



Washington Annual Report on Conservation Acquisition

January 1, 2019 – December 31, 2019



Final

June 1, 2020



 **PACIFIC POWER**
A DIVISION OF PACIFICORP

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List of Abbreviations and Acronyms

BPA	Bonneville Power Administration
CHP	Combined Heat and Power
CPA	Conservation Potential Assessment
CEE	Consortium for Energy Efficiency
DSM	Demand-side Management
Schedule 191	Schedule 191 System Benefits Charge Adjustment
EM&V	Evaluation, Measurement & Verification
GWh	Gigawatt-hour(s)
HVAC	Heating, Ventilation and Air Conditioning
IRP	Integrated Resource Plan
kWh	Kilowatt-hour
MW	Megawatt
MWh	Megawatt-hour
NEEA	Northwest Energy Efficiency Alliance
NEF	National Energy Foundation
NTG	Net-to-Gross
PCT	Participant Cost Test
PTRC	PacifiCorp Total Resource Cost test
RIM	Ratepayer Impact Measure test
RTF	Regional Technical Forum
RVT	Resource Value Test
SWAG	Statewide Advisory Group
TRC	Total Resource Cost test
UCT	Utility Cost Test
VFD	Variable-Frequency Drive

Executive Summary

PacifiCorp is a multi-jurisdictional electric utility providing retail service to customers in Washington, California, Idaho, Oregon, Utah, and Wyoming. PacifiCorp dba Pacific Power & Light Company (Pacific Power or Company) serves approximately 132,290 customers in Washington. The Company works with its customers to reduce the need for investment in supply side resources and infrastructure by reducing energy consumption and peak demand through cost effective energy efficiency programs.

The Company is required to comply with the requirements of the Energy Independence Act (also known as I-937) codified in RCW19.285 and WAC 480-109. This report provides information on the Company's 2019 activities and expenditures related to pursuing all conservation in accordance with the I-937 framework, including Washington Utilities and Transportation Commission (Commission) orders and administrative rules.

In 2019, the Company offered four energy efficiency programs in Washington and received energy savings and market transformation benefits through its affiliation with the Northwest Energy Efficiency Alliance (NEEA). The Company recovers expenditures associated with these programs through the System Benefits Charge Adjustment, Schedule 191.

This report also provides details on Schedule 191 revenue for the performance period from January 1, 2019, through December 31, 2019. The Company, on behalf of its customers, invested \$9.4m in energy efficiency information, services, and incentives during the reporting period. The investment yielded approximately 42 gigawatt-hours (GWh) in first year savings¹ and approximately 6.9 megawatts (MW) of energy efficiency savings related capacity reductions.² Net benefits over the life of the individual measures are estimated at \$816k.³

As shown in Table 1, the portfolio was cost effective based on three of the five standard cost effectiveness tests for the reporting period, including the Total Resource Cost test + 10% adder (PTRC), Utility Cost Test (UCT) and Participant Cost Test (PCT). The Total Resource Cost Test (TRC) was less than 1.0 due to overall benefits being lower than the total costs. Project costs used in the cost tests were adjusted downward to account for the Transportation Improvement Board (TIB) Relight Washington funding⁴ for customer costs beyond utility incentives for 14 LED streetlight projects completed in 2019. The ratepayer impact measure test was less than 1.0, indicating near-term upward pressure was placed on the price per kilowatt-hour (kWh) given a reduction in sales.

¹ Gross reported savings at the generation.

² See Energy Efficiency section for explanation on how the capacity contribution savings values are calculated.

³ See Appendix 1 – Table 8 - 2019 Total Portfolio Cost Effectiveness Results (including NEEA and NEIs) – Total Resource Cost Test (PTRC) + Conservation Adder.

⁴ TIB funding comes from the state of Washington's gas tax and is collected from fuel purchasers who are not PacifiCorp customers and is treated in a comparable manner to tax credits; i.e., removed from costs. TIB funding of \$1,101,801 was provided to customers for the 14 projects. The Company's reported project costs were \$1,090,888 and incentives paid totaled \$103,486. Measure costs were adjusted downward by \$987,402 (\$1,090,888 minus \$103,486).

Table 1
Cost Effectiveness for the Portfolio⁵

Benefit / Cost Test	B/C Ratio with NEEA & NEIs	B/C Ratio without NEEA Inc. NEIs
PacifiCorp Total Resource Cost Test (PTRC) plus 10% ⁶	1.06	0.94
Total Resource Cost (TRC) Test ⁷	0.97	0.86
Utility Cost Test (UCT) ⁸	1.32	1.20
Participant Cost Test (PCT) ⁹	3.56	3.04
Ratepayer Impact Cost Test (RIM) ¹⁰	0.37	0.36

All cost effectiveness calculations assume a net-to-gross (NTG) of 1.0, consistent with the Northwest Power and Conservation Council's methodology. Portfolio level cost effectiveness includes portfolio costs such as the Process and Impact Evaluations, Class 2 demand-side management (DSM) Potentials Assessment, End Use Load Research and the DSM system database. Consistent with the Northwest Power and Conservation Council's methodology, the Company includes quantifiable non-energy benefits at the portfolio and program level. *Low Income Weatherization* is not included in the portfolio or sector-level cost effectiveness analysis per WAC 480-109-100(10)(b). Appendix 1 provides 2019 cost effectiveness performance.

⁵ Ratios include select quantifiable and directly attributable Non-Energy Impacts, but excludes costs as outlined in the Company's EM&V Framework (e.g. Class 1 & 3 of the potential study).

⁶ The PTRC includes the 10 percent conservation benefit and risk adder in addition to quantifiable and directly attributable non-energy benefits. PTRC is consistent with the Northwest Power Council's cost effectiveness methodology and complies with the cost effectiveness definition (RCW 80.52.030(7)).

⁷ The TRC compares the total cost of a supply side resource to the total cost of energy efficiency resources, including costs paid by the customer in excess of the program incentives. The test is used to determine if an energy efficiency program is cost effective from a total cost perspective.

⁸ The UCT compares the total cost incurred by the utility to the benefits associated with displacing or deferring supply side resources.

⁹ The PCT compares the portion of the resource paid directly by participants to the savings realized by the participants

¹⁰ The RIM examines the impact of energy efficiency expenditures on non-participating ratepayers overall. Unlike supply-side investments, energy efficiency programs reduce energy sales. Reduced energy sales can lower revenue requirements while putting upward pressure on rates as the remaining fixed costs are spread over fewer kilowatt-hours

Compliance

An external conservation advisory group of stakeholders is required to be maintained and used by the Company to advise it about conservation issues including program designs, incentive levels, third party evaluations, program marketing, and pilots. WAC 480-109-110 provides the scope of issues for the advisory group. The Company refers to its conservation advisory group as the Washington DSM Advisory Group. Meetings are typically held at the Commission offices in Lacey and include a call-in number so stakeholders can participate remotely.

In compliance with I-937, the Company continuously reviews and updates, as appropriate, the conservation programs and portfolio to adapt to changing market conditions. Steps taken to adaptively manage the conservation programs during 2019 are included within program specific sections of this report. In the *Home Energy Savings* program, a new online incentive application platform was deployed including a provision to tie to the Company's Single Sign On (SSO) capability and the incentive for heat pump dryers was increased to help offset the previously available NEEA incentives. In the *Wattsmart Business* program, changes were made to improve program cost effectiveness such as implementing the dual baseline methodology in alignment with the Regional Technical Forum's Non-Residential Lighting Retrofits standard protocol.

Pilot projects are implemented when appropriate and are expected to be cost effective within the current or immediately subsequent biennium as long as the overall portfolio remains cost effective. The Company, after consultation with its DSM Advisory Group, offers initiatives or offers within two programs: *Home Energy Savings* and *Wattsmart Business*. This focus is administratively efficient and uses existing program awareness—both important considerations in the Company's rural territory. To further leverage other efforts, the Company has linked its pilot efforts with regional work supported by NEEA whenever possible.

Regulatory Activities

During the 2019 reporting period, the Company filed a number of compliance and/or informational reports, updates, and requests with the Commission and Department of Commerce in support of Company DSM programs. The following is a list of those filings:

- February 27, 2019 – Schedule 191-System Benefits Charge adjustment, Advice 19-01, Docket UE-190134, to decrease Schedule 191 by approximately \$1.5 million (from \$12.3m to \$10.8m).
- May 31, 2019 – Washington Annual Report on Conservation Acquisition for 2018 (Docket UE 171092). The report provides details on program results and activities.
- May 31, 2019 – 2018-2019 Conservation Report to Department of Commerce (Docket UE-171092). The report detailed the Company’s progress in meeting the targets established in RCW 19.285.070 and WAC 194-37-060 (EIA requirements).
- July 29, 2019 – 2018 Washington State-Wide Conservation Advisory Group Activities Report (Docket UE-171092).
- November 1, 2019 – Pacific Power’s 2020-2021 Biennial Conservation Plan in Docket UE-190908.

