

# Solar Washington

Newsletter 9/10/03

Volume 1, Issue 8

Solar Washington, 2223 NW 43<sup>rd</sup> Ave, Camas WA 98607 360-834-0674

## Special Items:

- Solar Washington's Solar Home Tour
- ASES Solar Home Tour
- President's Letter
- PV Survey Results
- MEMBERSHIP FORMS



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## SOLAR HOME TOUR EDITION

The Solar Washington's Third Annual National Solar Home Tour is OCTOBER 4<sup>TH</sup>!!!!. Check out the tour!!

The Solar Washington's above logo was created by Mike Nelson and symbolizes the "green" concern for our state. It also defines our mission to promote wide utilization of solar energy in

the State of Washington. Any comments or suggestions for enhancing our mission to educate will be welcomed. Please mail your requests to:

Solar Washington  
2223 NW 43<sup>rd</sup> Ave  
Camas, WA 98607

Solar Washington is entirely a volunteer organization.

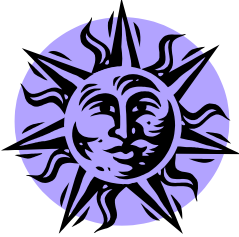
**Tour booklets will be on sale for \$5.00 at locations around the state**

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



## Solar Washington's ASES Solar Home Tour by Pam Burton

### 2003 ASES Solar Tour in Washington to Include 51 sites statewide!!



With the support of Million Solar Roofs, Zantrex Technology, Inc. and two dozen additional sponsors Solar Washington has organized a statewide solar tour that includes 51 sites. Also new this year is a comprehensive Tour Guide Book listing the details of solar systems employed at each site and driving directions. The tour is self-guided and takes place on Saturday, October 4, 2003 from 10am to 4pm.

On the tour will be both passive and solar-powered homes, schools, parks, commercial and institutional buildings, including three museums. The tour gives the general public the opportunity to learn the latest about solar technology and how it works. Visitors will learn how solar technology is entering the mainstream, and how it can reduce energy costs, increase energy independence and reduce pollution.

The Tour Guide Book groups divides the state into eleven areas, grouping together tour sites that are within driving distance although a real enthusiast will be able to take in more than one area during the 6 hours of the tour. It is recommended that one obtain the Tour Guide Book in advance so choices can be made about type of projects to see and.

Highlights of the tour include sites in the San Juan Islands. On Orcas Island Dick and Becky Greaves' residence is a 25kW PV, grid-tied "power plant" made up of (180) 165 watt Schott Applied Power modules and 10 SMA Sunny Boy 2500W inverters. With nearly 30 kilowatts of photovoltaic modules this is the largest privately owned PV system in the northwest. 100% of the output from the system is fed into the Orcas Power and Light's (OPALCO) transmission system.

Also on Orcas Island and contributing to OPALCO is the Kaj's grid tied hydroelectric Solar Farm. This homestead is an old existing farmhouse, designed as a demonstration site, with a new solar and hydro system. The pond is warm, clear and welcoming for a swim; the 10 acres the farm is located on are very picturesque and off-islanders are welcomed to camp.

In Clark County there are 5 sites including the Ogden Resource Center Washington State School for the Blind. The Center was designed to provide an efficient envelope to house the Braille Production/Instructional Resource Center. This 11,000 square foot building incorporates active solar, daylight and storm water management and has 13.5kW of electricity produced from five banks of Shell photovoltaic cells. A modular earth roof system is covered with 8 inches of soil, planted with wild strawberries. The Center will have limited hours between 1:00 and 4:00.

The Zero Energy Home will be on display in the parking lot of the Center. Built as a cooperative effort between the Public Utilities of Clark, Chelan and Grant counties, the home on wheels features structural insulated panel construction, U.32 energy star windows, insulated doors, energy efficient lighting and appliance displays. The trailer is powered by a Shell solar photovoltaic array connected to an Outback inverter.

The Clark County tour will also feature informational classes on solar hot water, passive solar heating and cooling ideas, and net metering at the Water Resources Education Center Community Room at 10:00, 4600 SE Columbia Way, Vancouver.

