BONNEVILLE POWER ADMINISTRATION

BPA ENERGY EFFICIENCY

RESIDENTIAL

NEW OPPORTUNITIES GUIDE

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Introduction

The Bonneville Power Administration, or BPA, energy-efficiency program is continuously evolving to meet Public Power's share of energy-savings targets laid out by the Northwest Power and Conservation Council's Power Plan. Strategically, BPA also uses energy efficiency to address future energy-resource constraints in a cost-effective manner. To achieve these two goals, BPA periodically reviews program offerings. This Residential New Opportunities Guide is a resource that utilities can use to help identify measures, programs and opportunities that support their energy efficiency programs. For more information on the complete suite of Residential sector program components and offerings, please consult the BPA Implementation Manual.

Residential Measures

BPA has changed its focus on residential measures to better align with our resource program and system needs, and adapt to the transformation of the residential lighting market. BPA is focusing our infrastructure and program support on measures that reduce residential heating and cooling loads, and high-efficiency water heating, while continuing to offer a more extensive suite of measures.

This Residential New Opportunities Guide will help utilities focus on priority measures that will assist utilities with keeping their power rates low and provide insight into what BPA is doing to support utilities in their implementation of these measures.

Sector Offerings

Residential energy efficiency is primarily offered through Unit Energy Savings, or UES, measures in Section 10 of the BPA Implementation Manual. The BPA engineering team is available for custom projects for technologies that aren't available in the Implementation Manual or projects that address a whole-building approach, such as multifamily retrofits.

Priority measures in the Residential sector include:

WEATHERIZATION

In late 2020, BPA plans to launch Comfort Ready Home, a new program which will support utilities with the implementation of residential weatherization measures. Implementing residential weatherization can be challenging; therefore, BPA is building a team to provide utilities with needed support, and to ensure utilities and their end-use consumers have well-trained contractors available to perform the work.

BPA's priority weatherization measures include:

10.10.1 INSULATION

Adding insulation to attics, walls and floors can significantly reduce home heating costs and help ensure homes are more comfortable by providing a better distribution of heating and cooling flows. Insulation is a priority measure for BPA because the resulting energy savings align with the region's need for additional electricity resources. To help utilities implement residential insulation measures, BPA recently tripled payments for most completed projects.

10.10.2 PRIME WINDOW REPLACEMENT

Replacing older single-pane windows can help reduce drafts, improve comfort and reduce home heating costs. Prime window replacement complements insulation measures by helping to reduce drafts. To help utilities implement residential window replacement measures, BPA recently doubled payments for most completed projects.

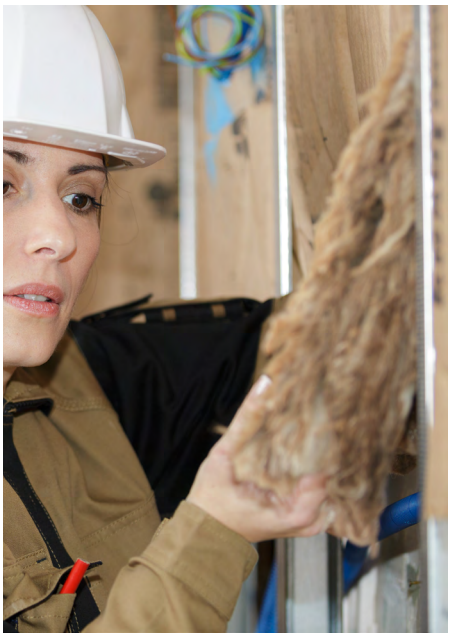
10.10.5 WHOLE HOUSE AIR SEALING AND TESTING

Whole-house air sealing and testing allows contractors to find the sources of air leaks and seal them so conditioned air stays in the home and air from unconditioned spaces, such as attics and crawlspaces, stays out of the living space. Whole-house air sealing and testing compliments residential insulation measures by helping ensure potential energy savings from insulation is achieved and improving indoor air quality.

Most residential weatherization measures are also available with higher payments for verified low-income customers under Section 10.10.7 Low-Income Energy Efficiency Measures.

ComfortReady HOME

Real Comfort. Real Savings. Real Smart.