Advisory Group Activities

At least four times per year, the Company seeks input regarding its energy efficiency programs from its Washington DSM Advisory Group. This group includes representatives from a variety of constituent organizations. In addition to the DSM Advisory Group meetings, in 2019, the Company participated in one Statewide Advisory Group (SWAG) meeting. The Company collaborated with its DSM Advisory Group throughout 2019 on the following matters:

June 27, 2019

- Start 2020-2021 target setting process
- Legislative Impacts
- New delivery contracts (Home Energy Savings and outsourced portion of Wattsmart Business) highlights
- Provided an update for on-bill financing targeted to owned manufactured homes on leased space analysis/challenges
- Other updates – Yakama Power, Yakima Energy Fair, and more

August 23, 2019

- Review of portfolio, conservation forecast and underlying assumptions
- Adjustments to date:
 - Home Energy Reports
 - High efficiency Combined Heat and Power
- Review codes/standards analysis work
- Review of the NEEA/Conservation Potential Assessment comparison

- Review list of the Regional Technical Forum (RTF) adjustments being analyzed
- Review proxy portfolio impacts on production efficiency economics
- Review proxy decrement approach to generate avoided costs for cost effectiveness assessment

September 20, 2019

- Latest version of the P-18 proxy portfolio
- RTF adjustments completed since last meeting
- Distribution efficiency forecast
- Adjustments/forecasts from last meeting
- Proposed target
- Preliminary business plan and cost effectiveness
- Proposed pilots

December 18, 2019

- Review of the 2020 communications and outreach plan
- Review the draft petition for excess conservation
- Conservation Potential Assessment (CPA) scope of work
- Program delivery updates
 - Street lights
 - Kits for Low Income
- Other updates
 - Electrification
 - System Benefit Charge

Statewide Advisory Group Meetings

In addition to the DSM Advisory Group meetings, the Company participated in the last scheduled Statewide Advisory Group (SWAG) meeting on January 24, 2019. This meeting was focused on achieving a consensus on a framework for performance incentives for delivering savings beyond the commission approved target. Language from the Statewide Advisory Group charter is provided below.

1. Discuss potential performance incentives:

“(…) the Company suggests conducting a workshop in a statewide collaborative setting. This may be a useful exercise and Staff proposes a joint advisory group meeting halfway through the biennium to discuss this, as well as any other common issues.”¹¹

¹¹ Commission Staff Comments Regarding Electric Utility Conservation Plans; Dockets: UE-171087, UE-171091, UE-171092 [P.10]. The utility cited is Puget Sound Energy. The Company was in agreement with the suggestion.

After the January meeting, joint work on writing the final Washington State-Wide Conservation Advisory Group Activities Report was conducted via conference calls and email exchanges. The finished report was filed with the WUTC on July 29, 2019 and presented to the Commission during the August 8, 2019 open meeting.

DSM Expenditures

System Benefits Charge Balancing Account Summary

DSM activities are funded through Schedule 191, the System Benefits Charge Adjustment collections. Expenditures are charged as incurred and collected through Schedule 191. The balancing account is the mechanism used for managing the revenue collected and expenses incurred in the provision of DSM resources. The balancing account activity for 2019 is outlined in Table 2. The end of year balance in the balancing account, on an accrual basis, was an over-collection of \$3,719,063.

Table 2
System Benefit Charge Balancing Account Summary

Month	Deferred Expenditures	Revenue collected	Accumulative Balance	Monthly Net Accrued Costs	Accrual Basis Accumulative Balance
18-Dec			\$ (2,839,716)	\$ 249,540	\$ 1,839,248
19-Jan	\$ 503,544	\$ (1,139,914)	\$ (3,476,086)	\$ (234,588)	\$ (2,710,206)
19-Feb	\$ 535,534	\$ (1,185,002)	\$ (4,125,554)	\$ (66,436)	\$ (3,426,109)
19-Mar	\$ 873,253	\$ (1,157,273)	\$ (4,409,574)	\$ 181,318	\$ (3,528,812)
19-Apr	\$ 622,377	\$ (829,425)	\$ (4,616,622)	\$ (149,621)	\$ (3,885,481)
19-May	\$ 631,162	\$ (706,614)	\$ (4,692,075)	\$ 159,213	\$ (3,801,720)
19-Jun	\$ 777,942	\$ (776,126)	\$ (4,690,259)	\$ (19,284)	\$ (3,819,189)
19-Jul	\$ 443,931	\$ (886,854)	\$ (5,133,182)	\$ 568,319	\$ (3,693,794)
19-Aug	\$ 435,674	\$ (924,564)	\$ (5,622,072)	\$ 77,646	\$ (4,105,038)
19-Sep	\$ 389,954	\$ (911,399)	\$ (6,143,517)	\$ 330,396	\$ (4,296,086)
19-Oct	\$ 1,684,449	\$ (795,171)	\$ (5,254,238)	\$ (910,665)	\$ (4,317,472)
19-Nov	\$ 650,515	\$ (904,660)	\$ (5,508,383)	\$ 167,313	\$ (4,404,304)
19-Dec	\$ 1,088,980	\$ (1,084,611)	\$ (5,504,014)	\$ 680,872	\$ (3,719,063)
2019 Total	\$ 8,637,314¹²	\$ (11,301,612)		\$ 1,034,023	

Column Explanations:

Deferred Expenditures: Monthly expenditures for all program activities posted in 2019, including funding for the Northwest Energy Efficiency Alliance.

Revenue Collected: Revenue collected through Schedule 191, System Benefits Charge Adjustment.

Accumulative Balance: A running total of account activities on a “cash” basis. A negative accumulative balance means cumulative revenue exceeds cumulative expenditures; positive accumulative balance means cumulative expenditures exceed cumulative revenue.

¹² The variance between table 2 and Executive Summary is due to the table being based on calendar year. Some 2019 expenditures posted to the General Ledger in 2020.

Monthly Net Accrued Costs: Two accrual entries are made each month for expenditures of energy efficiency programs. One estimates the incurred cost not yet processed, and the other reverses the estimate from the previous month. The amount shown here is the net of the two entries.

Accrual Basis Accumulative Balance: Current balance of account including accrued costs.

Planning Process

Integrated Resource Plan

The Company develops a biennial integrated resource plan (IRP) as a means of balancing cost, risk, uncertainty, supply reliability/deliverability and long-run public policy goals.¹³ The plan presents a framework of future actions to ensure the Company continues to provide reliable, reasonably priced service to customers. Energy efficiency and peak management opportunities are incorporated into the IRP based on their availability, characteristics and costs.

PacifiCorp divides energy efficiency and peak management resources into four general classes:

- **Class 1 DSM—Resources from fully dispatchable or scheduled firm capacity product offerings/programs**—Class 1 DSM programs are those for which capacity savings occur as a result of active Company control or advanced scheduling. Once customers agree to participate in a Class 1 DSM program, the timing and persistence of the load reduction is involuntary on their part within the agreed upon limits and parameters of the program. Program examples include residential and small commercial central air conditioner load control programs that are dispatchable, and irrigation load management and interruptible or curtailment programs (which may be dispatchable or scheduled firm, depending on the particular program design or event noticing requirements).
- **Class 2 DSM—Resources from non-dispatchable, firm energy and capacity product offerings/programs**—Class 2 DSM programs are those for which sustainable energy and related capacity savings are achieved through facilitation of technological advancements in equipment, appliances, lighting and structures, or repeatable and predictable voluntary actions on a customer's part to manage the energy use at their facility or home. Class 2 DSM programs generally provide financial or service incentives to customers to improve the efficiency of existing or new customer-owned facilities through: (1) the installation of more efficient equipment, such as lighting, motors, air conditioners, or appliances; (2) upgrading building efficiency through improved insulation levels, windows, etc.; or (3) behavioral modifications, such as strategic energy management efforts at business facilities and home energy reports for residential customers. The savings endure (are considered firm) over the life of the improvement or customer action. Program examples include comprehensive commercial and industrial new and retrofit energy efficiency programs, comprehensive home improvement retrofit programs, strategic energy management and home energy reports.
- **Class 3 DSM—Resources from price responsive energy and capacity product offerings/programs**—Class 3 DSM programs seek to achieve short-duration (hour by hour) energy and capacity savings from actions taken by customers voluntarily, based on a financial incentive or signal. Program examples include time-of-use pricing plans, critical peak pricing plans, and inverted block tariff designs. As a result of their voluntary nature,

¹³ Information on the Company's integrated resource planning process can be found at the following address:
<http://www.pacificorp.com/es/irp.html>

participation tends to be low and savings are less predictable, making Class 3 DSM resources less suitable to incorporate into resource planning, at least until their size and customer behavior profile provide sufficient information for a reliable diversity result (predictable impact) for modeling and planning purposes. Savings typically only endure for the duration of the incentive offering and, in many cases, loads tend to be shifted rather than being avoided. The impacts of Class 3 DSM resources may not be explicitly considered in the resource planning process; however, they are captured naturally in long-term load growth patterns and forecasts.