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*"Simple homeowner steps for solar: 1. Conservation. 2. Passive Design. 3. Solar Hot Water. 4. Solar Electric. "*



## ASES Solar Home Tour - Continue by Pam Burton

Besides the Tour Guide Book ASES is providing a National Solar Tour Program, a 16 page booklet that includes a section on frequently asked questions as well as interviews with people in homes, schools, and businesses describing their experiences going solar. Anyone attending the tour will have the opportunity to enter a national drawing for a free solar electric system. Solar Electric Inc. in California has coordinated with United Solar Ovonic (Uni-Solar) and Xantrex to donate a 2 kW system with an inverter. In addition, C & D Technologies has donated an 8 kW battery backup system bringing the value of the prize to over \$11,000! Some lucky person will be happy they attended

their local tour! The winner will be chosen in Boulder, Colorado, on Friday, November 14th. Washington State tourists will also be eligible to enter a drawing for a night stay at the Spirit Ridge Inn (site of a recent Solar Washington field trip). Located high on a ridge on the north end of Camano Island, Spirit Ridge Inn is surrounded by a forest of evergreens and maples, providing a peaceful refuge from the tension and stress of hectic 21st century life. The cleanest air and the purest water in combination with clean solar power distinguish this remarkable sanctuary from the typical bed and breakfast or retreat center. Owner Kurt Asplund has generously donated a night's stay between Oct. 1 and May 30.

Continuing education credits are offered to architects taking the tour. The American Institute of Architects (AIA) will give 2 credits for visiting four sites. Following the tour contact Cindy Nelson at ASES 303-443-3130 #4 or [cnelson@ases.org](mailto:cnelson@ases.org). And she will complete the form.

**Tour booklets will be on sale for \$5.00 at locations around the state or by mail. To order by mail send \$7.50 (includes \$2.50 for p&h) to Pamela Burton 5308 Baker Ave NW Seattle WA 98107. Checks payable to Solar Washington. For locations where Tour Guide Books will be on sale go to [www.solarwashington.org](http://www.solarwashington.org)**

## President's Letter

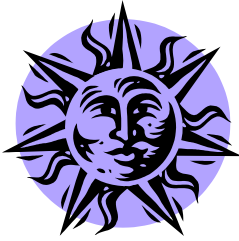
My Fellow Solarians,

It's been a busy, exciting summer for Solar Washington. Our presence at 3 outdoor fairs gave us lots of opportunities to talk about solar energy, and listen to those with interest. A handful of us collected over 5,000 signatures on the Citizen's Initiative 81, 1% for Renewables, which was not enough to get it on this November's ballot in the City of Seattle. However, it is a real accomplishment and taught us a lot about getting folks (or giving folks the opportunity) to sign a petition. It can be a fascinating study in human nature, and we got enough support to get the City Council's attention. Hopefully they will sponsor the initiative next year. Stay tuned for a possible letter writing campaign. There is also a state measure afoot that we can give input and get behind.

Solar Washington and many of our members sponsored and presented a workshop/tour, in conjunction with Snohomish PUD and Puget Sound Energy, where 65 attendees learned about solar electricity. The event filled up and a waiting list was established for a possible future event. Joining with utility folks to educate the public and promote solar is a great match. They used their resources to organize, promote, and publicize, while we provided presenters, demonstrations and expertise. Seeing the Power Companies getting behind solar also lends a credibility that reassures many folks who are still on the fence. Warranties of 25 years on most panels don't hurt either. I look forward to working more with our friends at the power companies in the future.

Our goal of a self-supporting solar tour guide, and 40 sites all over the state, has been surpassed! The 2003 Solar Tour on Oct. 4th, from 10-4, will take place at over 55 sites in 12 areas, statewide! And the guide actually made money in its first year! Ok, enough exclamations. I am thrilled to see this happening, and I want to send out thanks to all the volunteers, coordinators, homeowners, advertisers, sponsors, Carol O'dahl and especially Pam Burton. Thank you for giving more people the chance to see solar at work, and a day to talk to the wise folks that invested in solar equipment. Promoting the tour right up until the day is something everyone can help with. Bring your friends, family, neighbors, baristas and grocery store clerks on the tour in your area. Write a letter to the editor or put it in your local community calendars. The idea of solar is popular and the tour is a great way to build grassroots support. Seize opportunities to share solar and we will all reap the rewards. Go forth and solarize!

Best energy,  
Chris Herman, pres.



