

Energy

EFFICIENCY

News From BPA - Your Northwest Energy Partner

COMMITMENT KEEPS LOWER INCOME PEOPLE WARM AND EFFICIENT

BPA has a long-standing commitment to insuring that the electrically heated homes of low-income families served by public power are energy efficient and comfortable. And we are not done yet.

Originally set to end this coming September 1999, BPA's low-income weatherization program will now continue for two more years. After listening to concerns expressed by the four Northwest states and low-income advocates, Administrator Judi Johansen has decided to make about \$8 million available from September, 1999 until September, 2001 to keep low-income weatherization efforts alive. That translates to around 4,000 more weatherized homes. This extension creates a bridge between current activities and what will occur when the Conservation and Renewables Rate Discount is slated to go into effect.

"Just because you are on a limited income does not mean your home should be cold and uncomfortable. Or that it should waste valuable natural resources through inefficiencies," says Gene Ferguson, BPA's legacy conservation programs manager. "But, the less fortunate can't afford to insulate, so the rest of the region is left to pay for this waste of energy. It seems wise on our part to save our natural resources by investing in energy efficiency improvements for low-income households, something that benefits

us all. Add to that the gratified feeling that low-income families can live more comfortably and I call this a win-win program for everyone."

BPA's current program is run through the four Northwest states (Oregon, Idaho, Montana and Washington) that contract to local Community Action Agencies (CAAs) to do the work. The high level of training and dedication of the CAAs has given us a valuable, effective way to reach the low-income population. BPA applies the same standards as the Department of Energy (DOE) weatherization program. The

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Commitment Keeps Lower Income People Warm and Efficient

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CAAs already know these from their state DOE funded work, so using them makes for consistency and simplicity.

As we prepare for the next two years of BPA's weatherization program we are starting a new and more concentrated effort to reach Native Americans on tribal lands. We are asking tribal representatives to meet with BPA and the states to devise more effective methods of outreach. "The tribes are the experts here," says Ferguson. "We are wide open to their ideas and suggestions." He goes on to say, "We have talked to our state program managers who agree we can and should do better in reaching this population. They are as anxious as we, to make this work for the Native American communities."

Help for the low-income doesn't end in two years. After October 2001, the Conservation and Renewables Rate Discount is expected to create incentives for utilities to pick up the funding for low-income weatherization. If utility support is lower than expected, BPA has told the states that it will back-up funding through 2006.

- Gene Ferguson

Low Income Efforts Over the Years

BPA, in partnership with public utilities and Northwest states, has been in the business of insuring quality weatherization installations for low-income homes since 1983. Our goal has been to serve a proportionate share of low income. At 125% of poverty this is around 17% of the Northwest population.

Since our conservation programs began, BPA has paid for weatherization of 35,700 low-income homes. This equals about 14% of all the homes weatherized through BPA efforts. Spending has been in the neighborhood of \$50 million.

CUSTOMER FOCUS

Okanogan Makes Use of the Sun

Okanogan County Electric Cooperative (OCEC), with 2,500 members, serves seven members per mile of line in the Methow Valley in north central Washington. This rural valley has plenty of sunshine – more than Spokane or Lake Chelan. There are about 24 off-grid solar homes in the area and this year one co-op member who generates solar-electricity has signed up for grid-tied net metering.

Promoting the use of renewable energy has been and continues to be a special focus of conservation manager, Ellen Lamiman. It began in 1995, when a Washington State Energy Office grant helped make possible the installation of a utility interactive solar-electric system at the co-op's new headquarters.

A sun-tracking array of six solar panels in front of the office still surprises visitors. The photovoltaic system provides clean, uninterrupted power to the phone system, computers and some compact fluorescent lighting. The DC to AC power sine wave inverter is grid interconnected.

Utility power keeps the storage batteries well charged, and on weekends and long summer days excess solar-electricity is fed into the distribution system turning the co-op's meter backwards.

The solar system has performed flawlessly. Through minor system fluctuations and major transmission line outages, the phones and computers stay operational. After two years experience with the system the OCEC adopted a net metering agreement for members who generate solar-electricity. This action pre-empted and helped passage of the 1998 Wash. State legislature mandate that all utilities offer net metering for small-scale renewable power generated by their customers.