- **Class 4 DSM—Non-incented behavioral-based savings achieved through broad energy education and communication efforts**—Class 4 DSM programs promote reductions in energy or capacity usage through broad-based energy education and communication efforts. The program objectives are to help customers better understand how to manage their energy usage through no-cost actions such as conservative thermostat settings and turning off appliances, equipment and lights when not in use. The programs are also used to increase customer awareness of additional actions they might take to save energy and the service and financial tools available to assist them. Class 4 DSM programs help foster an understanding and appreciation of why utilities seek customer participation in Classes 1, 2 and 3 DSM programs. Similar to Class 3 DSM resources, the impacts of Class 4 DSM programs may not be explicitly considered in the resource planning process; however, they are captured naturally in long-term load growth patterns and forecasts. Program examples include Company brochures with energy savings tips, customer newsletters focusing on energy efficiency, case studies of customer energy efficiency projects, and public education and awareness programs.

Class 1 and 2 DSM resources are included as resource options in the resource planning process. Class 3 and 4 DSM actions are not considered explicitly in the resource planning process, however, the impacts are captured naturally in long-term load growth patterns and forecasts.

As technical support for the IRP, the Company engages a third-party consultant to conduct a DSM Potential Assessment (Potential Assessment).¹⁴ The study primarily seeks to develop reliable estimates of the magnitude, timing and cost of DSM resources likely available to PacifiCorp over the 20-year planning horizon of the IRP. The main focus of the Potential Assessment is on resources with sufficient reliability characteristics that are anticipated to be technically feasible and considered achievable during the IRP's 20-year planning horizon. By definition, the estimated achievable technical potential is the energy efficiency potential that may be achievable to acquire during the 20-year planning horizon prior to cost effectiveness screening.

The achievable technical potential of Class 2 (energy efficiency) resources for Washington by sector is shown in Table 3. The 2017 Potential Assessment indicates that approximately nine

¹⁴ PacifiCorp's Demand-side Resource Potential Assessments can be found at <http://www.pacificorp.com/es/dsm.html>.

percent of the achievable technical potential for the Company, excluding Oregon,¹⁵ is available within its Washington service area.¹⁶

Table 3
Washington Energy Efficiency Achievable Technical Potential by Sector¹⁷

Sector	Cumulative GWh in 2036	Percent of Baseline Sales for the Sector
Residential	347	20%
Commercial	403	22%
Industrial	73	13%
Irrigation	14	8%
Street Lighting	5	41%

Demand-side resources vary in their reliability, load reduction and persistence over time. Based on the significant number of measures and resource options reviewed and evaluated in the Potential Assessment, it is impractical to incorporate each as a stand-alone resource in the IRP. To address this issue, Class 2 DSM measures and Class 1 DSM programs are bundled by cost for modeling against competing supply-side resource options which reduces the number of discrete resource options the IRP must consider to a more manageable number.

Cost Effectiveness

The Company evaluates program implementation cost effectiveness (both prospectively and retrospectively) under a variety of tests to identify the relative impact and/or value (*e.g.*, near-term rate impact, program value to participants, etc.) to customers and the Company. Program cost effectiveness is performed using a Company specific modeling tool, created by a third party consultant. The tool is designed to incorporate PacifiCorp data and values such as avoided costs, and assesses the costs and benefits of DSM resource programs from different stakeholder perspectives, including participants and non-participants, based on four tests described in the Standard Practice Manual (TRC, UCT, PCT and RIM) as well as an additional fifth test, PTRC. Washington utilizes the PTRC as the primary cost effectiveness test.

As specified in WAC 480-109-100 (8) “A utility’s conservation portfolio must pass a cost effectiveness test consistent with that used in the Northwest Conservation and Electric Power Plan. A utility must evaluate conservation using the cost effectiveness test consistent with those used by the council and as required by the commission except as provided by WAC 480-109-100 (10).

The Northwest Power and Conservation Council’s Seventh Power Plan provides information on cost effectiveness on page G-11 of Appendix 6. “The Council uses the total resource net levelized cost (TRC net levelized cost) for its analysis of the cost of the conservation measures, which is

¹⁵ Oregon energy efficiency potentials assessments are performed by the Energy Trust of Oregon.

¹⁶ <http://www.pacificorp.com/es/dsm/dpssm.html> Volume 1, Table 2-1, PacifiCorp Demand-Side Resource Potential Assessment for 2017-2036.

¹⁷ Volume 2, Tables 4-4, 4-6, 4-8, 4-10, 4-11, PacifiCorp Demand-Side Resource Potential Assessment for 2017-2036.

similar to the Societal Cost Test outlined in the National Action Plan for Energy Efficiency¹⁸ and the California Standard Practice Manual.”

The National Energy Efficiency Screening project published the National Standard Practice Manual (NSPM)¹⁹ to provide a comprehensive framework for assessing the cost effectiveness of energy efficiency resources. The NSPM provides guidance that incorporates lessons learned over the past 20 years, responds to current needs, and addresses and takes into account the relevant policies and goals of each jurisdiction undertaking efficiency investments. The NSPM presents an objective and neutral Resource Value Framework that can be used to define a jurisdiction’s *primary* cost effectiveness test, which is referred to as a Resource Value Test (“RVT”).

The PacifiCorp Total Resource Cost (PTRC) test results in the Navigant analysis include the 10 percent Conservation Adder and quantifiable non-energy benefits and is analogous to the Societal Cost Test (SCT) referenced by the Council.

In combination with WAC rules and in approving Pacific Power’s 2018-2019 Biennial Conservation Plan,²⁰ the WUTC has established cost effectiveness tests for Pacific Power to use in planning for and pursuing conservation resources. Per the definition above from the NSPM, the Total Resource Cost test, as modified by the Northwest Power and Conservation Council and referred to as the PTRC by Pacific Power, *is* the current RVT for Washington investor-owned utilities.

¹⁸ <https://www.epa.gov/sites/production/files/2015-08/documents/cost-effectiveness.pdf>

¹⁹ https://nationalefficiencyscreening.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf

²⁰ Docket UE-171092, Order 01 Attachment A (8) (January 12, 2018).

Energy Efficiency Programs

The Company offered energy efficiency programs to all major customer sectors: residential, commercial, industrial, and agricultural. The Company's energy efficiency portfolio included four programs: *Home Energy Savings*, Schedule 118; *Home Energy Reports*; *Low Income Weatherization*, Schedule 114; and *Non-Residential Energy Efficiency (Wattsmart Business)*, Schedule 140. The Company also helps fund NEEA. In addition to the energy efficiency programs, the Company, on behalf of customers, invested in outreach and education for the purpose of promoting the efficient use of electricity and improving program performance. Results for 2019 are provided in Table 4.

Table 4
Washington Results January 1, 2019 – December 31, 2019

Program	kWh/Yr Savings (at site)	kWh/Yr Savings (at generator)	Systems Benefits Charge Expenditures
Low Income Weatherization	166,912	183,052	\$ 530,233
Home Energy Savings	5,758,893	6,315,778	\$ 2,509,871
Home Energy Reports	8,366,413	9,175,445	\$ 233,392
Total Residential Programs	14,292,218	15,674,276	\$ 3,273,496
Wattsmart Business	20,786,950	22,726,682	\$ 4,453,677
Northwest Energy Efficiency Alliance	3,718,676	4,075,438	\$ 878,492
Total	38,797,844	42,476,396	\$ 8,605,664
		Process & Impact Evaluation	\$ 181,846
		Class 2 Potential Study	\$ 18,851
		End Use Load Research	\$ 34,382
		Portfolio DSM Central	\$ 259,277
		Outreach and Communication	\$ 293,275
		Total Portfolio Level Expenditures	\$ 787,631
		Total System Benefits Charge expenditures	\$ 9,393,295

In 2019, the Company delivered preliminary results of 42,476 MWh in first year energy savings at generation against the 2019 Business Plan. Changes between forecasted and actuals are detailed below.

- Home Energy Savings results were approximately 17 % less than forecast with the shortfall being directly attributable to the distribution of energy savings kits. Lighting and non-lighting results were well aligned with the forecast.
- Wattsmart Business: 2019 savings were lower than forecasted in the 2019 Annual Conservation Plan. These lower savings are primarily due to lower savings from the industrial sector which was partially made up by higher savings in the commercial and irrigation sectors. For the industrial sector, approximately 2 million kWh of refrigeration project savings was moved from 2019 to the 2020 forecast as of the end of 2019 for a variety of customer reasons including budget and timeline extension needed for installation.
- NEEA: Actual savings reporting from NEEA (using the same methodology and baselines used to establish the original forecast) indicate that savings are up by approximately 16 % when compared to the 2019 forecast. NEEA indicated the ENERGY STAR computers, Consumer Products and Commercial Code initiatives delivered greater savings than originally forecast.

Key Changes in the Expenditure Forecast

- The 2019 annual conservation plan budget for low income weatherization was developed assuming matching funds would not be available and Pacific Power would need to pay 100% of the costs. Matching funds were actually available for the vast majority of the projects (~85%) and most homes were treated with Pacific Power paying 50% of the costs. As a result the actual expenditures for 2019 were approximately half of the forecast while homes treated and energy savings were approximately equal to the forecast.
- Expenditures for delivery of Home Energy Reports were less than the 2019 Annual Conservation Plan forecast. The primary reason for the variance is the split between paper and email reports. Paper reports are more expensive to deliver than email. A higher portion of the reports were delivered via email than originally forecast which reduced expenditures.
- Wattsmart Business expenditures were less than the 2019 Annual Conservation Plan forecast in alignment with the lower savings. Incentives and program delivery expenses were lower than forecast.

