

From the VP . . .



Dear Valued Partner:

On September 24, 2001, Bonneville Power Administrator Steve Wright called for the Pacific Northwest region to establish a stable approach for delivering the conservation savings from energy efficiency programs. He stated, "Customers and private-sector programs need multiyear stability if they are to reach efficient levels in staffing, materials and equipment, and other support systems. This approach allows a multiyear funding commitment that provides the necessary infrastructure that will lead to lower-cost implementation of energy efficiency."

The past year has proven the value and benefits of using energy wisely. BPA's fiscal year 2002* Energy Efficiency program results reinforce the basic tenets espoused by the Administrator. Despite abundant supply and generally low, short-term electricity prices, regional demand for energy efficiency programs remains high. BPA's targets for energy savings were exceeded at a cost well under budgeted levels.

These accomplishments were made possible through our partnerships with customers and other entities in the Northwest. Those partners can be proud of the accomplishments of 2002: energy efficiency savings that will continue to provide benefits to the people of the Northwest for years to come.

In the future, Energy Efficiency will continue to seek opportunities to partner with customers to pursue low-cost conservation savings for the region.

A handwritten signature in black ink, which appears to read "Mike Weedall". The signature is fluid and cursive.

Mike Weedall
Vice President, Energy Efficiency

**October 1 - September 30*

Looking Back . . .

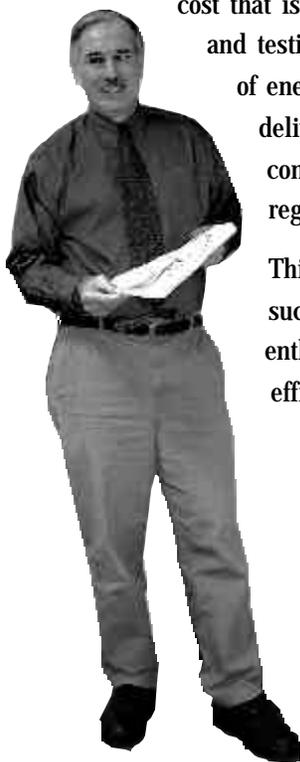
Working together, the Bonneville Power Administration (BPA) and its utility customers and partners have been world leaders in delivering results from energy efficiency programs for over two decades, achieving more than 840 aMW of conservation savings (see table 1 on page 3). We have accomplished this in spite of the roller coaster cycle of funding the region has experienced during this period. This variation in support has had significant impacts on the infrastructure that is needed to produce the cost-effective savings expected from our conservation programs. Recent studies by the Northwest Power Planning Council indicate that ramping these programs up and down may cost the region several hundreds of millions of dollars over the next 20 years.

The Energy Crisis of 2000-2001 reinforced the value of energy efficiency and created an awareness through all levels of our society. This provides a solid foundation to continue our efforts into the future. BPA and the customers that buy power from us were able to capitalize on this awareness to deliver more than 52 aMW of installed savings in 2002 (see table 2).

Looking Ahead . . .

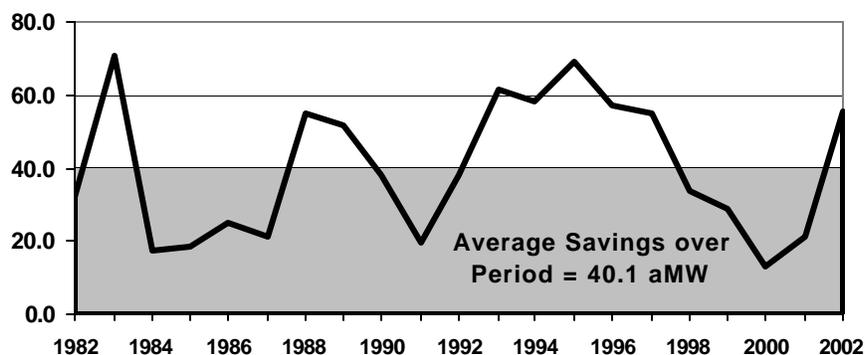
BPA remains committed to establishing a sustainable energy efficiency future. BPA will strive to meet its share of the Council's target for cost-effective conservation. Currently, this is 220 aMW over the rate period (2002-2006) from all of our programs. This means that we will have to continue delivering about 45 aMW of conservation savings each year (see table 3). BPA believes this can be done at a cost that is substantially below our historic levels. We need to continue developing and testing new concepts and ideas if we are going to maintain a sustainable level of energy efficiency activity. New initiatives will explore a variety of ways to deliver conservation savings at the lowest possible cost to BPA. BPA will continue to build on its strong tradition of cost-effective conservation and regional leadership.