HEATING, VENTILATION AND AIR CONDITIONING

BPA provides payments for high-efficiency HVAC equipment, including ducted air source heat pumps, ductless heat pumps, ground source heat pumps and thermostats. BPA also manages an equipment commissioning program, Performance Tested Comfort Systems, or PTCS, which ensures air source heat pumps, ground source heat pumps and duct sealing are installed in a manner most likely to achieve energy savings, long-term reliability and home comfort. More information about the PTCS program is available on BPA's website.

Over the next year, BPA will focus on ensuring the energy-savings reliability and cost-effectiveness of all residential HVAC measures. BPA is also creating new measures in response to increasing regional cooling loads and changes in technology.

BPA offers incentives for many HVAC technologies both through the PTCS program and outside of it. BPA's priority residential HVAC measures include:

10.7.2.1 AND 10.7.2.2 PTCS AIR SOURCE HEAT PUMPS

The PTCS program offers commissioning for air source heat pumps, among other technologies, following a stringent specification to help ensure energy savings, reliability and home comfort from installations of air source heat pumps. BPA is currently simplifying the PTCS program to make it easier for contractors and utilities to participate and report savings.

10.7.4 AND 10.7.5 ASHP CONVERSIONS (WITHOUT PTCS)

BPA also offers payments for air source heat pumps based on their energy-efficiency levels. While this measure doesn't include the commissioning components of PTCS, it allows utilities to claim energy savings without the additional technical and reporting components of PTCS.

10.8.2 ADVANCED SMART THERMOSTATS

Advanced smart thermostats reduce the energy consumption of electric forced air furnaces and air source heat pumps by optimizing furnace run times, and responding to household behaviors to reduce overall heating energy use. BPA's specification for advanced smart thermostats is more stringent than many utility specifications for the technology, which ensures higher energy savings and allows payments that can cover the whole product cost of lower cost-qualified products.

Some residential HVAC measures are also available with higher payments for verified low-income customers under section 10.10.7 Low-Income Energy Efficiency Measures.

10.5.7 UNITARY HEAT PUMP WATER HEATERS

Heat pump water heaters can reduce home water heating costs by as much as 50%, and the technology is rapidly advancing to become more reliable and retain performance under a wider range of ambient temperatures. However, determining whether a home is a good candidate for a heat pump water heater can be challenging. BPA works with the Northwest Energy Efficiency Alliance, or NEEA, Hot Water Solutions program, which helps consumers understand if the technology is right for them, and connects them to incentives and contractors.

BPA provides payments for unitary and split-system heat pump water heaters, but the implementation focus is on unitary systems because they have a lower cost. Over the next year, BPA will increase its focus on providing support to contractors so they can increase their heat pump water heater installations.

10.6.1 ENERGY SAVER KITS

Energy Saver Kits provide instant low- or no-cost energy-saving measures to customers by request. The kits are a great way to welcome new residential customers and also offer a small amount of relief to customers who want to reduce their electric bills. BPA has measures for a range of Energy Saver Kits, many of which are fully funded by BPA incentives. Your energy efficiency representative, or EER, can provide more information about available vendors that assemble and distribute kits.

10.2.5.2 BEHAVIORAL ENERGY SAVINGS

In April 2020, BPA offered a new measure for residential behavioral home energy reports. These reports are provided by qualified third-party vendors listed on our qualified programs list. Behavioral Home Energy reports provide information on household energy use to end-use consumers, tips on further reducing energy consumption, and can be used to promote targeted energy-efficiency measures to consumers based on their home's energy use. This measure complements BPA's weatherization, HVAC and water heating measures by further helping consumers understand how they may benefit from energy-efficiency upgrades and connect them to helpful utility programs.

