



## UW Solar Installation Pierces the Clouds on Whidbey Island

### Whidbey Island, Washington

Thanks to the University of Washington and the Au Sable Institute of Environmental Studies, plants, animals and people are enjoying the benefits of solar power, in cloudy northwestern Washington. Under a grant awarded to the UW through the University National Park Energy Partnership Program (UNPEPP), a solar photovoltaic (PV) system is in operation at Ebey's Landing National Historical Reserve on Whidbey Island. UNPEPP is a national program striving to link university resources with national parks to provide energy services to the parks and real-world problem-solving opportunities to university students.

Energy consumption at our national parks is a growing concern, and photovoltaics offer a clean, quiet means for providing park facilities with power. PV systems can be tailored to fully meet a facility's energy demands or to reduce their dependence on existing grid power, providing electricity for a wide range of applications such as residential lighting, water pumping, communication systems and fence charging.

"This project is just a springboard for other projects in the future. PV could be the real prize in renewable energy. As the price comes down and the efficiency goes up, people will realize the value of it," said Professor Phil Malte of the University of Washington's Energy and Environmental Combustion Laboratory, who lead the Whidbey Island project.

Ebey's Landing was selected for this showcase installation because it is highly visible to the public. Within the reserve, the Au Sable Institute was found to have the best location for placement of the system because the roof of their library provides unobstructed southern exposure, which is important in order to take full advantage of available ambient light. The institute's focus on environmental education added greatly to the appeal of the site. "Au Sable is thrilled to collaborate with the National Park Service and the University of Washington on this vital program. We envision that this is only the beginning of significant moves for us toward more comprehensive renewable energy use." Said Robert Pelant, DVM, Au Sable Pacific Rim Director

For help with system design and product selection, the University chose Fire Mountain Solar of Mount Vernon, Washington. Tim Nelson, owner of Fire Mountain Solar, said this project brought some interesting challenges. "Because Ebey's Landing is situated under the flight path of the Whidbey Island Naval Air Station, it was critical that solar panels with a low glare rating be used. And because the chosen structure is registered as a historical landmark, it was important to minimize the visual impact of the system." Nelson admitted this project brings a high level of personal satisfaction as well. "As a kayaker and camper, my family and I have spent quite a bit of time in parks across the U.S. It is exciting to take part in a program designed to reduce human impact within a park, in addition to increasing public awareness of the feasibility and cost-effectiveness of solar energy in the maritime Northwest."

A common misconception is that solar energy is prohibitively expensive. And though a moderate investment is necessary, current federal tax breaks combined with state and utility incentives make it affordable for both commercial and residential consumers of electricity. "People think nothing of spending \$40,000 for a car that's value depreciates the moment it is driven off the lot. But for some reason they struggle with the decision to make a \$20,000 investment in their home that they will immediately benefit from financially by reducing their power bills," said Guy Knoblich, owner of Banner Electric in Mount Vernon, who installed the PV system along with Fire Mountain Solar. "One of the first questions people ask is 'What's the payback?'"

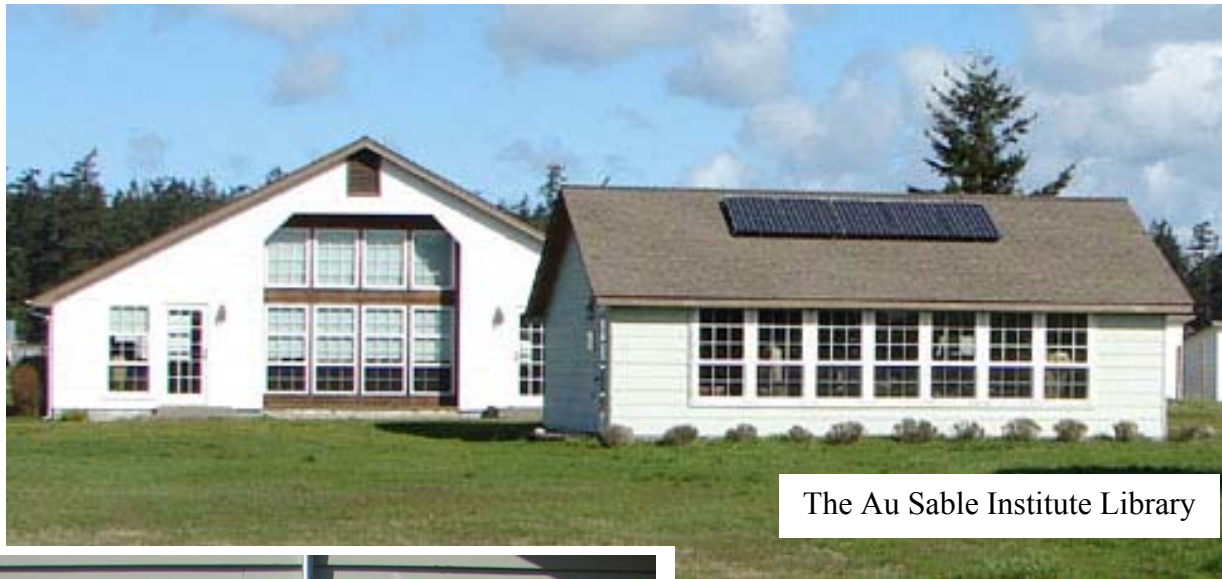
Payback is usually used to describe the time it takes for an investment to pay for itself. The basic assumption behind a payback calculation is that this is a discretionary expenditure; a person can choose to invest in energy equipment, or not, and if they don't, they can put that amount of money in the bank and with no risk, make some 3-4%. However, paying an electric bill is not a 'discretionary' expense for most people. By purchasing a solar electric system they can take money they would be "giving" to the electric utility and invest it in their home or business.

