



**Bonneville Power Administration
Evaluation Project Updates
August 2020**

New Evaluation Lead at BPA

On January 17, 2020, Carrie Nelson became the new Evaluation Lead for Energy Efficiency. Carrie started her career at BPA in the Planning and Evaluation group, and then moved to Programs where she managed the Low-Income Grant program for ten years. She is happy to rejoin Planning and Evaluation and looks forward to reconnecting with colleagues throughout the regional evaluation community.

COVID-19 Coronavirus Considerations

The Evaluation team understands the difficulties utilities, utility staff, businesses and customers are experiencing during this pandemic. Please know that we consider the current environment in all evaluation activities on an ongoing basis and recognize that customer contact needs to be avoided or thoroughly considered. We will continue coordinating with utilities to ensure all evaluation activities are conducted under their current operating procedures.

2020-2021 Evaluation Plan

BPA finalized the FY2020-2021 Impact Evaluation Plan in early January. You can find the plan and the presentation from the brown bag held on January 16, 2020 at www.bpa.gov/goto/evaluation.

BPA, in partnership with our evaluation consultants, BPA conducted a detailed assessment of the energy-efficiency portfolio to inform the development of the Evaluation Plan. Using the data assessment, BPA identified custom projects and lighting projects in the Commercial, Industrial, and Agriculture sectors as our highest evaluation priorities. These projects — which require Measurement & Verification or calculators for savings estimation — represent approximately 65% of the portfolio, and were most recently evaluated for FY2012-13 savings. Additionally, the FY2020-21 plan includes Strategic Energy Management evaluation, an assessment of BPA Qualified Commercial HVAC measure savings, and continued analysis of residential ductless heat pumps.

Utility Oversample Opportunity

As part of our Evaluation plan, BPA is offering utilities the option to oversample within their territory. Please reach out to Carrie Nelson at evaluation@bpa.gov if you are interested in contributing to an oversample, or want to learn more about a particular research area specific to your territory.

2020 Custom Projects and Commercial, Industrial and Agriculture Lighting Evaluation Schedule

To enable an evaluation that provides timely results on a consistent, rolling basis, the evaluation team will conduct one domain-specific study approximately every six months over a four-year period, sampling one year of prior history. Please note: The first domain has a longer schedule, assuming some COVID-19-related delays. The majority of the data collection in 2020 and 2021 will be desk reviews and telephone surveys, with limited or no on-site data collection planned in the immediate future.

Utility Type	Evaluation Category	Sector	FY2020				FY2021				FY2022				FY2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Option 1	Custom	Industrial																
Option 2	Custom	Industrial																
Option 1	Lighting	C/I/Ag																
Option 2	Lighting	C/I/Ag																



Residential Ductless Heat Pump Savings Analysis

BPA is sponsoring research on residential HVAC measures, focusing on ductless heat pumps, or DHP, to replace electric zonal heating in heating zones 2 and 3. The results from billing analysis indicated that the impact on electricity use by customers who installed a DHP to replace zonal heating reduces about 2.5 kWh on average per day (903 kWh per year). The impacts differ considerably by the time of year, with the highest savings in electricity usage occurred during the shoulder heating months of March, April, October and November. We also found electricity savings for other months, but at a lower rate. There was also significant variability among customers in how their electricity use changed. While we did find that on average customers did reduce their electricity use after installing a DHP — and holding all else constant — many customers actually increased their electricity use.

BPA coordinated with four utilities to conduct a mail survey in February 2020, to gather more information about DHP usage. With a response rate of 73% (131 completed surveys), BPA and our consultants consider this a very successful survey.

Based on analysis of the DHP participating customer survey analysis, we found that customers who heated their home with wood or wood pellets before installing a DHP increased their electricity use after installing a DHP. We also found that customers who heated with propane or other bottled gas prior to installing a DHP tended to increase their electricity use, while customers who heated with natural gas decreased their electricity use. Finally, we found that installing a DHP did not increase electricity consumption during summer months — regardless of whether the customer had any cooling source in their home prior to installing the DHP.

A summary report on comprehensive residential HVAC impact evaluation results will be available later this summer so look for an announcement with more information soon.

Commercial Ductless Heat Pump Analysis Tool

BPA sponsored research on BPA-qualified commercial HVAC measures. Billing analysis was conducted to identify measure savings, and explore variations in site characteristics that are correlated with higher and lower achieved savings. The results from billing analysis indicate that the impact on electricity use by commercial customers that installed a DHP reduces about 19 kWh on average per day (7,036 kWh per year). The estimated reduction in electricity use varies by month and is statistically significant for January, February, March, and for the year overall. The billing analysis was based on a small sample of commercial customers (25), but it did include a comparison group to help control for other economy-wide factors that may impact electricity usage.