This Year-in-Review offers summary descriptions of this year's programs and successes. Please share with us a deep feeling of satisfaction and renewed enthusiasm as we continue to reach our goals and help create a stable energy efficiency future for the region.



John Pyrch
Implementation Manager, Energy Efficiency

**Table 1: Historical Conservation Savings
(Total 842 aMW)**



An average megawatt is a term of art, used in the utility industry. It is the average amount of energy delivered or saved over a year's time.

Table 2: Fiscal Year 2002 Installed Conservation Savings*

	(aMW)
Conservation Augmentation	23.6
Utility Programs	14.6
Regionwide Programs	5.9
Federal Programs	3.1
Conservation & Renewables Discount	16.4**
Market Transformation	12.0
Low-Income Weatherization	0.3
Total:	52.3

*Savings from building codes (13aMW) are not included here. They are reported in Table 1 and will be in the 2003 Redbook.

**Savings estimate based on preliminary analysis of utility reports; numbers may change after more detailed analysis.

**Table 3: Projected Conservation Savings from BPA-Funded Programs
(aMW)**

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Acquisitions (ConAug & New Programs)	20	20	20	20
C&RD	15	15	15	15
Market Transformation	7	9	10	11
Low-Income Weatherization	1	1	1	1
Total:	43	45	46	47

Conservation Augmentation

Conservation Augmentation (ConAug) delivered 23.6 aMW from a variety of utility-initiated programs and BPA targeted acquisition activities.

Utility Programs

Utilities delivered 14.6 aMW of the ConAug savings. Forty new projects were placed under contract, bringing the total number of utilities that have contracts with BPA to 64. BPA contracted with customers for projects in all sectors in custom agreements and has signed agreements for Limited Standard Offers.

In Spring 2002, BPA held seven meetings throughout the region to discuss ways to improve the ConAug utility initiatives.

Water and Wastewater (BacGen)

BacGen worked with BPA to launch the Water/Wastewater Pilot which tested the viability of cost-effective energy conservation measures in municipal wastewater facilities. Under ConAug, BacGen implemented energy efficiency improvements in three wastewater sites and two freshwater systems in municipalities served by BPA public utility customers.

BacGen and Energy Efficiency, along with municipalities and utilities, learned the following lessons from the pilot.

- Measurement and verification indicate that actual savings are about 84 percent of predicted savings;
- Geographic grouping takes advantage of engineering fieldwork at proximate locations; and
- Developing centrally-monitored oversight capabilities increases efficiency.
- Measure costs were lowered while end-user benefits were enhanced and the expected energy savings maintained.



The pilot has been upgraded to a full-scale program. Seven additional sites have been completed, and more are in the pipeline. BPA pays a portion of the project cost while BacGen finances the remainder. Facility operators typically realize sufficient direct savings from the project to pay for the BacGen service while providing an ongoing financial return to the city.

Vending MiSer

The Vending MiSer is a power control device for soft drink and other vending machines. The Vending MiSer program was developed in response to drought conditions and high market prices. In return for exposure to more than 130 regional utilities, manufacturer Bayview Technology Group agreed to installation and reporting services at significantly reduced costs. BPA funded 10,355 units in 2002, which translates to 1.41 aMWs of savings.

Federal Programs

This past year was the best year ever for the federal reimbursable program.

- Energy Efficiency brought in over \$10 million in revenue from federal agencies in 2002 in support of energy efficiency and renewable energy projects.
- BPA received over \$1 million in net revenues through this support to other federal agencies.
- Approximately \$9 million in work was generated for private sector energy efficiency businesses.

Quick Start

The Federal Quick Start program is more than load reduction. BPA helps achieve several energy efficiency goals and objectives mandated by law. Partners included the U.S. Forest Service, General Services Administration, Department of Defense, and the Department of Energy, and others.