In 1998 OCEC added a stand-alone solar system to light its new outdoor sign and sponsored the first Solar Forum for public utilities. This informative and successful event was held amidst the full autumn sun and fall colors at Sun Mt. Lodge on a ridgetop above the Methow Valley. Fifty partici-

Okanogan Makes Use of the Sun

Continued

pants found the information timely and valuable and asked to have the forum repeated this year.

One of the Northwest's prime opportunities to discuss renewable distributed generation, the Solar Forum, will occur Oct. 26-29, 1999, at Sun Mt. Lodge in Winthrop, Wash. OCEC, along with the Washington State University Energy Programs, will again be an organizer and sponsor. This year's event will cover the technical advances, practical values and special programs for solar-electricity for utilities as well as the integration of fuel cells with renewable energy. Utility managers, board members, customer service representatives and engineers can all gain valuable information from this exchange.

Preregistration for the Solar Forum can be made by calling WSU Cooperative Extension Conference Planning Service at (509) 335-2954. Grant assistance makes the early registration fee for materials and all meals for the three-day conference only \$200. Rooms are available at the lodge for \$65 a night for single or double occupancy.



Localized distributed generation has been proclaimed the way of the future to meet increasing demands for power and reliability. Small-scale renewable power has an important place in this future. OCEC sees member-generated solar-electricity as useful in load management and in meeting public demand for green power.

Lamiman believes that renewable energy is a perfect partner for fuel cells. The inverter and battery system is the same for producing and storing electricity from solar panels or fuel cells. "It makes sense," she says "to use the sun's energy during the day to make electricity and to use fuels like propane, methanol, ethanol or natural gas, at night or when heat is needed."

- Ellen Lamiman

Okanogan County Electric Cooperative

EWEB Offers *The Bright Way*™ to Renewable Energy

Renewable energy services are not new to Eugene Water & Electric Board (EWEB). This Oregon public utility has been successfully offering them to consumers, in the form of a solar water heater program for nine years. Now other utilities can make this program work for them too.

The Bright Way to Heat Water™ is EWEB's demand-side management and customer service program that promotes the quality installation of residential solar water heating systems. Nearly 700 solar water heaters have been installed since EWEB began this effort in 1990. It is designed to give utility customers quality assurance and a sense of confidence in solar water heaters installed through the program. Field and time-tested technical specifications ensure a high degree of quality control, providing longer life and sustained performance of each system.

How the Program Works

To qualify, a customer must own the residential property (or be the owner's representative), and the property must have EWEB electric service and electric water heating. EWEB offers a cash incentive of up to \$600 based on estimated energy savings, and a zero interest loan of up to \$4,000. Participants may also qualify for state of Oregon tax credits.

To be eligible, solar water heating systems must be certified by the Solar Rating and Certification Corp. and pass an additional technical review by EWEB staff. Participating contractors must also meet minimum eligibility requirements and enter into a performance agreement with the utility.

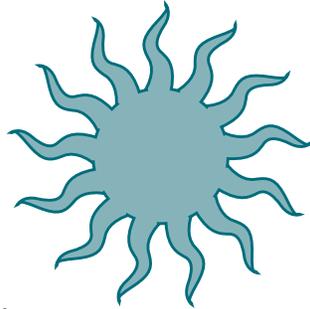
EWEB Offers *The Bright Way*™ to Renewable Energy

Continued

Customers contract for the sale and installation of a solar water heater directly through a participating contractor. The utility inspects the system after installation to assure all program requirements have been met.

It Could Be An Option For You

Other utilities can purchase *The Bright Way to Heat Water*™ as one way to expand their customer services into renewable energy. The complete, off-the-shelf program can make for an easy first step into the renewables arena. Several of EWEB's neighboring Oregon utilities (Emerald PUD, Lane



Electric Cooperative, the City of Ashland) and a Washington utility (Pacific PUD in Raymond, WA) have already bought *The Bright Way*™ program licenses and services.

For more information about EWEB's *The Bright Way*™ services, contact Gary Harlan or Steve Still at (541) 484-1125 or check out EWEB's Web page at www.eweb.org/services/electric/ems.