*“Wind is the fastest growing renewable energy resource in the world.”*

## Calendar of Events

Have anything for the calendar? Call 360-834-0674 [zagunis@pacifier.com](mailto:zagunis@pacifier.com) or <http://www.solarwa.org/>

**SEPT 2003**  
**SEPT 18-21<sup>st</sup> Northwest Renewable Energy Festival**  
 Whitman College  
 Campus in Walla Walla, Washington. [www.nwrefest.org](http://www.nwrefest.org)

**Sept 20 2<sup>nd</sup> Annual Green Building Home Tour & Information Fair. Portland OR.** [www.ecohaus.com](http://www.ecohaus.com)

**Sept 20-21<sup>st</sup> Solar Fiesta**  
 Albuquerque, NM  
[www.mnsea.org](http://www.mnsea.org)

**SEPT 25<sup>th</sup> Solar Washington's Members Meeting at Xantrex Technology Bay 1, 2<sup>nd</sup> Floor, 5917 195<sup>th</sup> St NE, Arlington, WA 7:00 pm**

**Sept 26-28<sup>th</sup> Renewable Energy Roundup & Green Living Fair**  
 Fredericksburg, TX  
[www.theroundup.org](http://www.theroundup.org)

**Sept 29-30<sup>th</sup> Energy CO-OP Symposium** Universal City, CA building markets for distributed generation, showcasing wind and solar cooperatives.  
[www.nwseed.org](http://www.nwseed.org)

### OCTOBER –

**OCT 1-3 Sustainable Energy Expo & Conference LA CA.**  
[www.sustainableexpo.com](http://www.sustainableexpo.com)

**OCT 4<sup>th</sup>- Did you miss it? IT IS THE ASES/SOLAR WASHINGTON SOLAR HOME TOUR.**

[www.solarwashington.org](http://www.solarwashington.org)  
 Solar Washington's Biggest Yet!. 51 Sites. Tour Book sells for \$5.00. 206-619-9381

**OCT 7-10<sup>th</sup> 8<sup>th</sup> Annual UPEX Solar Electric Conference & Exhibition** Scottsdale AZ.  
[www.solarelectricpower.org](http://www.solarelectricpower.org) or call 202-857-0898

**OCT 11<sup>th</sup> SEI Workshop-Intro to Renewable Energy Guemes Islands.** Tuition is \$75.00 Contact [Ian.woofenden@homepower.com](mailto:Ian.woofenden@homepower.com) (360) 293-7448 (Home)

**OCT 13-18<sup>th</sup> SEI Workshop-PV Design & Installation Guemes Islands.** Tuition is \$550.00 Contact [Ian.woofenden@homepower.com](mailto:Ian.woofenden@homepower.com) (360) 293-7448 (Home)

**OCT 14-16<sup>th</sup> Sandia National Labs Presents “Solar Energy Systems Symposium.”** Albuquerque, NM. Sheraton Hotel Uptown. Connie Brooks at [cjbrook@sandia.gov](mailto:cjbrook@sandia.gov) 505-844-4383

**OCT 20-25<sup>th</sup> SEI Workshop-Wind-Electric Design and Installation** Guemes Islands. Tuition is \$550.00 Contact [Ian.woofenden@homepower.com](mailto:Ian.woofenden@homepower.com) (360) 293-7448 (Home)

**OCT 23&24<sup>th</sup> NWPPC –(Now known as NW Power and Conservation Council – NWPPC) “THE MIGHTY COLUMBIA” Seminar.**

**Washington State Convention & Trade Center in Seattle.**  
[www.theseminargroup.net/hrmls/seminar/03rivwa/index.htm](http://www.theseminargroup.net/hrmls/seminar/03rivwa/index.htm)  
 or call 800-574-4852.

**OCT 27-30<sup>th</sup> 6<sup>th</sup> Annual NW Solar Summit. “NW Utility Solar Programs – Finding Common Ground”** Sunriver, OR [jamesa@chelanpud.org](mailto:jamesa@chelanpud.org) (509) 661-4829

### NOVEMBER

**Nov 3-5<sup>th</sup> 8<sup>th</sup> Annual National Green Power Marketing Conference.** Chicago. IL [www.eere.energy.gov/greenpower/conference](http://www.eere.energy.gov/greenpower/conference)

**NOV 14<sup>th</sup> Salmon Crossroads Conference- Doubletree Hotel, Lloyd Ctr. Portland OR.**  
[www.nwcouncil.org](http://www.nwcouncil.org).