Consistent with requirements under WAC 480-109-120 (3)(b)(ii) and (iii), Table 5 provides a comparison of the Company's 2019 Business Plan filed on November 15, 2018, to actual 2019 program performance.

Table 5
Washington 2019 Annual Conservation Plan compared to Actual

Program	2019 PacifiCorp Washington Annual Conservation Plan			2019 PacifiCorp Washington DSM Actual		
	kWh/Yr Savings (at site)	kWh/Yr Savings (at generation)	Estimated Systems Benefit Expenditures	kWh/Yr Savings (at site)	kWh/Yr Savings (at generation)	Systems Benefits Charge Expenditures
Low Income Weatherization	152,592	167,348	\$ 1,051,000	166,912	183,052	\$ 530,233
Home Energy Savings	6,921,106	7,590,377	\$ 2,515,615	5,758,893	6,315,778	\$ 2,509,871
Home Energy Reports	-	-	\$ 305,469	8,366,413	9,175,445	\$ 233,392
Total Residential Programs	7,073,698	7,757,725	\$ 3,872,084	14,292,218	15,674,276	\$ 3,273,496
Wattsmart Business	26,779,081	29,194,058	\$ 6,465,030	20,786,950	22,726,682	\$ 4,453,677
Northwest Energy Efficiency Alliance	3,202,542	3,615,747	\$ 861,752	3,718,676	4,075,438	\$ 878,492
TOTAL	37,055,321	40,567,530	\$ 11,198,866	38,797,844	42,476,396	\$ 8,605,664
Process & Impact Evaluation	-	-	\$ -	-	-	\$ 181,846
Class 2 Potential Study	-	-	\$ -	-	-	\$ 18,851
School Energy Education	-	-	\$ 60,000	-	-	\$ -
Portfolio Support Summary	-	-	\$ 573,284	-	-	\$ 259,277
End use load research	-	-	-	-	-	\$ 34,382
Outreach and Communication	-	-	\$ 250,000	-	-	\$ 293,275
Total System Benefits Charge Expenditures	-	-	\$ 12,082,150	-	-	\$ 9,393,295

Estimated Peak Contributions

The Company estimates its capacity reduction during PacifiCorp's system peak period from the 2019 energy efficiency portfolio. An energy-to-capacity conversion factor, developed from Class 2 DSM selections in the 2017 IRP, is used to translate 2019 energy savings to estimated demand reduction during the system peak as shown in Table 6. The use of this factor in the MW calculation assumes that the energy efficiency resources acquired through the Company's programs have the same average load profile as those energy efficiency resources selected in the 2017 IRP.

Table 6
Estimated Peak Contribution

Description	Value
First year Energy Efficiency program MWh savings acquired during 2019 (@ Generator)	42,476
Conversion factor: Coincident MW/MWh	0.000162842
Estimated coincident peak MW contribution of 2019 Energy Efficiency acquisitions	6.92

Direct Benefits to Customers

Estimates of direct benefits to customers delivered from 2019 expenditures are provided in Table 7. This additional metric to assess program impacts is consistent with conversations between Commission Staff and the Company that occurred during the preparation of prior conservation plan(s) and reports. Direct benefits are in addition to the benefits all customers receive through implementation of cost effective energy efficiency resources; lower energy costs.

Table 7
2019 Direct Benefits to Customers

Program or Initiative	Expenditures	Direct Benefit to Customers	Direct Benefit to Customers
Low Income Weatherization	\$ 530,233	\$ 441,492	83%
Home Energy Savings	\$ 2,509,871	\$ 1,407,990	56%
Home Energy Reports	\$ 233,392	\$ -	0%
Total Residential Programs	\$ 3,273,496	\$ 1,849,482	56%
	\$ -	\$ -	
Wattsmart Business	\$ 4,453,677	\$ 2,522,353	57%
Northwest Energy Efficiency Alliance	\$ 878,492	\$ 624,100	71%
TOTAL	\$ 8,605,664	\$ 4,995,935	58%
Process & Impact Evaluation	\$ 181,846		
Class 2 Potential Study	\$ 18,851		
Portfolio Support Summary	\$ 259,277		
End use load research	\$ 34,382		
Outreach and Communication	\$ 293,275		
Total System Benefits Charge Expenditures	\$ 9,393,295		

Notes:

Low Income Weatherization: In 2019 payments to community action agencies for measure installation were classified as incentives. The value can be found in the cost effectiveness tables included in Appendix 1.

Home Energy Savings: Customer incentives, upstream, mid-stream and mail by request buy downs are included in the direct benefit to customer calculation. This information is provided in the incentives column for the Home Energy Savings program in Appendix 1.

Wattsmart Business: Customer incentives (\$2,020,412) and expenditures for customer site specific energy engineering (\$485,356) and inspections (\$16,586) are included in the direct benefit to customer calculation.

NEEA: Company subtracted \$21,302 in internal management costs and then applied the 70% estimate provided by staff to NEEA funding to calculate the direct benefit to customers.

Pilot Projects

The Company offers pilot projects to residential and nonresidential sectors. This section briefly describes the pilots underway in the biennial period and key activities that occurred in 2019

On-Bill Financing for residential customers

- **Purpose:** Reduce upfront cost barrier to participation in residential energy efficiency programs by offering on-bill financing for 2019-2020. The residential offer complements the third party financing already in place for our business customers.
- **Costs:** Start-up costs of \$30,000 will be paid in 2019 and included as a residential program expenses and recovered through the tariff rider. Pacific Power internal on-going loan administration costs were not assessed in 2018. When internal costs are assessed, they will be included as a program expense and recovered through the tariff rider.
- **Size:** Expected to be 150-200 loans for the 2018-2019 period.
- **Implementation:** Build upon experience from Oregon using a specialized firm, Craft3, to operate as funder and loan administrator for Home Energy Savings program participants. Similar to Oregon, Pacific Power will provide on-bill servicing functions. Financing will be available for the net (after incentives) costs of equipment eligible for incentives through HES program. There will not be a utility service disconnect option for collection or security purposes. Partial payments will be applied to the utility bill first giving Pacific Power payment priority.
- **Marketing:** The offer will be marketed primarily through contractors and the Home Energy System program administrator. Craft3 will identify and train contractors. Marketing and screening will be put in place to help insure customers eligible for low income services are directed to the community action agencies instead of participating in the loan offer.
- **2019 activity:** Group and individual training conducted with trade allies and Craft3 in Yakima and Walla Walla. Training included information on services for income qualified customers. There were 153 applications received; 109 approved, 97 active loans (funded and billing), 38 applications declined and 18 applications withdrawn. Exploration of an offer for owned manufactured homes on rented space is on-going

Heat pump dryers

- **Purpose:** Increase stocking, sales and incentive applications for heat pump dryers within Pacific Power's territory. Equipment eligibility aligns with NEEA's Qualified Products List (QPL).
- **Costs:** Additional administrative budget of approximately \$6,000. Included in Home Energy Savings program delivery costs for the biennial period.
- **Size:** Twelve to 24 units.
- **Implementation:** Home Energy Savings program team in combination with NEEA. The initiative focuses was on smaller retailers with faster decision processes and is a continuation of the work started in 2017. Continue the work in partnership with NEEA to secure preferred pricing and expedited shipping.
- **Marketing:** Continue sales training and enhanced outreach to smaller independent retailers. Provide a sales performance incentive fund (SPIF) and pay participating sales associates \$50 for every qualifying model sold.
- **2019 activity:** The NEEA incentive was not continued. To compensate, the incentive was increased to \$600 starting on January 1, 2020. A total of six heat pump dryer applications were received in 2019.

Manufactured Homes Targeted Delivery

- **Purpose:** Increase installation of energy efficiency measures within existing manufactured homes.
- **Costs:** To be determined from Request for Proposal (RFP) responses and cost effectiveness analysis.
- **Size:** To be determined from RFP responses and cost effectiveness analysis.
- **Implementation:** An RFP process was issued within Home Energy Savings program. Proposals were evaluated for cost effectiveness inside proposed (2018-2019) Home Energy Savings program.
- **Marketing:** Third party(s) if selected through RFP process, program administrator, installing contractors and park owners.
- **2019 activity:** Proposal evaluation did not reveal any compelling opportunities beyond what is currently available in the current program. Continued focus on duct sealing. Program field staff engaged with and encouraged HVAC trade allies that offered promotional pricing for ductless heat pump installations in manufactured homes. In 2019, 488 manufactured homes participated in the duct sealing direct install program.