The Quick Start team completed over 50 projects. Most projects involved upgrades to old, inefficient lighting systems, with some HVAC improvements.

About 1 aMW of BPA electricity was conserved for less than \$11/MWh, and another 5 aMW are moving toward completion at an equally low cost.

The Quick Start team spent less than the equivalent staff time for one full-time employee to accomplish these results.

CFL Drop Ship Initiative

The Federal Columbia River Power System drop shipped compact fluorescent lamps (CFL) to all of the hydro projects in the system. Partners in the program, the Corps of Engineers and the Bureau of Reclamation, installed the CFLs. Bulbs are projected to last 5 years with an estimated energy savings of 2.7 aMW.



Residential Lighting Program

The year-long ENERGY STAR® CFL \$6 coupon campaign ended in December 2001 with over half a million CFL coupons redeemed in the first quarter of the year. This was equivalent to saving 4.52 aMW. Partners for market transformation were thrilled as the campaign wound down and over 6.5 million CFLs were sold regionwide, with over a million mailed out free. Utility customers redeemed more than 3.3 million coupons which represents about half of all the energy-saving bulbs sold.

A \$15 torchiere floor lamp coupon (TFL) campaign, run during the fall of 2001 into the spring of 2002, resulted in over 5,000 TFL coupons redeemed. That translates to 0.13 aMW of energy savings.

Public Benefits

Low-Income Weatherization

The BPA mission includes bringing the benefits of the Northwest resources to all the people of the region. Low-Income Weatherization has been a key component of fulfilling that mission. In 2002, EE continued its partnerships with the four northwestern states and the tribes in Low-Income Weatherization activities. BPA's financial support helped the tribes and Community Action Program agencies face the challenge of managing resources, workload and expectations in weatherizing low-income homes.

Market Transformation - Northwest Energy Efficiency Alliance

The Northwest Energy Efficiency Alliance has received BPA financial support for six years. BPA, on behalf of full requirements customers, funded \$7.5 million in 2002. A majority of BPA utility customers are partners in



activities such as ENERGY STAR® and Better Bricks®. These programs boost consumer awareness regarding energy efficient products. BPA's contributions helped deliver 12 aMW of conservation savings in 2002.

Tribal Conservation Efforts

BPA continues to partner with Tribes.

- The Nez Perce Tribe participated in a BPA and Washington State University Energy Extension project that will compare the energy usage of a Super Good Cents Manufactured Home and the Tribe's new Zero Energy Manufactured Home (see page 9).
- The Quinault Nation actively supported energy conservation with its low-income weatherization program and BPA "Classroom in a Box" kits.
- Architects who designed the new casino for the Nez Perce Tribe were referred to the commercial building consultant at the Better Bricks® program.
- The Siletz Indians, the Warm Springs Tribe, and the Tulalip Tribes worked with BPA to implement a low-income weatherization program for their tribal housing.



Renewable Energy Resources

Energy Efficiency participated in a wide variety of renewables projects in 2002 in partnership with other federal agencies, state agencies, and businesses.

Super Good Cents Manufactured Homes

Super Good Cents (SGC) manufactured homes made headway in 2002 thanks to strong partnerships with the Northwest Energy Efficiency Alliance, state energy offices, utilities, and the northwest manufactured housing industry.

Utilities acted as the driving force to increase the penetration of SGC standards in the manufactured housing market from 40 percent in 2001 to 60 percent in 2002. Fifty-four utilities gave SGC incentives ranging from \$200 to \$1,830 to the buyer and from \$100 to \$200 to the sales consultant. The Alliance continues to work with utilities interested in offering similar incentives.

BPA signed a new two-year contract with Good Cents Solutions, a Georgia-based company, extending the right for utilities, the states, and the manufacturers to continue using the SGC logo in promoting energy efficient homes in the region. BPA has committed to support the program through at least 2004.



Renewable activities came under the reimbursable umbrella, a win-win agreement for all participants.

Other federal agencies are aiming to meet executive orders to promote renewable energy. EE collaborated to design, procure, and/or install photovoltaic systems. For example, during the year, three systems (totaling 20 kW) were installed at General Services Administration facilities in Wenatchee, Richland, and Auburn, Washington.