### 2004

February 16-21 SEI Workshop Developing World RE RanchoMastatal Costa Rica Tuition \$600.00  
[Ian.woofenden@homepower.com](mailto:Ian.woofenden@homepower.com) (360) 293-7448 (Home)

**July 10-14<sup>th</sup> SEA of O's & ASES Conference in Portland OR. A Solar Harvest: Growing Opportunities Can you volunteer?** DoubleTree Lloyd Ctr Hotel

August 22-27<sup>th</sup> ACEEE Summer Study on Energy Efficiency in Buildings. Pacific Grove, CA  
[www.aceee.org](http://www.aceee.org)

August 8-12 2005 ISES/ASES “Bringing Water to the Water” Orlando, FL. [www.ises.org](http://www.ises.org)

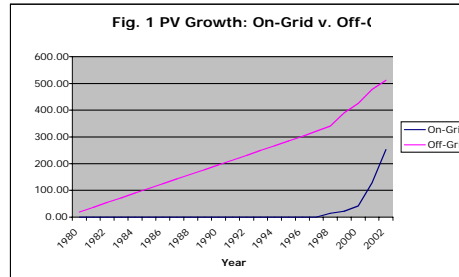


**Solar PV in Washington: It's Out There!** by Gary Shaver

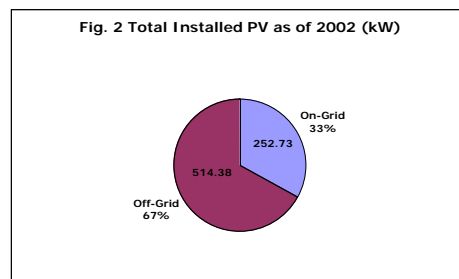
Last Year Washington State Extension Energy Service Conducted a Solar PV Survey in Washington: Here is the Overview!

**Preliminary Results**

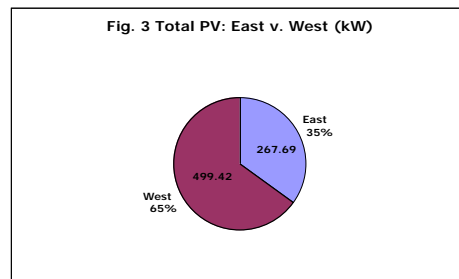
The preliminary results reveal that the adoption of PV in Washington is growing. As shown in Figure 1, on-grid PV is growing rapidly with an average annual growth rate of 335.39% since Washington's net metering law came into effect in 1999 and off-grid has shown an average annual growth rate of 114.06% since 1980.



As of 2002, installed PV in Washington is 767.11 kW. Of this total, on-grid accounts for 252.73 kW (33%) and off-grid 514.38 kW (67%) (See Figure 2).



Interestingly, of the total PV reported 65.1 percent is located on the rainy west side of the Cascade mountain range and 34.9 percent on the sunny east side (see Figure 3).



With regard to PV's contribution to Washington's total electricity generation, conservative capacity factors provided by WSUEP of 15 percent and 18 percent were used for systems located on the west and east sides of the Cascades, respectively. Calculations based on these capacity factors reveal that PV contributes approximately 1,078.32 MWh per year, which is approximately 0.001% of Washington's total electricity generation. Of this total, on-grid PV accounts for approximately 360.95 MWh per year and off-grid accounts for approximately 717.38 MWh per year.

**Summary**

Although seemingly inconsistent with its reputation as a gray and rainy state, this survey indicates that the adoption of PV in Washington is growing. This is so even though the state has some of the lowest electricity rates in the U.S. and there is little meaningful support from the state and federal governments in the way of incentives.

While it may be true that PV's contribution to Washington's overall electricity generation is small as of 2002, PV has all the necessary attributes to play a significant and meaningful role in electricity generation now and in the future. In addition to PV being a proven technology that continues to improve, it has great flexibility in application, it is environmentally benign, and it provides solutions to many of the security issues that have arisen since September 11.

Solar Washington's mission is to further the development for renewable energy and related arts, sciences, and technologies with concern for the economic, environmental, and social fabric of the State. We welcome any persons or organizations that raise the level of public awareness for this purpose.

## YES! SIGN ME UP

Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Phone \_\_\_\_\_ email address \_\_\_\_\_

- Enclosed is my **Corporate** Membership in Solar Washington. Membership includes email update on solar activities. This membership provides discounts on Workshop and newsletter mention. **Remit \$150.00**
- Enclosed is my **Professional** Membership in Solar Washington. Membership includes email update on solar activities. This membership also updates my **ASES** membership. **Remit \$100.00**
- Enclosed is my **Regular** Yearly Membership in Solar Washington. Membership includes email update on solar activities (Post High School Students Remit \$15.00 Plus ID, Youth (K-12) Remit \$5 Plus ID) **Remit \$40.00**

Please Send Checks To: Solar Washington, 889 Sands View Rd. Camano Island, WA 98292-7557

Solar  
Washington  
Association

2223 NW 43<sup>rd</sup> Ave  
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