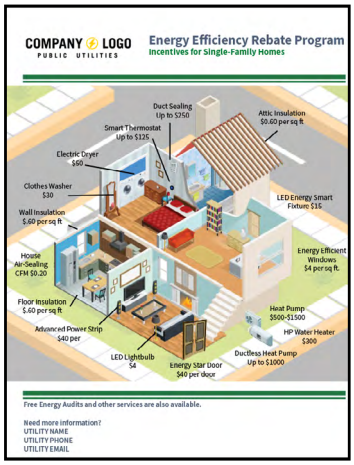
BPA Resources

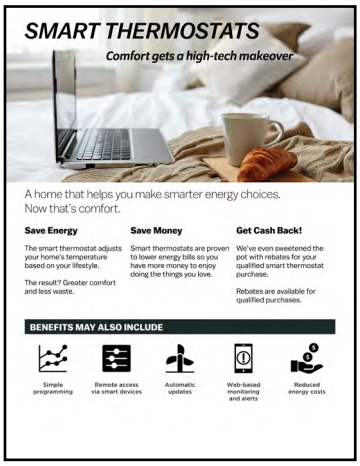
The following resources are available to help utilities optimize their working relationships with BPA, program operations and other personnel to support utilities in their work to achieve better energy efficiency and savings.

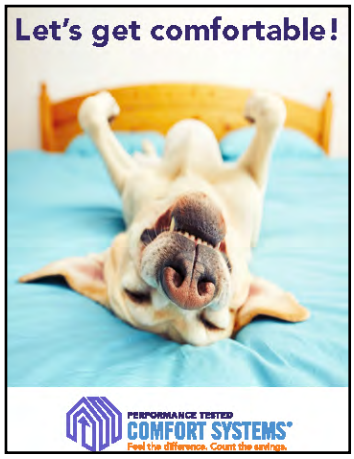
MARKETING MATERIALS

The primary tool BPA's Energy Efficiency Program Marketing team uses to help utilities communicate with their customers about energy efficiency is the Energy Efficiency Marketing Portal. The portal offers a range of easily customizable, ready-made marketing materials, and an image library to help utilities communicate about the benefits of energy-efficiency products and current rebate offers. Marketing resources are also located on the Residential Marketing Toolkit page on bpa.gov, but for ease of use, they are not password protected.

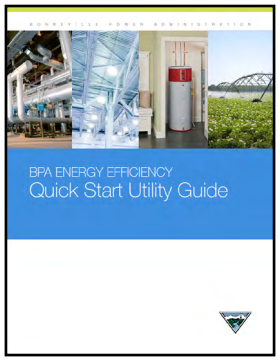
Utilities may also work directly with the Program Marketing team to adapt portal materials if they lack the capability or resources to work with the files, or need a level of customization beyond what the portal offers. Your EER and the BPA marketing staff are happy to help you find a solution that meets your needs.







GETTING STARTED WITH RESIDENTIAL PROGRAMS



Getting access to Residential sector resources starts by first contacting your EER. Beginning in January 2021, utilities will also have support available through the Comfort Ready Home program. BPA also offers support for PTCS installations through ResHVAC@BPA.gov.

You can also consult the BPA Energy Efficiency Quick Start Utility Guide for information including overviews, references, links to additional resources for common tasks, and activities and responses to your potential questions.

CUSTOMER SERVICE

EERs are accountable for building and maintaining customer relationships, and act as the key means to support Energy Efficiency's communication with utilities. EERs lead the Customer Service Team — composed of the EER, field engineer and the contracting officer's representative — for each utility. EERs work with all BPA staff, third-party staff and contract support to provide oversight, coordination, and the execution of communication to and from utilities. Your EER should be your first point of contact for any questions, comments or concerns about BPA's Energy Efficiency program. If your EER doesn't know the answer, he or she will find it and get back to you or put you in touch with the right person.

The EERs can bring in one of BPA's subject matter experts, or SMEs, such as the program manager, engineer or sector lead. If a visit to the project site would help, BPA's engineers or an SME may be available to perform a field visit or provide a building model to estimate potential energy savings.

USER GROUPS

BPA convenes regular and ad-hoc workgroups to help inform and advise our residential energy-efficiency work.

- **Low-Income Workgroup:** BPA convenes utilities, Community Action Agencies and public interest groups on a regular basis to discuss best practices for serving low-income customers through energy-efficiency programs. The workgroup is open to the public.
- **PTCS Quality Assurance:** BPA holds a monthly workgroup for utilities that implement their own PTCS Quality Assurance inspections. The workgroup offers guidance on program refinement and development as well as insights into daily operations and market trends.
- **Weatherization:** BPA holds an informal weatherization workgroup for utility customers to update to the Weatherization Specifications and Best Practices Field Guide. The group meets on an as-needed basis and is open to all interested utility customers.

