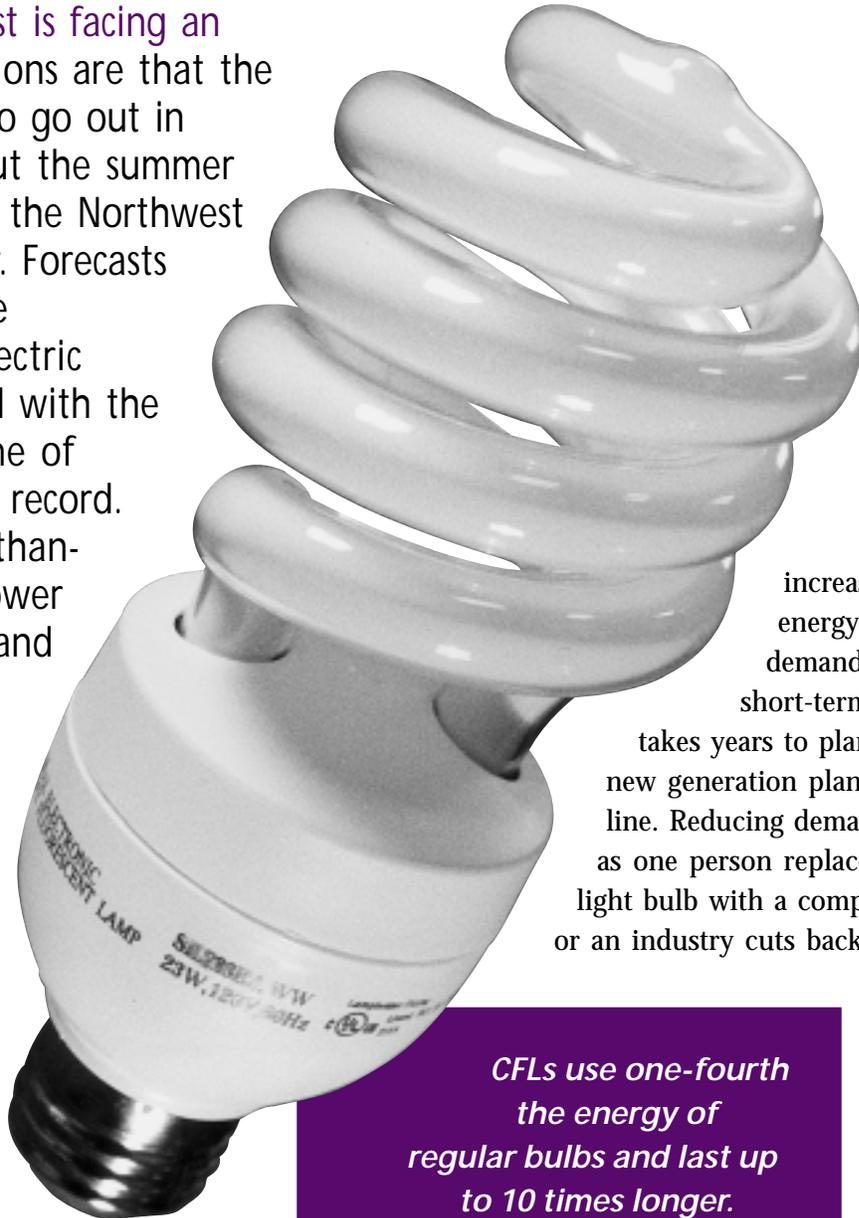


# keeping CURRENT

May 2001

## Taking on the energy crisis: Providing tools for conservation and load reduction

The entire West Coast is facing an energy crisis. Predictions are that the lights will continue to go out in California throughout the summer and energy prices in the Northwest will continue to soar. Forecasts also suggest that the Northwest's hydroelectric system must contend with the second-lowest volume of water in the 72-year record. That means far-less-than-normal water for power and for threatened and endangered fish.