In October 2002, EE launched a solar metering data page on BPA's external website. The meters measure net AC energy generated to grid from grid-connected solar photovoltaic panels and inverters.

An easy to use solar selector can quickly and accurately help determine the best location for a solar application, such as a water heater. A compass and level on the base of the selector is used to align the device, and a grid pattern seen through the eyepiece shows daily and seasonal movements of the sun.

Customer Service

Despite staffing limitations, Energy Efficiency continues to emphasize customer service through the Energy Efficiency Representative (EER) assigned to each customer. We also continue to provide customers with limited engineering and other technical assistance. EE heard customers when they asked for more input on program design. A series of roundtable meetings were held throughout the year to discuss Conservation Augmentation and the Conservation & Renewables Discount program. The EERs help to plan the agendas and coordinate these meetings to ensure that all customers have an opportunity to participate.

Survey Preferences, Praise, and Criticism

Each year BPA conducts customer satisfaction surveys. Public and People's Utility District customers made up the majority of respondents to the EE survey this year. Key results are listed below.

- Average EE performance was rated 7.9 (out of 10 possible);
- Customers criticized the reduction in staff and the lengthy turnaround time for contracts;
- Customers requested more technical staff support and more lead time for program implementation; and
- EE received kudos for creating the Conservation & Renewables Discount and Conservation Augmentation.

Conservation & Renewables Discount

The Conservation and Renewables Discount (C&RD) is one of BPA's main tools to foster the implementation of electric energy conservation and renewables projects through customer utilities. Since the funding mechanism was established in the 2002-2006 BPA Rate Case, one result has been a stable funding source for conservation and renewables activities in the region. Of the customers that qualify, 129 participated in the C&RD in 2002.

Customers have taken seriously their obligation to spend C&RD funds on qualifying activities sometime during the rate period. Participating utilities chose a wide range of activities to fund energy conservation in the residential, commercial, industrial, or agriculture sectors. Customers:

- Funded residential, commercial, industrial, agricultural, and utility system energy conservation projects;
- Funded nonprofit organizations that educate the public about energy conservation or renewable generation;
- Funded Community Action Programs that run low-income weatherization programs;
- Purchased output from renewable generation resources; and
- Spent funds doing Research, Development, and Demonstration projects to explore potential conservation or renewable technologies.

This was the first full year of the C&RD and the list of accomplishments is long. Customer input and the public review process led to positive changes to the program. Reporting software became fully operational and software training was conducted.



A Tillamook County, Oregon, dairy barn was a noisy place before the variable speed drives were installed under the C&RD.

As part of BPA's effort to promote small scale renewables, BPA purchased from the Eugene Water and Electric Board the "Bright Way to Heat Water™" solar water heating program for all customers to use. This purchase allows regional utilities to establish a higher standard for residential solar water heating installations and ensures that such installation will continue to operate as intended for 20 years. The C&RD continues to support the deemed credit at current levels.



