Plus \$75**

Member company or organization receives: All items listed in the Professional Basic membership plus free or reduced-cost access for four people to feebased ASEA Professional series lectures, workshops and events.



#### Student \$15

Member receives: All of the items listed in the Basic membership.



#### Lifetime \$500

Member receives: All of the items listed in the Basic membership for life.

Name:	
Mailing Address:	
Home Phone:	
Work Phone:	
Cell Phone:	
Personal email:	
Professional email:	
Amount enclosed:	
Please make check payable to: ASEA PO Box 5583	Would you like to be contacted about volunteering to actively participate?

Scottsdale, Arizona 85261



# About the Arizona Solar Center

The Arizona Solar Center, Inc. (AzSC) is a not-for-profit organization dedicated to the implementation and integration of solar, renewable energy and sustainability in Arizona.

The AzSC was created by a collaboration of members from the Arizona Deptartment of Commerce Energy Office; the solar industry (Arizona Solar Energy Industries Association—AriSEIA); the state chapter of the American Solar Energy Society (Arizona Solar Energy Association— ASEA); Arizona utilities (APS, SRP and TEP); the educational community (ASU, UofA, NAU); renewable energy and sustainability businesses, and solar and sustainability professionals.

The AzSC hosts an informational website; partners in public and professional education programs and lectures, as well as the bi-annual statewide Solar and Sustainability tours and open houses; provides workshops at various public and school venues.

The Arizona Solar Center also executed development of downloadable education materials and teaching/lecture tools; participated in local, regional and national renewable energy and sustainability forums; and is evolving a physical center to further it's educational mission as well as support the exploration and development of renewable energy, resource-efficient and appropriate materials, and equipment.



www.azsolarcenter.com

# About the Scottsdale Green Building Program

The Scottsdale Green Building Program encourages a whole-systems approach through design and building techniques to minimize environmental impact and reduce the energy consumption of buildings while contributing to the health of its occupants.

#### OVERVIEW

The Scottsdale Green Building Program rates building projects in the following six environmental impact areas: Site Use, Energy, Indoor Air Quality, Building Materials, Solid Waste, and Water.

A green building point rating system is used to qualify projects into the program. Design flexibility is achieved by offering over 135 green building options, while maintaining a whole building systems approach. A builder, designer, or developer may enter any given number of projects into the program. The Green Building Program is voluntary and open to builders in the Scottsdale area.

#### INCENTIVES

As a consumer-driven program, the city of Scottsdale is engaged in an ongoing effort to bring the program to the attention of the general public and building industry:

- Development process assistance (expedited plans)
- Construction job site signs
- Directory of participating builders and designers
- Certification (green building inspections)
- Lecture series, workshops, and special events

#### PARTICIPATION

Every builder and designer who enters a project into the Green Building Program is expected to attend at least two green building related lectures, workshops, or seminars. These educational programs provide information on energy/resource efficient and environmentally responsible buildings, and feature experts in all areas of environmental design and construction. Lectures, workshops, and special events are held throughout the year.



scottsdaleaz.gov/greenbuilding

### **SOLAR POWER:** A SOLUTION THAT WORKS TODAY

With 300 sunny days each year, it's no wonder more APS customers see solar energy as part of the solution to Arizona's energy challenges.

And APS agrees.

Today, not only does solar make environmental sense, but with substantial rebates from APS it can make financial sense too. Whether for your home or business, installing renewable energy technology, such as solar panels or solar water heaters, is more affordable than ever. In fact, when you combine APS rebates with available State and Federal tax credits, you may be able to cut the cost of solar panels by up to half, even more for solar water heaters. To find out how you can become more energy independent by taking advantage of Arizona's clean, abundant, and free sunshine, visit us online at www.aps.com/GoSolar today.

Must be in APS territory to be eligible. Limited funding is available so make your reservation today. Other government tax credits may also be available. This program is funded by APS customers and was approved by the Arizona Corporation Commission.



aps.com/GoSolar

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arizonasolarenergy.org



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