- Kathy Grey

Eugene Water and Electric Board

MARKET TRANSFORMATION

TWINKLE, TWINKLE ENERGY STAR®

BPA looks to make the ENERGY STAR® shine even brighter as the agency joins the U.S. Department of Energy and the Environmental Protection Agency's ENERGY STAR® product labeling program. An ENERGY STAR® logo on consumer products identifies them as energy-efficient, eliminating the need for the sometimes-confusing rating systems found on products in the past.

By signing an agreement on May 28, 1999, with ENERGY STAR®, BPA joins a national marketing initiative to increase consumer awareness of energy-efficient products and services in the United States. BPA, working closely with Northwest utility customers, will coordinate efforts to make ENERGY STAR® a household name and the ENERGY STAR® logo

most recognized as *the* symbol for energy efficiency in the marketplace. In the months ahead, BPA will reach out to utilities to enlist their support for this important effort. Several major utility partners as well as The Northwest Energy Efficiency Alliance, a consortium of investor-owned and public utilities in the region, have already indicated their support. In doing so, they'll be promoting ENERGY STAR®-labeled products through media advertising, bill stuffers and other customer awareness campaigns.

Terry Esvelt, vice-president for Energy Efficiency at BPA, sees this partnership as an exciting opportunity for North-

west utilities to remain in the forefront of conservation activism. Esvelt says, "we anticipate that many of our public power customers, especially those with limited budgets and manpower, will use the marketing power of ENERGY STAR® to stretch their conservation dollars." He adds, "with the availability of the Conservation and Renewables Discount funds beginning in 2001, utilities will have an additional resource to help spread the word about ENERGY STAR® to their customers."

At Seattle City Light, Marc Sullivan, Director of Strategic Planning, sees ENERGY STAR® as a vital part of their comprehensive conservation programs. "We see a lot of value in the focus on efficient equipment and in making it

easier for consumers to make good energy decisions. We are enthusiastic ENERGY STAR® Partners."

BPA, working closely with the ENERGY STAR® organization, will soon be sharing with utilities throughout the region additional details about ENERGY STAR® and how they can participate in this national marketing program.

In the meantime, to find out more about ENERGY STAR®, check out the Web site at <http://www.energystar.gov>.

- Ray Classen



PROJECT HELPS ADVANCE COMMUNICATION PROTOCOL

Helping to advance energy efficiency through technological innovations has been a long-standing focus for BPA. Once again we find the agency along with others from the Northwest, an active participant in a high profile, cutting-edge project. This time it's the first large-scale implementation of a building automation and control networks (BACnet) protocol.

The BACnet protocol is a key component of a multi-million dollar, third phase of a comprehensive project at the Phillip Burton Federal Building at 450 Golden Gate Ave. in San Francisco. The building is owned by the General Services Administration (GSA) and serves as its Region 9 headquarters. At 1.4 million square feet, it is the largest federal building west of the Mississippi River. GSA has contracted with BPA to help bring energy efficiency improvements to this facility.

Phase 3 involves replacing the building's existing inefficient central chiller plant with a new one that is CFC-compliant, and replacing the boiler plant. In addition to the energy management control system that uses BACnet, a unique chilled water system design contributes to the technical significance of the project. It is estimated that Phase 3 will save 2 million kilowatt-hours per year with an associated reduction in peak electric demand of about 1 megawatt.

BACnet is a data communication protocol. It is not a software or hardware. Rather, it is a set of rules that governs the exchange of data over a computer network. They make it possible for control products made by different manufacturers to be integrated into one cohesive system. The rules take the form of a written specification that spells out what is required to conform to the protocol. They cover everything from what kind of cable to use to how to form a particular request or command in a standard way. What makes BACnet special is that the rules relate specifically to the needs of building automation and control equipment, i.e., they cover things like how to ask for the value of a temperature, define a fan operating schedule or send a pump status alarm.

BPA, through its contract with GSA, has overall project manager responsibilities for Phase 3 activities. The bulk of the work and money for this project will go to the project's private sector general contractor and many subcontractors. Private firms, including some from the Pacific Northwest, will participate in the project that is expected to be complete by spring 2000.