**T**he region can confront the energy crisis by

increasing its supply of energy or by reducing its demand for energy. The short-term choice is clear. It takes years to plan, permit and build a new generation plant or a transmission line. Reducing demand can begin as soon as one person replaces an incandescent light bulb with a compact fluorescent bulb or an industry cuts back production.

*CFLs use one-fourth  
the energy of  
regular bulbs and last up  
to 10 times longer.*



## The challenge

When BPA finished signing up all its customers during the power Subscription process in 2000, it found itself about 3,000 average megawatts short of the energy it needs to meet all the load its customers want to place on the agency. Five years ago, when BPA's power costs were high relative to the market, some customers chose to remove all or part of their load from BPA to pursue more inexpensive power in the market. The market has changed dramatically, and most of the utilities that left the agency are coming back to BPA. BPA is required by law to serve them.

Faced with a regional shortage of power, BPA has challenged individuals and businesses in the region to reduce electricity use. If businesses, industry and individuals reduce their energy consumption enough, the potential rate increase forecast for this October can be brought down from 250 percent or more to under 100 percent.

The challenge is great, but it is not unrealistic. Between 1980 and 2000, BPA and its utility partners used conservation to save 780 average megawatts. That's more than enough power to supply the city of Portland for a year without using any resources and without producing any pollution.

In December 2000, BPA, anticipating the potential for a winter electricity shortage in the Northwest, joined with the governors of Oregon and Washington to urge conservation and load reduction in homes and businesses. In addition, the agency ran advertisements

in 17 newspapers throughout the Northwest that provided information on how homeowners and businesses could save money and energy while saving

*BPA is offering utilities and industries financial incentives to achieve conservation and load reduction.*

water for fish and future generation needs. The appeals were successful. On Dec. 11, during the winter's first energy emergency, citizens and businesses reduced the region's peak load by 825 megawatt-hours during the evening.

During the recent years of low energy costs, conservation seemed to take a back seat. Now that the region is in a period of energy shortages and high prices, it's important to rebuild and maintain awareness of demand reduction, conservation and renewable power as smart and effective ways to use resources.

## Tools for utilities

Along with the challenge, BPA is providing leadership through programs that offer local utilities and industries financial incentives to achieve conservation and load reduction.

The agency has created a host of programs to accomplish those ends. Most of the programs are targeted to large industries because huge savings can be gained from a few sources. Some programs, however, are designed for utilities to deliver to individuals and small businesses. Home conservation has the advantage that it can often save the homeowner money while reducing the energy deficit.

To support home conservation, BPA has created a coupon redemption program to encourage the use of Energy Star® compact fluorescent light bulbs. Customers of participating utilities will receive coupons worth \$6 off the cost of compact fluorescent light bulbs. The program is a partnership with BPA's customers, and it can be a way a customer utility can broaden the impact of another of BPA's programs — the BPA Conservation and Renewables Discount (see next page).

The VendingMiSer™ is another tool. Vending-MiSer™ power control units will be attached to many of the region's vending machines as early as June. The VendingMiSer™ plugs into an electrical outlet and the vending machine plugs into it. The device powers down all electrical components of the machine during the time, such as nights and weekends, when it is not

being used. A motion sensor mounted above the machine detects when people approach and turns the machine back on. The contents of refrigerated vending

machines stay cool and fresh.

BPA

expects the region to be able to reduce its use of electricity by as much as 15 average megawatts through the program. That is enough energy to power

15,000 homes for a year. The units will be offered to bottlers through local electric utilities.

*The VendingMi\$er™ is a device that powers down vending machines at times, such as nights and weekends, when they are not being used.*

---

## The Conservation and Renewables Discount and Conservation Augmentation

**W**hen the agency offered its power contracts, they included an option to encourage energy conservation and the development of renewable energy resources — the Conservation and Renewables Discount. BPA also created Conservation Augmentation to buy conservation as part of its effort to augment its base power supply. Both efforts were scheduled to begin in October 2001 with the new rate period. However, because of the energy crisis, BPA implemented both in February so they could begin producing results.