Residential Deep Energy Retrofit

- **Purpose:** Increase comprehensive projects (multiple energy using systems) in existing residential homes.
- **Costs:** Up to \$20,000 for contractor engagement, project pre-qualification, pre/post modeling and high touch engagement during project including verification/close-out. Included in HES program delivery budgets for the biennial period.
- **Size:** One to four completed projects.
- **Implementation:** Establish a baseline model based on prior metered utility consumption and target improvements that will save 40-60 percent of total usage which translates into approximately 8,800 kWh delivered primarily from heating, cooling and water heating

improvements. Add a customer incentive of up to \$5,000 to the existing Home Energy Savings program.

- **Marketing:** Work with general contractor to identify existing homes where customers are prepared to make substantial improvements to the systems using or affecting the majority of the energy consumption in the home. The customer incentive is designed to offset a portion of the project costs which are estimated to be \$15,000 to \$30,000 depending on the size and site conditions of the home.
- **2019 activity:** No projects were completed in 2018 or 2019 and after consultation with few key contractors, the measure was removed from the program on January 1, 2020.

Geo-Targeted Energy Efficiency

- **Purpose:** Focus on increasing participation in specific geographical area(s) where additional value, such as possible infrastructure investments has been identified. This is a continuation of work begun in 2017.
- **Costs:** Additional administrative costs of approximately \$16,000 included in the program delivery budgets for the biennial period.
- **Size:** Approximately 5,800 customers.
- **Implementation:** The effort will focus on the Yakima area and installed projects will be tracked. A kWh to kilowatt (kW) calculator using existing load shapes was completed. This calculator allows the Company's field engineering team to start looking for hourly capacity impacts of the installed energy efficiency projects.
- **Marketing:** Increase frequency of existing program tactics including direct mail, trade ally engagement and personal selling.
- **2019 activity:**
 - In 2019, five business projects totaling 191,565 kWh in annual savings were completed in the geo-targeted areas with additional projects identified for potential installation in future years. 2019 projects are estimated to provide summer capacity reductions of 19.5 kW. Winter capacity reductions for these projects are estimated at 13.2 kW.
 - Outreach also targeted residential customers with direct mail and program administrator field staff outreach to multi-family owners. In 2019, 65 projects totaling 100,176 kWh in annual savings were completed. 2019 projects are estimated to provide summer capacity reductions of 9 kW. Winter capacity reductions for these projects are estimated at 34.1 kW.

Non-Residential Lighting Controls

- **Purpose:** Increase installation of lighting controls as part of business customer lighting retrofit projects.
- **Costs:** Included in program delivery budgets
- **Size:** Up to 15 projects
- **Implementation:** Leverage the Northwest Energy Efficiency Alliance's Luminaire Level Lighting Control (LLLC) initiative including vendor training support.
- **Marketing:** NXT Level training and good/better/best communications, continuing and improving lighting controls training for vendors, providing outreach coordinator feedback on lighting controls to approved Wattsmart Business Vendors on projects..
- **2019 activity:**

- **Contractor/Vendor Training:**
 - On March 12 and 13, 2019, Pacific Power hosted the annual vendor trainings in Yakima and Walla Walla. There was a hands-on lighting controls session focusing on advanced networked lighting control products. Vendors were able to interact with the product and use the app to program and commission the controls. Between the two locations, 60 vendors attended.
 - On June 5, 2019, Pacific Power co-hosted a hands-on Advanced Networked Lighting Controls course in Kennewick at Benton PUD. This effort was in collaboration with NEEA's LLLC Initiative, the Seattle Lighting Design Lab and BPA. There were 11 Pacific Power trade allies representing eight Wattsmart Business Vendors in attendance.
- **Contractor Incentive:** In 2019, Pacific Power developed a limited time \$/fixture Contractor Incentive for advanced networked lighting controls that was promoted and offered throughout 2019. Contractors face up-front costs of time and money to obtain manufacturer certification(s) to install advanced lighting controls products. A contractor incentive (focused on the vendor's first projects only) along with the vendor support provided by the program could boost participation.
- **Savings results:** Approximately 96 completed lighting projects with savings from controls totaling approximately 2.1 million kWh/year. There was one project including advanced networked lighting controls. The program paid out a contractor incentive of \$2,400 to a Wattsmart Business contractor who installed advanced networked lighting controls on a qualifying project.

Manufactured Homes

To support regional efforts in providing information about underserved markets or hard-to-reach segments, the Company has included information about its manufactured homes participation. The information provided in Table 8 below and shows its historical manufactured home customers who have participated in the Company's *Low Income Weatherization* and *Home Energy Savings* programs.

Table 8
Participation by Manufactured Home Residents

	2014	2015	2016	2017	2018	2019
Low Income Weatherization homes	40	44	49	45	41	7
Home Energy Savings participants	256	1,028	403	954	872	648
Appliances	34	10	10	4	8	2
Duct Sealing	197	187	12	795	492	488
Heat Pump	24	26	18	79	90	67
Heat Pump Water Heater	4	-	1	3	-	-
Kits	-	817	362	73	282	42
Lighting	12	17	1			-
Lighting buy down	72,646	86,318	54,508	50,953	33,936	34,791
Weatherization	30	8	3	1	4	2

Home Energy Experts was hired by the program administrator to conduct outreach and seal ducts at no cost to manufactured home residents.

Almost 1,500 mailers were sent to customers to generate interest and secure appointments, and 486 homes received the direct install offering. Residents in another two manufactured homes had their ducts sealed using a contractor they selected and paid.

In 2019, 67 heat pump installations were completed in manufactured homes by nine contractors. The manufactured home installations include upgrades to more efficient equipment and converting electric furnaces to heat pumps.

Information on all participants except the lighting buy down was compiled by matching customer identifiers (concatenated service location and agreement numbers) of participants with the same information in residential customer accounts bearing the manufactured home dwelling code flag.

Information about the portion of lighting buy down participants who reside in manufactured homes follows the same calculation used in prior years and uses information from the general population survey from the latest evaluation.²¹

The Company also analyzed manufactured home customers who are also participants in the *Home Energy Reports* program. Table 9 below provides information on current 2019 behavioral program (*Home Energy Reports*) participation by manufactured home residents.

²¹ In 2019, manufactured home customers purchased approximately fourteen percent of the units receiving incentives in the buy down channel. This is the same percentage as used in prior years. The methodology is included in this footnote. Lighting buy down information was compiled from survey information from the draft 2017-2018 Home Energy Savings evaluation. Customer prior year purchases for both CFLs and LEDs were added to arrive at a per-home purchase that was assumed to apply equally to all manufactured homes (approximately 15,300) and calculate an estimate of total purchases for manufactured homes. Manufactured home customers purchased approximately fourteen percent of the units receiving incentives in the buy down channel.

Table 9
Home Energy Reports Participation by Manufactured Home Residents

	Recipient	Control	Total
Legacy	1,555	1,506	3,061
Expansion	2,635	836	3,471
Refill	218	224	442

Information on the behavioral program participation was compiled in 2019 in the same manner (matching customer account number information) as described above for energy efficiency program participation.

In addition, the Advisory Group agreed that income data used to help categorize participants would also be useful for the regional efforts described above. Further, providing income information is not a program participation requirement and that available third party data would be used. Accordingly, this information is included in Table 10. The information in Table 10 uses zip code information for all *Home Energy Savings* program participants and those participants residing in manufactured homes as well as income information from the US Census Bureau. This comparison does not illustrate a strong correlation between lower income levels and manufactured home participation. Alternately stated, it appears program participation by manufactured home residents is similar to overall program participation by zip code/income level. Similar information was included in last year's report and 2019 was added for this report.

Table 10
Manufactured Home Income Data

ZIP Code	Median Household Income - US Census Bureau American Community Survey	Project Count - All DSM Projects 2014 - 2019	% Total DSM Projects	Project Count - MANUFACTURED Projects 2014 - 2019	% Total Manufactured Projects
98948	\$43,106	323	1%	27	1%
98932	\$47,302	292	1%	18	0%
98944	\$43,434	1,183	5%	142	3%
98947	\$9,697	252	1%	42	1%
98901	\$38,579	2,125	8%	531	12%
98951	\$44,729	550	2%	62	1%
98930	\$46,188	996	4%	217	5%
98902	\$41,432	3,439	14%	313	5%
98603	\$61,528	2	0%	0	0%
98935	\$40,096	140	1%	19	0%
98952	\$45,139	34	0%	9	0%
98938	\$76,053	92	0%	14	0%
99347	\$52,173	233	1%	26	1%
99343	\$59,968	0	0%	0	0%
98933	\$51,442	45	0%	11	0%
99328	\$46,406	484	2%	48	1%
98953	\$65,614	514	2%	82	2%
98923	\$52,803	88	0%	14	0%
99350	\$56,713	8	0%	2	0%
98903	\$47,215	1,552	6%	689	15%
99348	\$41,912	166	1%	36	1%
98937	\$55,870	527	2%	71	2%
99301	\$61,029	0	0%	0	0%
98936	\$56,769	486	2%	139	3%
98942	\$60,100	1,624	6%	258	6%
99324	\$42,708	1,080	4%	367	8%
99362	\$52,537	4,366	17%	537	12%
99361	\$60,588	278	1%	91	2%
98908	\$58,801	3,605	14%	552	12%
99360	\$82,344	128	1%	37	1%
99323	\$71,907	452	2%	315	7%
98921	\$28,594	37	0%	9	0%
99329	\$46,250	22	0%	10	0%
98950	\$88,036	3	0%	0	0%
98939	data not available	11	0%	1	0%
99363	data not available	23	0%	16	0%
98920	data not available	1	0%	1	0%

Residential Programs

The residential energy efficiency portfolio is comprised of three company programs: *Home Energy Savings*, *Home Energy Reports*, *Low Income Weatherization*, and *funding for NEEA*. As shown in Table 11, the residential portfolio was cost effective based on three of the five standard cost effectiveness tests for the reporting period. The RIM test was less than 1.0, indicating near-term upward pressure was placed on the price per kilowatt-hour (kWh) given a reduction in sales.