More information about BACnet can be found in the ASHRAE Journal, Engineering Systems, HPAC, and other trade publications.

- Terry Regan

Fuel Cell Update

The fuel cell article in the April issue of the newsletter said BPA was taking its fuel cell project to the next step. And we have. BPA has signed an agreement with Northwest Power Systems (NPS) of Bend, Ore., to purchase up to 110 fuel cell units to test in homes. Delivery of the first 10 "alpha" units will be this fall. Northwest utilities will test the three kilowatt units for home use. NPS will take the information gained from the alpha testing, make any needed adjustments and build 100 "beta" test units. BPA will work with local utilities to place the test units in the homes of interested consumers over the next three years. Each of the beta units will cost about \$30,000. BPA will look to share that cost with local utilities and/or their customers who participate in the test. NPS expects the price of the proton exchange membrane (PEM) fuel cells to drop to about \$10,000 per unit when they become commercially available in 2002.

Green Sales Support Foundation Efforts

In last quarter's issue of the Energy Efficiency newsletter, a great deal of attention focused on the Pacific Northwest's appetite for clean and efficient energy. As reported, BPA has an inventory of environmentally preferred power that complies with the most stringent low-impact hydropower criteria and other environmental criteria available today, meaning that the power generated has little impact on fish and wildlife. All of BPA's environmentally preferred power is Green-certified.

BPA's environmentally preferred power is especially unique because a significant portion of the premium derived from sales goes to the Bonneville Environmental Foundation. In June of 1998, BPA joined forces with key Northwest environmental groups (the Natural Resources Defense Council, Renewable Northwest Project and the Northwest Energy Coalition) to form the Foundation.

The foundation is a charitable and nonprofit public benefit corporation dedicated to encouraging and funding projects that develop and/or apply clean, environmentally preferred renewable power and preserve, restore and/or sustain fish and wildlife habitat in the Pacific Northwest. It is not an agency of the federal government and activities undertaken will supplement, not supplant, the efforts of BPA.

The aforementioned interest groups have endorsed certain environmentally preferred renewable resources that BPA markets because they met stringent environ-

mental standards. BPA markets the power to purchasers who agree to pay a premium for this endorsed renewable resource. A significant portion of the premium, as designated by the interest groups, is paid to the foundation to support their activities.

"Those forming the new Bonneville Environmental Foundation all have the common goal of enhancing fish runs and wildlife habitat in the Northwest while investing in clean energy," said U.S. Senator Mark Hatfield (retired) and the president of the board of directors of the foundation.

A power purchase is not necessary to support the foundation. Private companies throughout the Pacific Northwest and beyond have made donations to show their support for the foundation. The foundation is a 501(c)(3) non-profit organization and all donations are tax-exempt. Angus Duncan is the foundation's executive director and can be reached at (503) 248-1905.

The foundation will benefit future generations in the Pacific Northwest by developing renewable resources and protecting and managing fish and wildlife habitat. Purchasers, at both the wholesale and retail level, have the unique distinction of knowing that their power dollars not only represent a show of support for renewable energy and a clean, healthy environment, but support the activities of the Bonneville Environmental Foundation.

- Claire Hobson

Visit Energy Efficiency's Web site at:
<http://www.bpa.gov/Energy/N/default.htm>



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**For more information please contact
Jenny Roehm (503) 230-5475 or Sharon Doggett (503) 230-5478
of The Bonneville Power Administration**

DID YOU KNOW

Did you know all current as well as past issues of the Energy Efficiency newsletter are located on our Web page at <http://www.bpa.gov/Energy/N/externews.htm>.

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Routing: NG-1
P.O. Box 3621
Portland, OR 97208-3621

We would like to hear from you.

Comments: _____

Article suggestions: _____

BPA's Energy Efficiency Representatives

Elly Adelman (503) 230-3679
Frank Brown (206) 216-4231
Shannon Greene (206) 216-4201
Tom Hannon (509) 358-7450
Rick Miller (509) 358-7464
Rosalie Nourse (509) 358-7463
Mike Rose (503) 230-3601
Chris Tash (509) 527-6217



Editor: Sheila Meyer
(503) 230-3059

Associate Editors: Nancy Vacca
..... Sharon Doggett