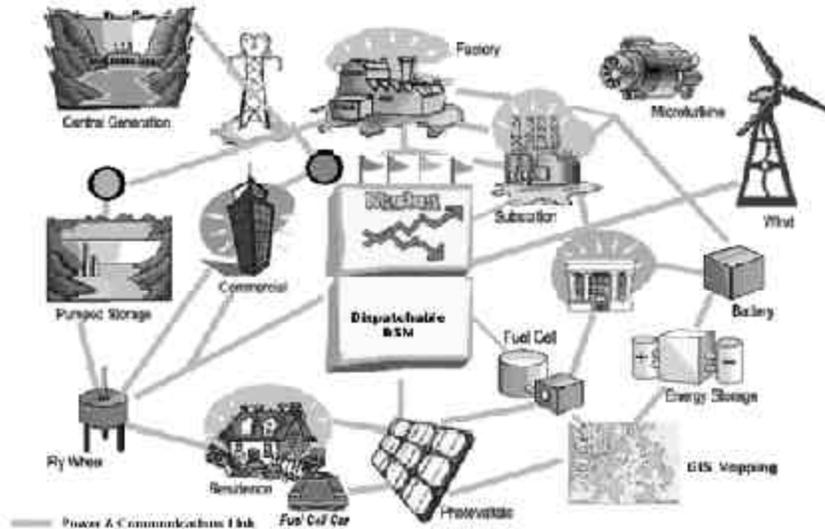
Accomplishments

- Since February 2001, nearly 19 aMW's of electric energy savings have been reported and approximately \$46.5 million of the C&RD Credit has been claimed;
- About \$28 million of the funds were claimed for residential energy conservation measures;
- Fourteen utilities and the Energy Trust of Oregon are running Performance Tested Comfort Systems Duct Sealing programs and have sealed almost 1,500 forced air heating system duct systems; and
- Two utilities are running the Performance Tested Comfort Systems Heat Pump Diagnostics Program and have serviced over 300 heat pumps.

Customers made use of the following:

- The energy savings templates, which are available when claiming over 100,000 kWh of annual energy savings;
- Over 25 calculators such as the deemed calculator for flat plate heat exchangers for cooling milk, for vacuum pumps, and for ENERGY STAR® transformers and distributors; and
- Free on-line software and reporting training.

The EnergyWeb



In 2002, the EnergyWeb team continued building a foundation for the grid of the future.

The team partnered with several Oregon entities – NW Natural, PacifiCorp, the City of Portland, and the Oregon Office of Energy – to install at 200 Market Street, Portland, the first combined heat and power application of a 30 kW microturbine in the region (and the country to our knowledge). See data and project pictures on the BPA web site at www.bpa.gov/200market.

EE teamed with Celerity Energy, Portland, in Phase 1 to sponsor three EnergyWeb forums for utilities and industry to forge partnerships. A number of customers, the Bonneville Environmental Foundation, and others will plan EnergyWeb applications to demonstrate. Approved projects await additional financing from outside sources.



Ten 3 kW IdaTech fuel cells were installed for field testing. In September, the PGE fuel cell was unveiled,



the first grid-connected system in the program. BPA also co-sponsored three distributed generation code workshops in partnership with the U.S. Department of Energy.

Mike Weedall, EE Vice President, serves on the Consortium for an Electric Infrastructure for a Digital Society steering committee. Project advisory groups are focusing on long-term (5-10 years) activities to redefine the electrical grid system. These activities will demonstrate control technologies with aggregated resources such as distributed generation, renewables, and demand-side management.

Demand Exchange: Cross Agency Collaboration

The Demand Exchange, an Internet peak load reduction program, was preserved in 2002, but the reality of market power prices dictated that no offers were made to use the program. EE laid the foundation for a demand exchange with the BPA Transmission Business Line (TBL) with a demonstration project on the Olympic Peninsula.



Zero Energy Manufactured Home

In September, a Zero Energy manufactured home was displayed in Spokane, Washington, then sited in Idaho. BPA and an array of partners helped demonstrate that an energy efficient manufactured home is an affordable reality, not a dream, for builders and buyers.



International Activities

The U.S. Department of State (DOS) minimized overall costs for U.S. Embassy posts worldwide. They partnered with BPA and several Northwest firms to complete over 20 projects in diverse locations worldwide. BPA costs were fully reimbursed. These projects:

- Saved taxpayer money;
- Ensured safety and reliability for U.S. Embassies overseas;
- Provided opportunities for engineering staff to sharpen skills;
- Utilized the power of on-line capability;
- Generated over \$1 million in projects for Northwest businesses;
- Facilitated the Transmission Business Line in U.S. Agency for International Development-sponsored infrastructure development plans in south Asia; and
- Received the Federal Energy and Water Management Award in October 2001 for the systematic global refitting of lighting and controls in six remote countries.



Education, Outreach, and Marketing

Marketing: Save a Watt

BPA partnered with Belo Marketing Solutions, Hydrogen Advertising, and utilities to launch a marketing campaign funded by both public and private resources in January 2002. The Save a Watt (SAW) campaign encourages people and business owners to take



responsibility for and make investments in long-term energy efficiency. The SAW character brings instant recognition to the message: "It is everyone's responsibility to use energy wisely". This message was present in television programming, advertising, websites, events, and retail sponsorships. The SAW character appeared at sporting events, conferences, numerous parades, county fairs, and other utility events.