The **Conservation and Renewables Discount** gives utilities and direct service customers (primarily aluminum plants) a discount on their power purchases from BPA when they create conservation or renewables programs **beyond** what they already had in place or scheduled for implementation. The programs can be

conventional or innovative — participants are encouraged to be creative and design programs unique to their circumstances. What matters is that the programs are cost effective. The Conservation and Renewables Discount is budgeted at \$40 million a year for fiscal years 2002 through 2006.

Utilities that certify they are already spending more than 3 percent of their retail revenues on qualifying conservation activities are exempt from the requirement to use the discount on programs beyond what they already have under way.

If utilities and the DSIs don't initiate programs and use all the budgeted funds, BPA will use them itself to promote conservation and renewable power generation.

BPA is also pursuing renewables projects outside this program. For example, the agency recently sent out a request for proposals for wind power that produced about 2,600 megawatts of proposals.

**B**PA must augment the power generated by the Federal Columbia River Power System dams and the power it buys from the Columbia Generating Station (the nuclear plant formerly called WNP-2). Rather than simply go to the extraordinarily high market to purchase all the power it needs, BPA has chosen to fund conservation for a portion of that need.

BPA has several active efforts under **Conservation Augmentation**. BPA sent out an invitation to reduce load through conservation to its utility customers. Customers are responding with proposals, both innovative and traditional, that they have designed to be successful in their particular settings. The customers specify the type and quantity of conservation to be achieved, the delivery system, the cost and the payment method. BPA is reviewing the proposals and entering into bilateral negotiations with utilities that submit promising proposals. Utilities have an opportunity for up to 10 years of financing. The agency has not set any particular price it will pay — it all depends on the nature of the proposal — nor has it set any limits on how much can be spent in this activity. Partnerships with other federal agencies under the Conservation Augmentation umbrella are working to lower the

power demand at dams, office buildings, hatcheries and military bases. For example, the U.S. Army Corps of Engineers is replacing hundreds of incandescent light bulbs with compact fluorescent bulbs throughout its dams.

---

## Demand reduction at the industrial level

**D**emand reduction is not traditional conservation, but it can provide immediate relief on the demand side. BPA has created two programs to reduce the demand of large users during times of critical shortages.

The agency's **demand reduction** program targets large consumers of electricity, such as aluminum companies. By buying back power from these large consumers, BPA reduces demand on the system and saves both money and water that can be used later for fish passage and power generation. So far, the effort has reduced demand by 1,300 megawatts during targeted hours.

The **demand exchange** program encourages large users of electricity to either reduce demand or provide additional generation during what are termed high-load hours — the hours when electricity is in greatest demand.

When BPA is facing an immediate shortage of power during high-load hours, it provides notice on an

Internet site. Companies that have signed up for the program can see the price BPA is offering for power curtailment. If the timing and price work for a company, it will respond with an offer of an amount of power the company pledges to curtail. BPA then confirms or declines the offer.

The offer must be at least 500 kilowatts and last at least one hour. Large blocks of power over longer periods of time are preferred. So far, 13 companies have signed on for the program. Since last December, 7,000 megawatt-hours have been curtailed as a result of the program. That's enough power to keep Seattle going for three hours.

**T**he region won't be able to rely on load reduction, conservation and renewable resources to supply all the demand that has followed economic growth in the region, but it can certainly use these approaches to reduce the amount of new generation the region will require.

And, while preparing to bring new generation and transmission on line, BPA will work with its customers, utilities and industries alike to sponsor cost-effective load reduction and conservation. It is the right short-term strategy for many reasons. One important reason is that it puts the ability and the responsibility to help create a new energy future for the Northwest in the hands of those who use the power.

Every individual, utility and industry can help overcome the current energy crisis.

*BPA's  
demand reduction  
and demand exchange  
programs target  
large consumers of  
electricity.*

---

## For More Information

For additional copies of this publication, call BPA's Public Information Center at (503) 230-7334 in Portland, Ore., or outside Portland at 1-800-622-4520.

