



AZSC



# AZ Solar Center Newsletter

[[www.azsolarcenter.org](http://www.azsolarcenter.org)]

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American Solar Electric, Inc

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The Arizona Solar Center's mission is to present unbiased information about renewable energy in Arizona, particularly solar energy, its most abundant renewable resource. In conjunction with the mission, the Arizona Solar Center uses its website, [www.azsolarcenter.org](http://www.azsolarcenter.org), to support commerce and industry in the development of solar and other sustainable technologies.

### \*\*\* Featured Project \*\*\*

**The DeFrancesco/Pribi Residence** in Mesa, AZ, is a totally Solar Residence!

Located within a Mesa historic district, this solar residence shows the full application of solar - living with the sun - in site considerations and design as well as a building that incorporates the full range of passive and active solar applications.

The east-west axis allows for optimal exposure to winter sun for passive heating as well as optimal exposure for roof mounted solar equipment. The axis orientation also minimizes undesirable summer sun exposures on the east and west sides. Careful roof overhang design provides shading from intense summer direct sun, but allows for entry of winter sun thru large south-facing windows coupled with stained concrete floors and counter tops for direct warming.



The floors and counter tops provide thermal mass for direct and simple, non-mechanical heating in the winter. The thermal mass floors also work as well as a cooling heat "sink" for intense summer conditions.

The building site is carefully developed with solar strategies (which always incorporate site and built conditions and resources), developing thermal compression patterns to mitigate the negative impacts of direct summer sun onto the building envelope, thereby reducing heat flow migration thru the building envelope. At the same time the landscaping is developed to provide cool zones for thermal tempering immediately surrounding the building, while also providing for edible landscaping and gardens, utilizing rain water catchments and gray water systems from the house.

Exterior walls are of energy efficient OmniBlock with an additional layer of "out-sulation" (insulation applied to the exterior and plastered over) for a heat flow inhibiting shell which reduces need for mechanical heating and cooling, and reduces utility costs as well as the size of equipment required for power production and comfort. Interior insulation, to further mitigate heat flow, is comprised of recycled denim blue jeans.

Natural daylighting, with strategically placed windows and incorporation of Solar tubes for natural lighting in interior spaces, minimizes power demands and lowers utility bills.

Active solar systems and resource efficient equipment include a grid tied photovoltaic system for power generation, tankless recirculating water heater system, and high efficiency air conditioning.

Total Solar Design and Construction - site, building, and equipment - Solar Sustainability at its best.

(For more information please contact Peter Daniel Aiello at [J2EnvArch@aol.com](mailto:J2EnvArch@aol.com))

Each AZSC Newsletter will showcase a Featured Project. If you would like one of your projects to be considered for this article please send a one page description of your project with four photographs to [janet@cactusmooneducation.com](mailto:janet@cactusmooneducation.com)

We thank the following AZSC Sponsors:



## Around the State

**Cochise College adds more solar** generation at its Douglas campus. A new 300kW single axis tracking solar system has been installed at the Cochise College. The system is owned by SPG Solar Inc which sells the solar energy to the college via a 20 year PPA.



The college already boasts a solar powered HVAC system which provides solar

heating during the Winter and solar cooling during the Summer.

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## We're looking for sponsors!

**Would you like** to sponsor this newsletter? If you're interested please contact [Janet@azsolarcenter.org](mailto:Janet@azsolarcenter.org)

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## Q&A

Q: What is the lifetime of a PV solar power system?

A: Although there is nothing to "wear out" in a photovoltaic power system, PV modules do degrade with time. However, the degradation is only 0.5% to 1% per year. This means that after 25 years your PV system will still be generating over 80% of it's original power.

You have a question? We may have an answer!

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## Solar Production, How Does Your System Compare?

**We would like** to show typical solar PV system performance figures in this newsletter so that you can compare the performance of your system with others in the state. For the months of June and July we have the following:

Location	June	July	
Phoenix:	134	133	kWh/kW
Tucson:	134	127	kWh/kW
Yuma	133	136	kWh/kW
Flagstaff	140	129	kWh/kW

Please send us your system generation numbers.

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## Solar Industry Association News

**Both ASEA and AriSEIA have** been making some changes. A new Board of Directors has been established for the Arizona Solar Energy Association (ASEA), with Carole Mars as the Chairperson. Similarly, the Arizona Solar Energy Industries Association (AriSEIA) has a new Board of Directors with Lee Feliciano as the Chairperson.

(For more information visit [www.arizonasolarenergy.org](http://www.arizonasolarenergy.org) and [www.arizonasolarindustry.org](http://www.arizonasolarindustry.org))

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## From the Utilities

**SRP and APS are to begin** a solar system inspection pilot study. Non-profit collaborative, the Arizona Solar Center, Inc. (AzSC) has been retained by SRP and APS to participate in a utility Pilot Program dealing with inspections of residential solar water heating systems.

The Pilot Study will be testing an Inspection Checklist, newly developed by SRP and APS with the assistance of the AzSC, at a variety sites in the Valley (APS, SRP) and elsewhere in the State (APS) as part of the utilities on-going interest and commitment to solar and to their service customers.

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## Living with the Sun Lecture Series

**"Where's the Solar?" newcomers ask** – Learn how people - past and present - have worked with natural resources and human ingenuity to create low energy, low environmental impact, and appropriate responses to living in Arizona's diverse environment. See what they did and are doing today - lessons of the past present the very real possibility of a positive solar and sustainable future for Arizona.

(For more information contact Daniel Peter Aiello at [J2EnvArch@aol.com](mailto:J2EnvArch@aol.com))

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## Upcoming Events

**August 10:** Meet the Corporation Commission Candidates. 5:00pm at the Phoenician, 6000 Camelback Road, Scottsdale, AZ 85251 <http://ariseia.eventbrite.com>

**October 2:** ASES National solar home tours. The ASES National Solar Tour is the world's largest grassroots solar event. <http://nationalsolartour.org>

(For more information on upcoming events see the full calendar at [www.azsolarcenter.org/events-calendar.html](http://www.azsolarcenter.org/events-calendar.html))

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Your suggestions are welcomed: If you have suggestions or ideas as to how we can make this newsletter more useful or interesting please let us know. Contact us at [janet@cactusmooneducation.com](mailto:janet@cactusmooneducation.com) with your ideas.