Evaluating Energy Efficiency

Project Updates - Spring 2024

FY2023-2024 Evaluation Strategy

In 2018, Bonneville Power Administration (BPA) contracted with Evergreen Economics, SBW Consulting, and Apex Analytics to plan and conduct energy efficiency impact and process evaluations. The team is currently undertaking evaluation activities, following a planning effort that was conducted for BPA. (Read BPA's latest evaluation strategy for more information about the evaluation planning effort.)

Impact Evaluation Activities

Impact evaluations estimate the energy savings achieved by programs and assess their cost effectiveness, in addition to identifying ways to improve the programs, with a focus on increasing savings.

Nonresidential Lighting Impact Evaluation: BPA will soon complete an impact evaluation of the nonresidential lighting portfolio to understand savings performance and identify opportunities to improve the reliability of savings. The study includes a statistically representative sample of 38 projects, with engineering modeling, the collection of project files, and site visits. The sample ensured representativeness for both Option 1 and Option 2 utility projects from 18 utilities, with more sample points allocated to larger projects.

Thank you to those utilities for working with BPA and the evaluation team to provide project data and facilitate end user cooperation. Data collection is complete and the final report will be released in summer 2024.

Residential Air Source Heat Pump and Variable Speed Heat Pump Impact Evaluation: BPA is also conducting an impact evaluation to estimate savings from residential electric forced air furnace conversions to air source heat pumps (ASHPs) and variable speed heat pumps (VSHPs). Residential ducted heat pump conversions continue to be important measures for BPA and its customer utilities. Therefore, to support a better understanding of these conversion savings in the field, as well as regional research needs, this evaluation is estimating energy savings for specific measure applications with the Regional Technical Forum's (RTF) "planning" status (for measures whose savings are considered less reliable)[1]: ASHP conversions in heating zones 2 and 3 and VSHP conversions in heating 1, 2, and 3, for single family and manufactured homes. The evaluation team requested billing data from 1,330 sites with recent heat pump conversions across 23 utilities to ensure a representative sample that meets the RTF minimum requirements.

[1] Planning UES measures are those that the RTF does not consider reliable but have sufficient energy savings potential to justify additional research. These measures require an RTF-approved research strategy, designed to identify data needs and analysis required to advance the measure to the Proven category.

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Thank you to those utilities for providing data to help with this important study. The evaluation recently completed analysis of the billing data from these sites to estimate savings and analyze drivers of savings to inform the Residential Heating, Ventilation and Air Conditioning (HVAC) program planning. The final report will be released in mid 2024.

Non-Industrial Custom and Energy Smart Reserved Power (ESRP) Program Impact Evaluation: BPA is currently conducting an impact evaluation of the non-industrial custom portfolio—which includes commercial, agricultural and residential sectors, and custom ESRP projects to understand savings performance and identify recommendations for improving the reliability of savings. The study research plan includes engineering modeling, the collection of project files, and site visits from a statistically representative sample of 32 measures. The sample ensures representativeness for both Option 1 and Option 2 utility custom portfolio projects, with more sample points allocated to larger projects. Sampled projects are from 16 utilities, along with five ESRP program projects.

Thank you to those utilities for working with BPA and the evaluation team to provide project data and facilitate end user cooperation. BPA's evaluation contractor team began initiating the request for project files in April, with end use customer data collection commencing in June of this year. The final report will be released in mid 2025.

Process Evaluation Activities

Process evaluations focus on identifying opportunities to streamline program processes, to make participation more convenient and appealing for participants, and to allow programs to deliver incentives and support utilities and end-users more effectively and efficiently.

Low-Income Process Evaluation: BPA is currently concluding an evaluation of its Low-Income Energy Efficiency program to identify opportunities to increase program participation. This evaluation focused on public utility energy efficiency incentives and includes a best practices review, stakeholder interviews and demographic analysis. The best practices review identified findings from other utilities, regions and states to help BPA leverage existing protocols to offer low-income programs in a more equitable and efficient manner. Interviews with BPA's customer utilities and community action agencies sought to understand barriers to offering and reporting low-income measures, and ways to overcome them. Finally, the demographic analysis portion of the research characterized the low-income population in BPA's service territory and offers an opportunities assessment for future program outreach. The evaluators have completed the evaluation, and the final results webinar was held in early April. The final report will be released in Spring 2024.

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Thank you to those utilities for speaking with the evaluation team to help us better understand the program.

Comfort Ready Home Process Evaluation: BPA is planning an evaluation of its Comfort Ready Home program to assess the effectiveness of the program and identify ways to improve program delivery and satisfaction. The evaluation will include interviews with implementation staff, a comprehensive review of program data, interviews with utilities and contractors, and a characterization of equity within the program.

The evaluation will commence in April 2024, with utility and contractor interviews planned for August through November 2024.

BPA Evaluation Schedule

Evaluation Activity		FY24									FY25					
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Impact	Nonresidental Lighting															
	Residential HVAC															
	Non-industrial Custom / ESRP															
Process	Low Income EE															
	Comfort Ready Home															

Planning → Data Collection/ Analysis → Draft Report and Review → Report and Communicating Results

Learn more at:

www.bpa.gov/energy-and-services/efficiency/evaluation