



Fact Sheet

September 2017

Energy efficiency — bringing value to the Northwest

BPA and its partners make energy efficiency the Northwest's second-largest power resource.

You can't see it, hear it or smell it, but you can count it one kilowatt-hour at a time. BPA and its electric utility customers have saved more than 1,750 average megawatts of electricity through energy efficiency over the last 37 years. If that low-cost, carbon-free power were a generator, it would be second only to Grand Coulee Dam — the largest electric power producing facility in the United States.

By building the Northwest's second-largest power resource, BPA and its utility customers have avoided building other, more expensive and less environmentally friendly resources, such as coal fired and natural gas power plants. Through energy efficiency programs, Northwest residents enjoy comfort and convenience, lower electric bills, cleaner air and a stronger economy.

Efficiency first

Why does the Northwest's largest power marketer want to save energy? BPA's mission is to provide safe, reliable power at the lowest possible cost to its electric utility customers and rate-payers. Energy efficiency is the most cost-effective way to meet customers' power demands. Plus, it complements BPA's clean power portfolio, which includes marketing carbon-free energy from 31 federal dams in the Northwest, as well as electricity from the Columbia Generating Station, the region's only nuclear power plant. Energy efficiency allows more people and businesses to benefit from the clean and reliable hydropower system.



BPA began building its energy-efficiency powerhouse in the late 1970s. In 1978, after suffering through a foreign oil crisis, Congress passed a law (repealed in 1987) to prohibit the building of new gas-fired plants, leaving coal or nuclear plants as alternatives to meet growing power demands. But the Northwest, accustomed to hydropower, chose an untried path.



Enter the Pacific Northwest Electric Power Planning and Conservation Act of 1980. It called on the region to do more with its existing power resources, and it put energy efficiency in the same category as generating resources, a radical idea at the time. The Act required BPA to perform in alignment with the Northwest Power and Conservation Council (the Council), an organization that works with regional stakeholders to set energy efficiency targets for the region, and to make energy efficiency its first choice resource for meeting the region's growing power needs. With no guidebook to follow, BPA cast a wide net for new ideas, paving the way for the innovative, effective energy efficiency programs in place today.

Value of energy efficiency

Cleaner air

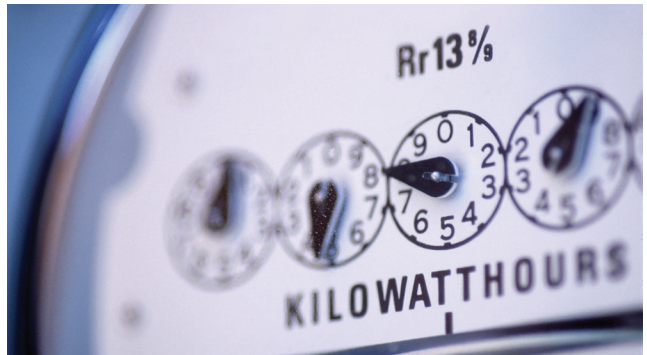
The Northwest has the lowest intensity of greenhouse gas emissions in the country, according to the Council. More than 3,600 tons of carbon dioxide emissions are avoided for each average megawatt of energy efficiency savings. The carbon dioxide reduction benefit since 1982 is equivalent to taking more than one million cars off the road.

Lower energy bills

Energy efficiency saves the region's energy consumers nearly \$3.5 billion in avoided electricity costs each year. When you consider the costs of a power project over its lifetime, energy efficiency comes in at about \$17 to \$18 per megawatt-hour, which is less than half the cost of a new natural gas plant. Even during difficult economic times as the growth in power demand slows, energy efficiency remains a wise investment, given its affordability and the region's long-term outlook for load growth.

Stronger economy

Energy efficiency saves money for the people, businesses and industries of the Northwest, allowing them to invest back into the region's economy. More directly, implementing an energy efficiency project requires skilled labor. BPA and public power utilities' investment in energy efficiency supports jobs in every Northwest community.

