



**Recently Completed**

**Non-Industrial Custom and ESRP Impact Evaluation**

Bonneville Power Administration (BPA) recently completed an impact evaluation of the non-industrial custom program portfolio and the Energy Smart Reserve Power (ESRP) program for measures that completed invoicing in Fiscal Year (FY) 2023.

**Key Findings**

- The non-industrial custom and ESRP program portfolio is highly cost effective, with \$1.99 in benefits for every \$1 spent.
- The evaluation identified data issues that led to BPA under reporting savings for Option 2 utility projects, resulting in a 337 percent savings realization rate.
- For Option 1 utility projects, the evaluation found some issues with savings model calibration and normalization that led to a 77 percent savings realization rate.
- The realization rate for the Energy Smart Reserve Power Program was 105 percent.

**Recommendations**

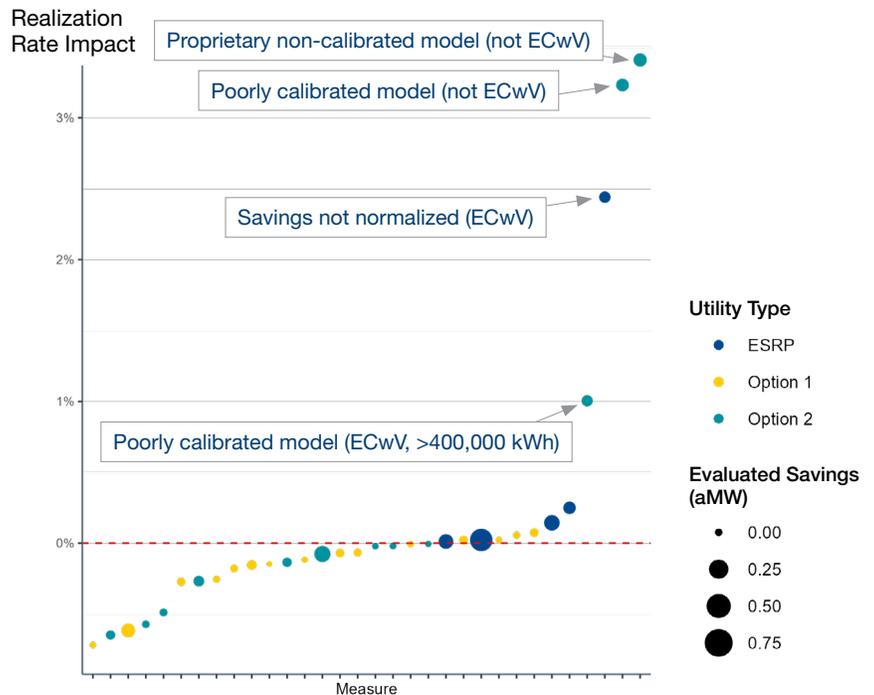
The evaluation recommends that BPA review Option 2 project savings, especially large projects, compared to BPA-reported savings, and that BPA weather normalize consumption data rather than relying on actual first-year usage.

**Next Steps**

- BPA is exploring reporting errors to understand pervasiveness.
- BPA is exploring modeling and calibration procedures.
- BPA is exploring ways to improve and potentially expand Engineering Calculations with Verification Protocol (ECwV).

Four large measures had high realization rates, two where BPA used the ECwV protocol.

**Thank you to the utilities, program participants, and program team that assisted with this evaluation!**





In Progress

## Comfort Ready Home Process Evaluation

BPA is currently conducting a process evaluation of the Comfort Ready Home (CRH) program. The goals of the evaluation are to understand participant drivers and barriers, identify opportunities for program improvement, and understand the end-user customer journey to a completed project.