Table 11
Cost Effectiveness for Residential Portfolio²²

Benefit / Cost Test	B/C Ratio with NEEA & NEIs	B/C Ratio without NEEA Inc. NEIs
PTRC	1.03	0.76
TRC	0.96	0.71
UCT	1.22	0.86
PCT	3.13	2.29
RIM	0.36	0.30

Individual program performance, program management and program infrastructure is provided on the following pages.

²² Excludes *Low Income Weatherization* and includes select quantifiable and directly attributable non-energy benefits.

Home Energy Savings

The *Home Energy Savings* program provides access to and incentives for more efficient products and services installed or received by customers residing in newly constructed homes, existing homes, multi-family housing units or manufactured homes. 2019 cost effectiveness results were lower than prior years, primarily the result of fewer energy savings kits being delivered to customers. Energy savings kits are some of the most cost effective measures and contribute substantial non-energy impacts to the portfolio²³. Delivery of energy savings kits was temporarily suspended in 2019 to accommodate the start-up of the new Nexant fulfillment system and the ramp down of the legacy fulfillment system. As a result, the program was only cost effective based on the PCT which indicates the bill savings are greater than the customer costs as shown in Table 12 below.

Table 12
Cost Effectiveness for Home Energy Savings²⁴

Benefit / Cost Test	B/C Ratio
PTRC	0.68
TRC	0.64
UCT	0.75
PCT	1.85
RIM	0.30

Program participation by measure category is provided in Table 13.

Table 13
Eligible Program Measures (Units)

Measure Category	Total kWh/Yr Savings @ Site	Total Incentive	Total Quantity
Appliances	17,208	\$ 8,300	111
Building Shell	178,025	\$ 80,096	301,316 (sq. ft)
Energy Kits	349,304	\$ 9,278	830
HVAC	2,279,506	\$ 848,775	1,107
Lighting	2,662,335	\$ 305,540	207,227
Water Heating	27,775	\$ 8,900	20
Whole Home	244,739	\$ 147,100	79
Grand Total	5,758,893	\$ 1,407,990	

Program Management

²³ Appendix 1 – table17 (Home Energy Savings non-energy benefits).

²⁴ Includes quantifiable and directly attributable non-energy impacts.

The Company program manager who is responsible for the program in Washington is also responsible for the *Home Energy Savings* program in California and *Home Energy Reports* program in Washington.

For each program and in each state the program manager is responsible for the cost effectiveness of the program, contracting with the program administrator monitoring program performance and compliance, and recommending changes in measures, incentives, or delivery requirements as set out in the tariff and/or posted on the Company's website.

In 2018, the Company issued a Request for Proposal to re-procure services for *Home Energy Savings* program in California and Washington. The Request for Proposal also included an outsourced portion of *Wattsmart Business* currently performed by Nexant and Cascade to allow for potential economies of a single contractor delivering for both programs. Selection and contracting was complete in 2019 and Nexant was selected to replace CLEAResult as administrator of the Home Energy Savings program. The transition between program administrators occurred over approximately 6 month, primarily during Q2 and Q3 and was designed to minimize disruption to customers, trade allies and participating retailers.

Program Administration

The *Home Energy Savings* program is administered by Nexant. Nexant is responsible for the following:

- Retailer and trade ally engagement – Nexant identifies, recruits, supports, and assists retailers to increase the sale of energy efficient lighting, appliances and electronics. Nexant enters into promotion agreements with each lighting manufacturer and retailer for the promotion of discounted lighting equipment. The agreements include specific retail locations, lighting products receiving incentives and not-to-exceed annual budgets. Weatherization and HVAC trade allies engaged with the program are provided with program materials, training, and regular updates.
- Inspections – Nexant recruits and hires inspectors to verify on an on-going basis the installation of measures. A summary of the inspection process is in Appendix 2.
- Incentive processing and call-center operations – Nexant receives all requests for incentives, determines whether the applications are completed, works directly with customers when information is incorrect or missing from the application and processes the application for payment.
- Program specific customer communication and outreach – A summary of the communication and outreach is outlined in the Communication, Outreach and Education section.

Program Changes

Planned changes went into effect January 1, 2019 as part of the adaptive management strategy for aligning the Home Energy Savings program during the 2018-2019 biennium with updated planning assumptions, market conditions and pilot expectations. Namely:

- Updated unit energy savings and equipment eligibility to align with Regional Technical Forum (RTF) information available as of October 1, 2018.
- Increased incentive for heat pump dryers to \$600 to support the pilot.
- Qualification of smart thermostats was broadened to equipment listed on the ENERGY STAR qualified products list.
- The highest tier (4) for heat pump water heaters was dropped since it is now part of the Tier 3 based on the most recent RTF workbook.
- Added options for offering limited time stocking or completion payments to contractors and/or distributors for selected measures. These payments were included in the program delivery budget.

Adaptive Management

The Company made substantial changes through an adaptive management approach which included the following 2019 activities:

- New program website was launched in June 2019 as part of the transition to Nexant. The new web site incorporates updated Company branding and provides links to incentive applications and customer support. The web site also includes the on-line ordering capability for the Energy Savings kits.
- Trade Ally Connect, a new on-line portal focused on trade allies was launched as part of the transition to Nexant. This platform hosts all Home Energy Saving tools and resources. Portal content is tailored by sector and state. Vendors who participate in incentive offers from Home Energy Savings and Wattsmart Business have access to resources for both programs in Trade Ally Connect. As Vendors join the Wattsmart Vendor Network via the application in the portal, their company is added to the Find A Trade Ally tool, a resource for customers searching for contractors in their area.
- The Program introduced an online incentive center where customers and approved trade allies can submit applications online. This new tool works directly with Pacific Power's database system allowing for a more streamlined application and processing path. Either a customer or a contractor can apply and the system is tailored to only show measures each customer and contractor is eligible for. Additionally, customers and contractors are now able to track their incentive application status online in real time.
- At the end of 2019, the Program announced a planned request for proposals for the creation of a manufactured homes contractor network in Washington. This network will be able to

provide specialized products and services to residential customers residing in or plan to reside in manufactured homes in Pacific Power's Washington service area.

- The Washington Home Energy Guide transitioned from a platform hosted by EnergySavvy to a new platform hosted by Bidgely.
- Continued implementing New Home Whole Home Performance Path application submittals through the NEEA's AXIS platform. In 2019, 64 new homes were certified through the Whole Home Performance Path program.
- In 2019, trade allies were engaged in several field activities, including trainings in Yakima and Walla Walla in September. These trainings introduced trade allies to the new Program Administrator, shared important program information and introduced newly available tools. Program Administrator conduct several territory visits through 2019 to build relationships with vendors, conduct inspections and conduct on-site trainings of trade allies.
- Program Administrator connected with participating retailers over a total of 220 employee interactions in 2019. Additionally, there were 158 customer interactions through in-store promotions and site visits. An event hosted by participating lighting manufacturer Megalite participate in holiday fair in December, delivering \$35,000 in lighting incentives.

Infrastructure

Multiple retailers and trade allies help deliver energy efficient products on behalf of the Company. The list of participating and non-participating retailers and trade allies by delivery channel and measure is provided in Appendix 3.

Home Energy Reports

The *Home Energy Reports* program is a behavioral program designed to decrease participant energy usage by providing comparative energy usage data for similar homes located in the same geographical area. Additionally, the report provides the participant with information on how to decrease their energy usage. Equipped with this information, participants can modify behavior or make structural equipment, lighting, or appliance modifications to reduce their overall electric energy consumption.

Reports were initially provided to approximately 13,500 customers (referred to as “legacy” group). The number of participants decreased over time due to customer attrition from general customer churn (customer move-outs)²⁵ and customers requesting to be removed from the program. In 2014, the program was expanded to 38,500 additional customers (referred to as “expansion” group).²⁶ Another group of customers (referred to as “legacy refill” group) were added in January 2015 to offset attrition and lower energy savings than expected from the initial legacy group.²⁷

In 2018, the Company transitioned the Home Energy Report delivery contract from OPower/Oracle to Bidgely. Starting in 2018 and continuing through 2019, customers in the same treatment groups received either paper or email reports that included a breakdown of electricity usage by appliance category and comparison of their energy use to other similar homes. Paper reports are mailed to customers on a bi-monthly schedule. Email reports are sent on a monthly basis. All participants may request an electronic version delivered via email and have access to a web portal containing the same information about their usage, usage by appliance category, and past usage provided in the report. The web portal also contains other functions such as the ability for customers to update their home profile (for more accurate comparisons) and suggestions on more ways to save energy around their home. Results are shown in Table 14.