Utilities used the SAW Co-Marketing Kit CD, which contains various-sized print advertising, 11 energy tips, and a bill-stuffer.

For end users, SAW provided information needed to make wise, cost-effective investments in energy efficiency. Energy efficient investments add to system stability.

Education and Outreach

Past efforts continued

In 2002, Energy Efficiency teamed with partners and:

- Supported the second annual Harvesting Clean Energy Conference held in Idaho in February.
- Helped with the annual SolWest event in John Day, Oregon, in July,

- Assisted with the Northwest Renewable Energy Festival held in Walla Walla, Washington, in September.
- Constructed and exhibited traveling models of passive solar applications with the Solar Energy Association of Oregon.
- Displayed energy efficiency exhibits at local events such as fairs, conferences, parades, sports events, and utility celebrations.
- Sited a second energy efficient playhouse at the Bonneville Dam Visitor Center highlighting energy efficiency, ENERGY STAR®, and renewables.
- Provided Classroom-in-a-Box kits to utilities for distribution to fourth grade teachers in their service territory.
- Completed photovoltaic installations at ten schools.

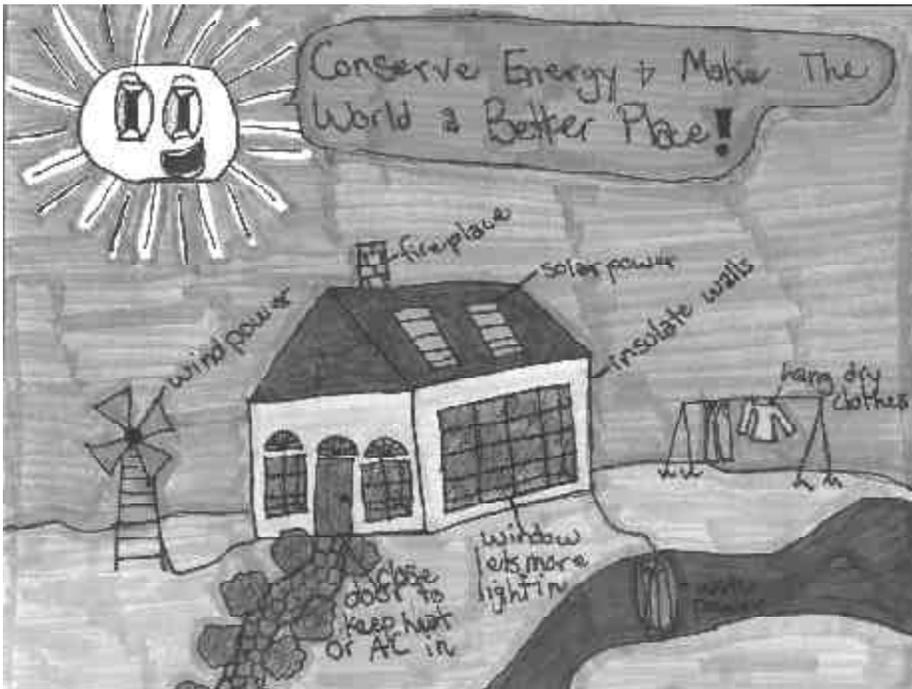


New efforts begun

EE provided brochures and information to customers throughout the year for end-users. We also partnered with customers and other entities to provide various educational opportunities:

- Utilities received the new Spanish version of EE's Energy Saving Tips brochures for end users.
- Utilities received simplified, one-page heat-pump users guides.

- Viewers checked school photovoltaic output metering statistics on the EE website: <http://www.bpa.gov/Energy/N>.
- Customers provided nearly half of the information and photos for the quarterly EE customer newsletter.
- Eight load-following utilities accepted a pilot program for seventh grade: **Get EcoSmart!**
- In September, utilities co-sponsored the first “Save a Watt” Poster Contest for eighth grade students.
- Lane Community College, Eugene, Oregon, offered a Renewable Energy Technician degree, aiming to replicate their success in previous years with the Energy Management certificate program.



A student in Inland Power and Light's service territory won the Save a Watt Poster Contest.

For more information, contact your local Customer Service Center:

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