A residential system in western Washington will typically pay for itself in around 10 to 14 years. Considering that most solar panels come with a 25-year warranty, and have a 30-40 year design life, that basically means that after the first 14 years, they've paid for themselves, and then they go on to generate 'free power' for 15 to 25 years. "That's 30+ years of positive cash flow, money in your pocket in the form of avoiding electric bills. And in addition to reduced power bills, a solar electric system increases the value of your structure, should you decide to sell," added Nelson.

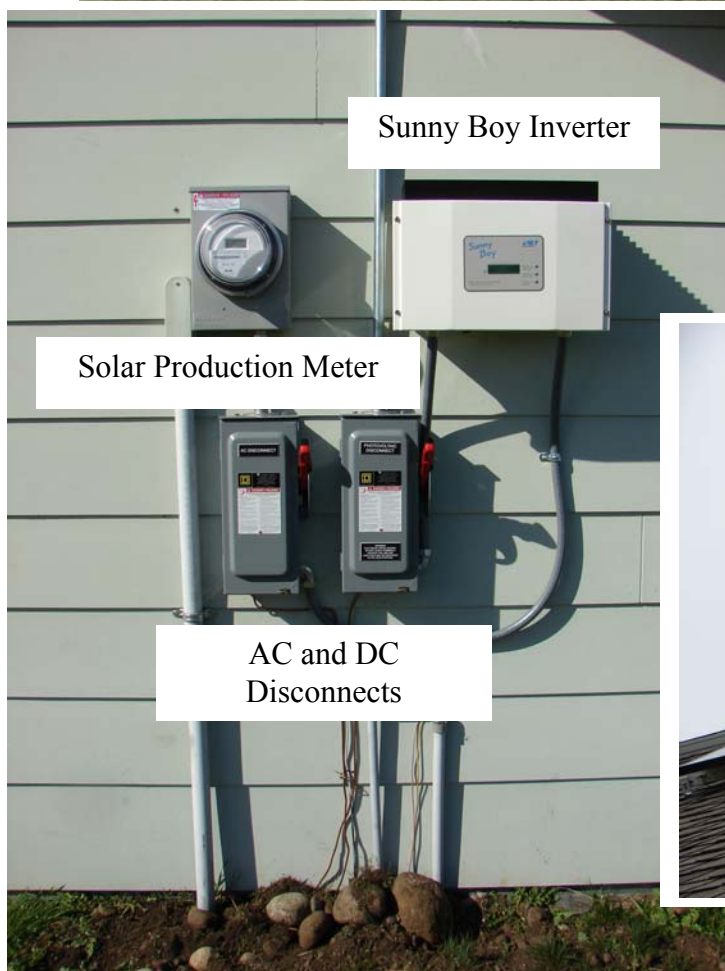
About University National Park Energy Partnership Program: [www.energypartnerships.org](http://www.energypartnerships.org)

About Au Sable Institute of Environmental Studies: [www.ausable.org/au.main.cfm](http://www.ausable.org/au.main.cfm)

About UW Energy and Environmental Combustion Laboratory: [www.energy.washington.edu](http://www.energy.washington.edu)



The Au Sable Institute Library



Sunny Boy Inverter

Solar Production Meter

AC and DC Disconnects



Tim Nelson of  
Fire Mountain Solar