Table 14
Cost Effectiveness for *Home Energy Reports*

Benefit / Cost Test	Benefit/Cost Ratio
PTRC	2.33
TRC	2.12
UCT	2.12
PCT	n/a
RIM	0.29

²⁵ At the end of 2019 approximately 7,776 customers in the legacy group were still participating and receiving home energy reports.

²⁶ At the end of 2019, approximately 20,985 customers in the expansion group were still participating and receiving home energy reports.

²⁷ At the end of 2019, approximately 2,858 customers in the legacy refill group were still participating and receiving home energy reports.

Program savings by group is provided in Table 15.

Table 15
Program Savings

Home Energy Reports Group	Total kWh/Yr Savings @ Site
Legacy	4,356,942
Expansion	3,841,913
Refill	167,558
Grand Total	8,366,413

Consistent with planning assumptions used to establish the conservation target and business plan a two year measure life is used to assess costs effectiveness. The Home Energy Reports savings included in the table above are first year reported savings achieved. Any incremental savings for 2019 will be included in the 2018-2019 Biennial Conservation Report.

Program Management

The Company program manager overseeing program activity in Washington is also responsible for *the Home Energy Savings* program in California and Washington. For each program in each state, the program manager is responsible for the cost effectiveness of the program, contracting with the program administrator, monitoring program performance and compliance, and recommending changes measures, incentives or delivery requirements as set in the tariff or posted on the Company's website.

Program Administration

The *Home Energy Reports* program is administered by Bidgely. Bidgely's software creates individualized energy reports for utility customers that analyze their energy usage, disaggregates energy use into end uses and offers recommendations on how to save energy and money by making small changes to their energy consumption.

In 2020, the program participants including both control and treatment groups will be re-randomized in order to expand the program, bring reports to new customers, and do so cost effectively. A key element of this cost effective expansion will be increased digitization of the program, or in other words, sending more email reports than before.

Low Income Weatherization

The *Low Income Weatherization* program provides energy efficiency services through a partnership between the Company and local non-profit agencies to residential customers who meet income-eligible guidelines. Services are provided at no cost to the program participants. Cost effectiveness for the *Low Income Weatherization* program was not included in the portfolio or sector-level analysis per WAC 480-109-100 (10)(b).

In 2019, 87 homes were treated, saving 166,912 kWh (at site). Total homes treated, as well as the type and frequency of specific energy efficiency measures installed in each home, is provided in Table 16.

Table 16
Eligible Program Measures (Units)

Participation – Total # of Completed/Treated Homes	87
Number of Homes Receiving Specific Measures	
Aerators	33
Attic Ventilation	44
Caulk/Weather-stripping	44
Ceiling Insulation	52
Ductless Heat Pump	20
Duct Insulation	29
Floor Insulation	55
LED Light Fixtures	5
LED Light Bulbs	67
Ground Cover	50
Infiltration	68
Repairs	25
Replacement Refrigerators	6
Showerheads	26
Thermal Doors	5
Timed Thermostat	4
Wall Insulation	10
Water Heater Blankets	1
Water Heater Replacement	13
Water Pipe Insulation and Sealing	51
Windows	7

Program Management

The Company program manager overseeing program activity in Washington is also responsible for the *Low Income Weatherization* programs in California, Idaho, Utah, and Wyoming; the bill discount programs;²⁸ and energy assistance programs.²⁹ For each program in each state, the program manager is responsible for the cost effectiveness of the energy efficiency programs, partnerships, and agreements in place with local agencies that serve income eligible households, establishing and monitoring program performance and compliance, and recommending changes in the terms and conditions set out in the tariff.

Program Administration

The Company has long-term partnerships in place with three local non-profit agencies to provide weatherization services to income-qualifying households throughout its Washington service territory. These agencies include Blue Mountain Action Council located in Walla Walla, Northwest Community Action Center in Toppenish, and Opportunities Industrialization Center of Washington in Yakima. The Company entered into an agreement for these services with the Yakama Nation Housing Authority in July 2018.

The leveraging of Company funding along with Washington Match Maker Program funds allows the agencies to provide these energy efficiency services to more households at no cost to participating customers. The Company provides rebates to partnering agencies for 50 percent of the cost of services while Match Maker funds are available, and will cover 100 percent of costs when these state funds are depleted. In 2019, 68 homes were funded at 50% and 13 at 100%. In April 2019, Agencies received additional Match Maker funds from 2017-2019 Match Maker program cycle from Washington Department of Commerce and shifted back to 50% reimbursement of Pacific Power funds. Match Maker program funding for 2019-2021 were released to agencies in third quarter and agencies remained at 50% of Pacific Power funds through the end of 2019. Participants qualify if they are homeowners or renters residing in single-family homes, manufactured homes, or apartments. Over 7,800 homes have been completed with Pacific Power funding since the program's inception in the mid-1980s.

By contract with the Company, the agencies are responsible for the following:

- Income Verification – Agencies determine participant income eligibility based on Washington Department of Commerce guidelines. Households interested in obtaining weatherization services apply through the agencies. The income guidelines can be viewed on the Washington Department of Commerce website³⁰.

²⁸ The Low Income Bill Program (LIBA) in Washington bill discount program provide reduced rate to income eligible households and program criteria.

²⁹ The federally funded Low Income Home Energy Assistance Program (LIHEAP) helps low income households with heating costs. Programs are administered by state agencies through designated local agencies in Washington, California, Idaho, Oregon, Utah and Wyoming. PacifiCorp offers a donation program and matches every dollar donated 2 to 1. Collected funds are sent to designated local agencies that provide energy assistance in Washington, California, Idaho, Oregon, Utah, and Wyoming.

³⁰ <http://www.commerce.wa.gov/wp-content/uploads/2018/03/v.1.1-2018WALowIncomeEligibilityGuidelines.pdf>

- Energy Audit – Agencies use a U.S. Department of Energy approved audit tool or priority list to determine the cost effective measures to install in the participant’s homes (audit results must indicate a savings to investment ratio of 1.0 or greater).
- Installation of Measures – Agencies install the energy efficiency measures.
- Post Inspections – Agencies inspect 100 percent of completed homes. A sample of 5 -10 percent are inspected by a Pacific Power inspector. See Appendix 2 for verification summary.
- Billing Notification – Agencies are required to submit a billing to Company within 90 days after job completion. A homeowner agreement and invoice form indicating the measures installed and associated cost is submitted on each completed home.

Northwest Energy Efficiency Alliance

The Northwest Energy Efficiency Alliance (NEEA) is a non-profit corporation that works collaboratively with its funders and other strategic market partners to accelerate the innovation and adoption of energy-efficient products, services, and practices. NEEA is supported by BPA, Energy Trust of Oregon, and more than 100 Northwest utilities, including Pacific Power.

Program performance for 2019 is being reported based on NEEA's results for Pacific Power of 3,719 MWh (at site). Consistent with the reporting convention approved in Docket UE-132047 the savings represent Pacific Power's portion of Total Regional Savings less the Company's local program savings

Program Administration

The Company has a representative on the NEEA board of directors as well as representatives on each of the sector advisory committees, residential, commercial and industrial.

Non-Residential Program

The Non-Residential Energy Efficiency program is promoted to the Company's commercial, industrial and irrigation customers as Wattsmart Business.

The Wattsmart Business program³¹ is intended to maximize the efficient use of electricity for new and existing non-residential customers through the installation of energy efficiency measures and energy management protocols. Qualifying measures are any measures which, when implemented in an eligible facility, result in verifiable electric energy efficiency improvements.

The program was cost effective in 2019 based on four of the five cost-effectiveness tests as shown in Table 17. The RIM test was less than 1.0, indicating near-term upward pressure was placed on the price per kilowatt-hour (kWh) given a reduction in sales.

Table 17
Cost Effectiveness for Wattsmart Business

Benefit / Cost Test	B/C Ratio with NEEA & NEIs	B/C Ratio without NEEA inc NEIs
PTRC	1.20	1.17
TRC	1.09	1.07
UCT	1.61	1.61
PCT	3.89	3.60
RIM	0.39	0.40

³¹ The program brochure is available at https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/savings-energy-choices/wattsmart-business/washington/WA_wattsmartBusiness_Brochure.pdf. Program detail (in addition to the program tariff, Schedule 140) maintained on the Company website is available at https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/savings-energy-choices/wattsmart-business/washington/WA_wattsmartBusiness_Incentive_tables_information.pdf.

Program performance by sector and measure category is provided in Table 18 and 19.