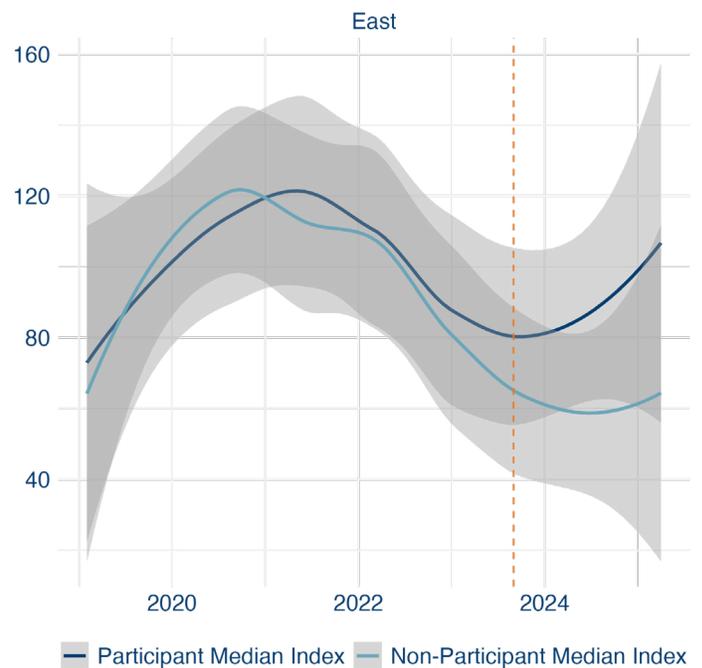
Over the course of the evaluation, the team completed:

- Program data analysis.
- Program staff interviews.
- Utility interviews.
- Contractor interviews.
- End-user customer interviews.

The Comfort Ready Home program has been effective in training contractors in installing new energy conservation measures, **particularly heat pump water heaters east of the Cascades** where salesperson incentive funds (SPIFs) increased the number of water heater installations relative to non-participants.

To visualize trends in HPWH installations over time, while normalizing for utility size and other factors, the team indexed HPWH installs in the pre-SPIF period to 100 to show relative increases or decreases in installations over time. The average performance index **increased for participants east of the Cascades compared to non-participants during the SPIF period.**

The final report will be posted in Spring 2026 with findings and webinar details announced around the same time.





**In Progress**

## VSHP Deep Dive Research

BPA is conducting a study on Variable Speed Heat Pumps (VSHP), to improve the accuracy of savings estimates for residential centrally ducted heat pumps.

This study will be aggregating research from three previous studies:

- BPA's evaluation of Air-Source Heat Pump (ASHP)/ VSHP conversions via monthly billing data,
- BPA sub-metering study of high-performance high-capacity heat pumps (HPHC), and
- Northwest Energy Efficiency Alliance's (NEEA's) home energy metering study (HEMS).

The goal of combining this data is to more accurately estimate savings from heat pumps, particularly accounting for actual performance and marginal gains in heating and cooling provided.



### Inputs

- Monthly billing data
- Advanced Metering Infrastructure (AMI) data
- HPHC performance data
- HEMS data
- End-user Survey



### Outputs

- Performance of VSHPs
- Characterization of marginal gains in heat
- Baseline heat pump performance



### Next Steps:

- Coordinate a data utility request for AMI data of residential heat pump installations.
- Conduct an analysis of the HEMS data.
- Unify AMI, HPHC, and HEMS data.
- Check-in with utilities on interim progress.

For more information, contact the evaluation team or view the [webinar slides](#) and [recording](#).



Planning

## Daily DVR Pilot Real Time Evaluation

BPA has refreshed the Daily Demand Voltage Reduction (DDVR) Pilot and will be conducting real-time verification.

The evaluation team aims to explore how to best verify Daily DVR savings. As we move forward, the team will be reviewing Supervisory Control and Data Acquisition (SCADA) data, testing models, and considering different methods of measurement and verification to accurately capture savings from Daily DVR.



**If you are interested in participating in the Daily DVR pilot, please reach out to your Energy Conservation Account Executive (ECAE).**



**Planning**

**Residential Behavior Evaluations**

BPA is launching two new evaluations of residential behavioral programs. These programs encourage residential customers to save energy through small, accessible actions such as adjusting thermostat setpoints and weatherizing windows, with program details customized based on participants' Home Energy Reports.

Behavioral Home Energy Reports (BHER), a BPA Open Q Pilot, is currently active, and Home Energy Reports (HER), an Implementation Manual-approved measure, is in the planning stages. The table below compares the implementation method and the evaluation method for each evaluation.

<b>Program</b>	<b>BHER</b>	<b>HER</b>
<b>Implementation Method</b>	Distribution to all customers	Randomized Control Trial
<b>IM Status</b>	Open Q Pilot	Approved Measure
<b>Evaluation Method</b>	Quasi-experimental billing analyses Machine learning analyses End-user surveys	Standard billing analyses and utility interviews
<b>Goals</b>	Develop recommendation of BPA Q UES value	Understand impacts Develop recommendations on how to improve program and overcome barriers to participation

