



SECTOR OVERVIEW

Residential Energy Efficiency



The residential sector of the economy includes electrical energy efficiency opportunities in single-family residences, multifamily residential structures and manufactured homes.

The Northwest Power and Conservation Council's Sixth Power Plan recognizes that the residential sector presents significant opportunities for local utilities. Of the 504 average megawatts of savings the plan calls on public power to capture over the next five years, BPA estimates 132 average megawatts exist in the residential sector.

BPA has focused its residential energy efficiency programs on the areas with largest potential savings: lighting and showerheads; appliances; heating, ventilating and air conditioning; and weatherization.

BPA supports residential energy efficiency programs with financial incentives to utilities. These incentives can reduce the cost of upgrading to energy efficient options for utility customers and help offset utility implementation costs. The specific reimbursement varies by program. For specific amounts, please see the BPA Energy Efficiency Implementation Manual.

Residential energy efficiency opportunities

Lighting and showerheads

Utilities may claim energy savings for accelerating the replacement of inefficient lighting and showerheads. To assist in these efforts, BPA built on the success of the former regional Change a Light promotion and created a new regional program offering that includes compact fluorescent lights, efficient lighting fixtures and showerheads. Some light emitting diode (LED) lighting has been added to the product mix in 2012.

BPA's Simple Steps, Smart Savings™, is run by Fluid Market Strategies and is designed to help utilities reach

aggressive energy saving goals. In addition to regional retail promotion support, BPA offers a variety of participation options in the Simple Steps, Smart Savings™ promotion. Whether a utility needs access to direct mail options or is looking for a turnkey direct-install program, the Simple Steps, Smart Savings™ promotion offers a full suite of support to meet the needs of utilities. For more information, visit www.partner.simplestepsnw.com.

Appliances and electric water heaters

BPA continues to provide deemed energy savings and reimbursement to support ENERGY STAR-qualified appliances, including clothes washers, refrigerators and freezers. BPA also supports refrigerator/freezer decommissioning and energy efficient electric water heaters. For more information on ENERGY STAR appliances, visit www.energystar.gov.

Heat Pump Water Heaters

Heat Pump Water Heaters (HPWH) use electricity to move heat from one place to another instead of generating heat directly, a much more efficient means of heating your home's water. In homes with electric water heating, it accounts for between 15 and 20 percent of electric energy use. Some new heat pump water heaters have been shown to reduce this by up to 50 percent.

In 2009-2012 BPA's Emerging Technologies Team conducted lab and field testing of integrated heat pump water heaters and in October 2011 the Regional Technical Forum determined that the current generation of this technology can provide cost-effective savings for domestic water heating in the Pacific Northwest. BPA added measures for integrated heat pump water heaters in April 2012.



For more information on BPA's unitary heat pump water heater measures, visit www.bpa.gov/go/hpwh.

For more information on BPA's unitary heat pump water heater testing, visit www.bpa.gov/energy/n/emerging_technology/projects.cfm.

Ductless heat pumps

Ductless heat pumps provide a smart alternative to inefficient existing electric baseboard, wall or ceiling heat. Ductless heat pumps use 25 to 50 percent less energy than electric resistance heating systems.

The Ductless Heat Pump Project drives adoption of ductless heat pumps in single-family homes by accelerating market adoption and promoting quality installations throughout the region. The program partner, Fluid Marketing Strategies, provides training, maintains a site registry and performs site inspections on a percentage of jobs as a quality assurance measure. The project is supported by the Northwest Energy Efficiency Alliance and BPA.

For more information, visit www.bpa.gov/resHVAC/.

For more information on NEEA's continuing support of marketing and quality assurance, visit www.nwductless.com.

BPA's Emerging Technologies Team is currently testing ductless heat pumps in additional applications, including cold climate and small commercial applications, single-family homes with forced-air furnaces, and manufactured and multifamily homes with zonal electric heat.

For more information, visit www.bpa.gov/energy/n/emerging_technology/projects.cfm.

Performance Tested Comfort Systems

Performance Tested Comfort Systems is a BPA-sponsored certification program for residential heat pumps and duct systems. A heat pump commissioned by a Performance Tested Comfort Systems certified technician is installed to the highest level of performance for home comfort and energy savings. The certified technician (a contractor) is trained to properly size systems, install heat pumps and seal ducts to standards above code. Through the program, contractors are trained on specifications and how to submit paperwork to the Performance Tested Comfort Systems site registry. BPA provides training and maintains the site registry while utilities or their designated contractors will perform site inspections on a percentage of jobs as a quality assurance measure. The program certifies air- and ground-source heat pumps, duct sealing and duct testing.

For more information, visit www.bpa.gov/resHVAC/.

Weatherization

Weatherization measures continue to be a mainstay for many utilities' energy efficiency program portfolios. BPA offers incentives for weatherization, including insulation, windows and air sealing. In the coming year, BPA will explore alternative delivery mechanisms for weatherization that emphasizes simplified, sample-based verification procedures, increased marketing and outreach, and possible trade ally support.

Low-income weatherization

BPA will provide incentives for low-income weatherization measures in electrically heated homes for insulation, windows, air sealing and duct sealing. Low income is defined in the Federal Weatherization Assistance Program as 200 percent of the poverty income levels. Approved statewide definitions substitute for federal low-income weatherization programs in some states.

New construction

ENERGY STAR and Built Green site-built homes:

BPA will accept claims for new homes certified compliant with ENERGY STAR standards by the state certifying organization. Qualifying claims differ by state. In Washington, measures are available for both ENERGY STAR and Built Green single-family new construction. In Montana, BPA also offers incentives for new homes built to the Montana House specification.

Manufactured homes: BPA provides regional support for new, electrically heated manufactured homes certified by the Northwest Energy Efficient Manufactured Homes program as ENERGY STAR compliant, including Eco-Rated Homes.

New multifamily construction: New residential^{1/} multifamily construction that is made more efficient than code or standard practice may be eligible for incentives. Deemed measures eligible to be added to multifamily homes include ENERGY STAR lighting measures, ENERGY STAR clothes washers, ENERGY STAR refrigerators, ENERGY STAR freezers and cost-effective gravity-film heat exchangers.

For more information

Please visit www.bpa.gov/go/residential.

^{1/} Residential multifamily is defined as five or more dwellings within the same structure, no more than three stories. Multifamily housing above three stories is considered commercial construction and must be submitted as a custom project proposal under the Commercial Sector.