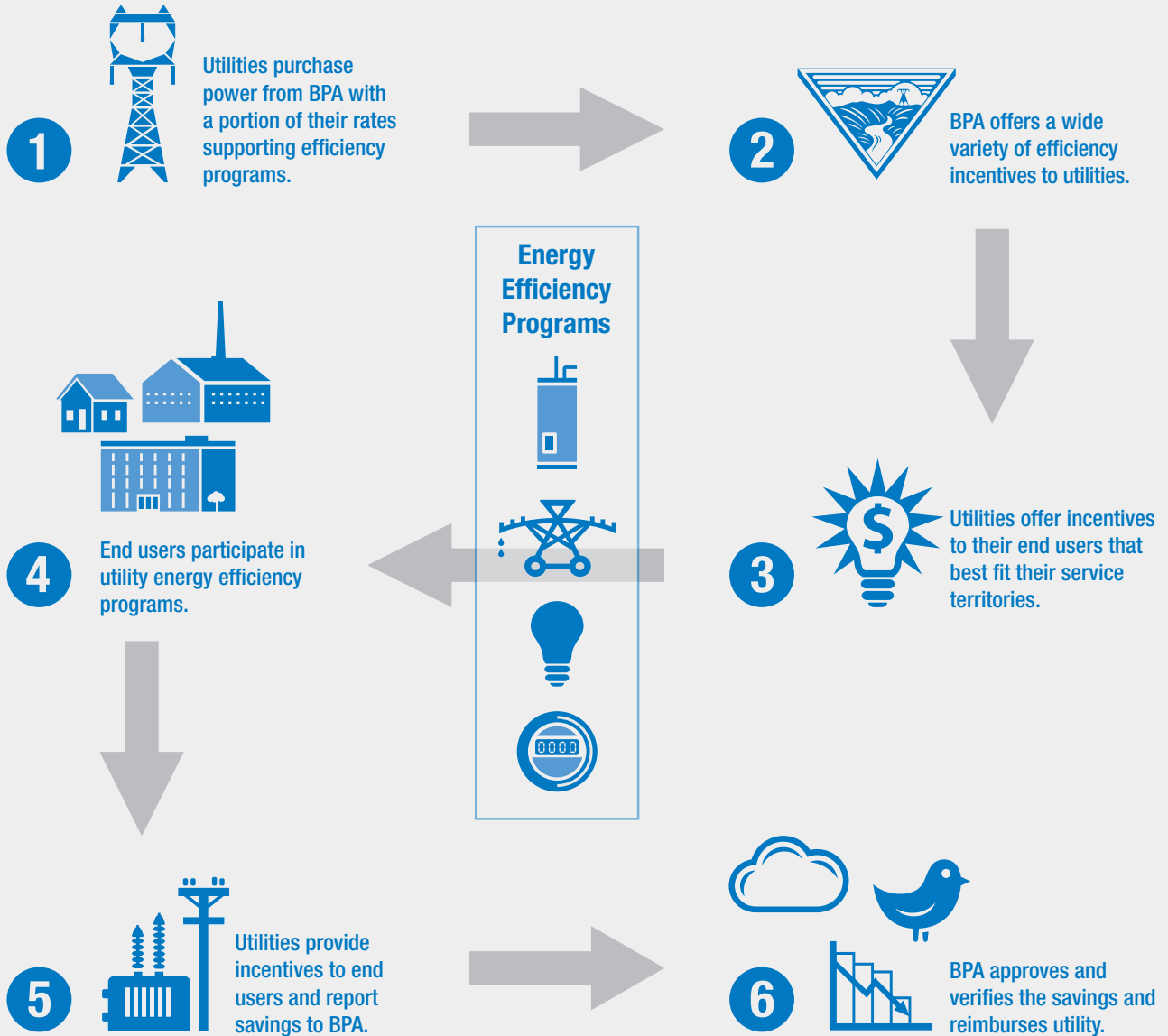


Acquiring savings

Meeting the Council's energy efficiency savings target is a regional effort. As a wholesale power marketer, BPA does not work directly with individual energy consumers. Instead, it works with its electric utility customers to develop programs and incentives that encourage more efficient energy use in homes, businesses, industrial facilities, and the irrigation and agriculture industry.

When BPA's utility customers purchase power from BPA they also invest in energy efficiency. A portion of the rate paid for power goes to support BPA's investment in a regional energy efficiency program. The primary component of BPA's Energy Efficiency program is a

How BPA and its customers acquire energy efficiency.



ENERGY EFFICIENCY FACTOIDS

1,499+

Number of aMWs BPA and its power customers have saved through energy efficiency since 1980.

#2

Energy efficiency is the region's second-largest power resource (behind only hydropower).



The carbon-dioxide benefit of energy efficiency in the region since 1982 is equivalent to taking nearly one million cars off the road.

suite of efficiency measures it offers to its electric utility customers. Customers can choose from a variety of measures to implement and report to BPA for payment. These measures cover every sector of the economy and range from residential smart thermostats to massive industrial motors. This flexibility allows BPA's utility customers to pick the programs that best serve their retail power customers.

In addition to offering a suite of cost-effective measures to its customers, BPA develops regional programs that offer turn-key services tailored to specific market opportunities. These programs offer economies of scale that couldn't be achieved by BPA's individual utility customers and deliver a standardized programmatic approach across the region.

Before implementation, each BPA program must meet rigorous standards to ensure it will provide a cost-effective, reliable resource. BPA tracks and verifies the amount of energy savings that its customer utilities gain and this measurement and evaluation ensures that the region can count on the energy savings acquired.

Beyond guiding the delivery of energy efficiency opportunities and programs, BPA plays a number of other roles in fostering efficiency in the Northwest. From overseeing the reporting and verification of energy savings for the Northwest Power and Conservation Council and participating in the Council's processes for developing regional power plans, to coordinating with the Regional Technical Forum on developing and maintaining methods to estimate savings, costs and the life cycle of energy efficiency measures.

THE EE TECHNOLOGY PIPELINE

Technologies currently on the shelf won't be enough to meet the Northwest's long-term energy efficiency targets. That's why BPA funds the research and development of new technologies. Through the Emerging Technologies for Energy Efficiency program, known as ET, BPA works with experts across the region to research new technologies that show potential value for BPA and Northwest electric utilities.

BPA conducts research and demonstration projects to understand the readiness, availability, potential savings and other criteria of new technologies. The ET initiative, like all of BPA's energy efficiency efforts, draws from a broad network of partners that provide research and other program support. These collaborations are supported by two online resources BPA helped develop: www.E3TNW.org, a database of information about new technologies; and Conduit, a web-based resource that facilitates information sharing and coordination among energy efficiency professionals in the Northwest.

BPA's Office of Technology Innovation also plays an important role in the future of energy efficiency. Through the National Energy Efficiency Technology Roadmap, BPA engages a diverse group of experts across North America to determine what to study, test and pursue next. Via Technology Innovation's annual research portfolio, BPA continues to search for ways to save energy, reduce costs and operate the power system more efficiently.

For more information about BPA's energy efficiency programs, go to www.bpa.gov/ee.