If you are not on these user group lists or have not been invited in the past 6-12 months, please inform your EER so you can be added to the invitation list.

Measure Summary Table

The payment levels described in this table provide a summary only and can change. Complete, up-to-date details of the payment levels and associated requirements are in the Residential Sector section of the Implementation Manual.

RESIDENTIAL	
PROGRAM COMPONENT OR MEASURE	**PAYMENT**
10.2 Lighting	
10.2.1 LED Lamps	$0.75–$9/LED
10.2.1 LED Fixtures	$1–$9/fixture
10.2.2 TLEDs	$3–$5/TLED
10.3 Advanced Power Strips	
10.3.1 Advanced Power Strips: Load Sensing (Home Entertainment Centers)	$15–25/unit
10.3.2 Advanced Power Strips: Infrared Sensing (Home Entertainment Centers)	$0/unit
10.3.3 Advanced Power Strips: PC Interaction Sensing (Personal Desktop Computers)	$0/unit
10.4 Appliances (New)	
ENERGY STAR® Clothes Washers	$15–$100/washer
ENERGY STAR® Clothes Dryers	$50–$175/dryer
10.5 Electric Water Heating	
10.5.1 Showerheads	$15–$23/unit
10.5.2 Thermostatic Shut-Off Valves	$14–$23/unit
10.5.3 Aerators	$3–$8/unit
10.5.4 Unitary Heat Pump Water Heaters	$300–$600/water heater
10.5.5 Split System Heat Pump Water Heaters	$800/water heater
10.5.6 Pipe Insulation	$5–$25/unit
10.6.1 Energy Saver Kits	
10.6.1 Energy Saver Kits	See the payment section of this measure in the Implementation Manual.
10.7 Heating, Ventilation, Air Conditioning (HVAC) Measures	
10.7.1 Ductless and Ducted Mini-Split Heat Pumps	See the payment section of this measure in the Implementation Manual.
10.7.2–10.7.5 Ducted Systems	See the payment section of this measure in the Implementation Manual.

RESIDENTIAL	
PROGRAM COMPONENT OR MEASURE	**PAYMENT**
10.8 Thermostats	
10.8.1 Line Voltage Thermostats	$18/unit
10.8.2 Smart Thermostats	$100-$125/unit
10.9 New Construction	
10.9.1 NEEM 1.1 Manufactured Homes	$1,200/home
10.9.1 NEEM 2.0 Manufactured Homes	$1,400/home
10.9.2 Manufactured Home Replacement	$2,200-$2,500/home
10.9.3 Single-family New Construction Performance Path	Varies based on measures installed
10.9.4 Montana House	See the payment section of this measure in the Implementation Manual.
10.9.5 Energy Efficient New Multifamily Construction	See the payment section of this measure in the Implementation Manual.
10.9.6 Zero Energy Ready New Multifamily Construction	See the payment section of this measure in the Implementation Manual.
10.10 Weatherization (Standard Income)	
10.10.1 Insulation	See the Unit Energy Savings (UES) Measure List in the IM Document Library
10.10.2 Prime Window and Patio Door Replacement	$2–$16/square foot
10.10.3 Low-E Storm Windows	$2/square foot
10.10.4 Exterior Insulated Doors	$40/door
10.10.5–10.10.6 Whole House Air Sealing and Testing	See the UES Measure List in the IM Document Library.
10.10.7 Weatherization (Low-Income)	
Low-income weatherization, ductless heat pumps, air source heat pumps, heat pump water heaters, duct sealing, and smart thermostats	See the payment section of this measure in the Implementation Manual.
13.2.5 New Residential Measures	
13.2.5.1 Level 2 Electric Vehicle Chargers	$20/charger
13.2.5.2 Behavioral Home Energy Reports	$12 per household
13.2.5.3 Duct Insulation	$0.60 per linear foot insulated