Table 18
Program Performance by Sector

Sector	Total kWh/Yr Savings @ Site	Total Incentive	Total kW Savings @ Site	Total Projects
Commercial	16,634,791	\$ 1,658,706	1,732	334
Industrial	3,139,561	\$ 222,475	182	31
Irrigation	1,012,597	\$ 139,231	123	29
Grand Total	20,786,950	\$ 2,020,412	2,037	394

Table 19
Program Performance by Measure Category

Measure Category	Total kWh/Yr Savings @ Site	Total Incentive	Total kW Savings @ Site	Total Projects
Additional Measures	52,690	\$ 7,904	-	1
Building Shell	51,989	\$ 17,096	-	4
Compressed Air	1,152,222	\$ 124,266	34	11
Energy Management	3,270,087	\$ 65,402	136	8
Food Service Equipment	22,071	\$ 1,600	3	3
HVAC	548,423	\$ 106,188	45	37
Irrigation	1,098,082	\$ 153,950	139	32
Lighting	10,919,095	\$ 1,024,234	1,485	269
Motors	450,367	\$ 57,484	91	7
Refrigeration	3,221,924	\$ 462,288	104	22
Grand Total	20,786,950	\$ 2,020,412	2,037	394

Services and incentives offered through the Wattsmart Business program include:

- Typical Upgrades included in Incentive Lists: Incentives for listed lighting, HVAC, irrigation and other equipment upgrades that increase electrical energy efficiency and exceed energy code requirements.
- Custom analysis: Offers energy analysis studies, services and incentives for more complex projects.
- Energy Management: Provides expert facility and process analysis and incentives to help lower energy costs by optimizing customer's energy use.
- Enhanced incentives for small businesses: Provides enhanced incentives for lighting upgrades installed by an approved Wattsmart Small Business Contractor at an eligible existing small business customer facility.
- Midstream/Lighting Instant Incentive: Provides instant, point-of-purchase incentive for qualifying LED lamps sold through participating distributors. Customers purchasing lamps from non-participating suppliers can apply for incentives after purchase.

- Energy Project Manager Co-funding: Available to customers who commit to an annual goal of completing energy projects resulting in at least 1,000,000 kWh/year in energy savings.
- Project Financing: Pacific Power teamed with National Energy Improvement Fund, an energy efficiency project financing firm, to provide customers with access to third party financing options for instances where funds for project implementation are not available from within the customer's organization.

Program Management

The Company program manager overseeing program activity in Washington is also responsible for the Wattsmart Business program in California. For each state the program manager is responsible for the cost effectiveness of the program, identifying, and contracting with the program administrators through a competitive bid process, program marketing, establishing and monitoring program performance and compliance, and recommending changes in the terms and conditions of the program set out in the tariff and/or posted on the Company's website.

In 2018, the Company issued a Request for Proposals to re-procure services for the outsourced portion of Wattsmart Business currently performed by Nexant and Cascade Energy as described below. The Request for Proposal also included *Home Energy Savings* to allow for potential economies of a single contractor delivering for both programs. Selection and contracting with Nexant and Cascade Energy was complete in 2019. Nexant is now also delivering the *Home Energy Savings* program, allowing consolidation of some administrative functions and the residential and non-residential trade ally networks.

In December 2018, the Company issued a Request for Proposals to potentially outsource the project manager portion of Wattsmart Business as described below. The decision was made in 2019 to outsource this work and selection and contracting with Cascade Energy was complete in 2019. The transition from an in-house project manager working with a pre-contracted network of consultants (including Cascade Energy and others) took place starting in August 2019.

Program Administration

The program includes several delivery channels, including Trade Ally, Small Business Enhanced Incentive Offer, Midstream/Lighting Instant Incentive, and Project Manager (managed account) delivery.

Trade Ally

In this channel, the program is primarily marketed through local trade allies who receive support from one of two program administrators. The Company contracts with Nexant, Inc. (Nexant) and Cascade Energy (Cascade) for trade ally coordination, training, application processing and project facilitation services for commercial measures and industrial/agricultural measures, respectively.

Nexant and Cascade are responsible for the following:

- Trade ally engagement – identify, recruit, train, support and assist trade allies to increase sales and installation of energy efficient equipment at qualifying business customer facilities.
- Incentive processing and administrative support – handle incoming inquiries as assigned, process incentive applications, develop and maintain simplified analysis tools and provide program design services, evaluation and regulatory support upon request.
- Direct customer outreach and project facilitation for smaller customer projects.
- Inspections – verify on an on-going basis the installation of measures. A summary of the inspection process is in Appendix 2.

Small Business Enhanced Incentive Offer

In this channel, the program is primarily marketed through local contractors approved specifically for this offer who receive support from the program administrator, Nexant. Nexant is responsible for the following:

- Management of approved contractors – identify, recruit, contract with, train, support, and assist contractors to increase sales and installation of energy efficient lighting equipment at qualifying small business customer facilities.
- Incentive processing and administrative support – handle incoming inquiries as assigned, process incentive applications, develop and maintain simplified analysis tool and provide program design services, evaluation and regulatory support upon request.
- Inspections – verify on an on-going basis the installation of measures. A summary of the inspection process is in Appendix 2 to this report.

Midstream/Instant Incentive Offer

In this channel, the program is primarily marketed through distributors approved specifically for this offer who receive support from the program administrator, Nexant. The program is also marketed through installation contractors, who also receive support from Nexant. Nexant is responsible for the following:

- Management of approved distributors – identify, recruit, contract with, train, support, and assist distributors to increase sales of energy efficient lighting equipment at qualifying business customer facilities.
- Incentive processing and administrative support – handle incoming inquiries as assigned, process incentive applications, and provide program design services, evaluation and regulatory support upon request.
- Inspections – verify on an on-going basis the installation of measures at eligible customer facilities. A summary of the inspection process is in Appendix 2 to this report.

Project Manager (managed account delivery)

In this channel, Cascade Energy, working with the Company's internal project manager, manages a subset of more complex projects. The team works directly with the customer or through the

Company’s regional business managers³² to identify projects and provide program services and incentives or refer project leads to the appropriate channel identified above.

Infrastructure

To help increase and improve the supplier and installation contractor infrastructure for typical energy efficient equipment and services, the Company established and continues to develop and support trade ally networks for lighting, HVAC and motors/VFDs. This work includes identifying and recruiting trade allies, providing program and technical training and providing sales support on an ongoing basis.

Participating vendors sign a Wattsmart Business participation agreement and are listed as Wattsmart Business Vendors in the Find a Vendor search on the Company’s website. In addition to the formal Wattsmart Business vendor networks, other trade allies such as irrigation vendors are identified and supported on an ongoing basis.

The current searchable list of trade allies who have applied and been approved as participating Wattsmart Business vendors is available on the Company website³³ and included as Appendix 4 to this report. In most cases, customers are not required to select a vendor from these lists to receive an incentive.³⁴

The total number of participating trade allies is currently 43. The current count of participating trade allies by technology are in Table 20.

Table 20
Participating Trade Allies³⁵

Lighting	HVAC	Motors and VFD	Irrigation	Small Business – approved contractors	LED Instant Incentive – approved distributors, e-commerce retailers
36	8	19	1	4	6 distributors, 14 branch locations and 4 e-commerce retailers

³² Regional business managers are responsible for directly working with Washington commercial and industrial/ag customers.

³³ Searchable participating vendor lists are available from the Company website. Direct link to the “Find a Vendor” search tool: <https://pacificpower.tradeally.com/>

³⁴ For the Wattsmart Small Business enhanced incentives, customers are required to choose one of the approved contractors for this offer.

³⁵ Some trade allies may participate in more than one technology so the count of unique participating firms is less than the total count provided.

Program Changes

The Company made programmatic changes once in 2019 in addition to announcing changes for 2020. Effective January 1, 2019, changes were made to:

- Improve program cost effectiveness by
 - a. Adopting the RTF's non-residential lighting dual baseline savings and cost calculation methodology for lighting retrofits and small business lighting
 - b. Removing measures updated by the RTF that are no longer cost effective.
- Update measures to align with RTF and CEE changes
- Streamline program participation processes for customers and trade allies
- Make other minor administrative changes.

Adaptive Management

The Company made substantial changes through an adaptive management approach. The following bullets summarize the changes.

- **Strategic Energy Management Cohorts**

In May 2018, Pacific Power partnered with the Bonneville Power Administration (BPA) to jointly provide a water conservation coaching cohort for water supply entities in the Yakima and Tri-Cities areas of Washington. These customers, who are served by different utilities, met for five workshops through June of 2019 to learn about strategic energy management (SEM) best practices for pumping optimization and water conservation. Pacific Power worked with our customers participating in the SEM engagement to identify specific actions for each customer site that would result in energy savings with a focus on low cost improvements. Pacific Power helped our customers prioritize these opportunities and develop a plan for implementation over a two year period ending in June 2021. Pacific Power is expected to report energy savings for the first year of engagement in June 2020.

Many of the City entities participating in the water SEM were interested in doing a similar engagement for the waste water portion of their business. Pacific Power is currently soliciting interest with our customers for a separate SEM engagement for waste water entities with joint collaboration with BPA utilities. The structure of the waste water SEM will be identical to that described for the water SEM with workshops and targeted site work for customers. This engagement is expected to start in June 2020³⁶.

- **LED Street Light Upgrades for Small Communities** – All 18 small communities served by Pacific Power and eligible for the Washington Transportation Improvement Board's Relight Washington funding received LED upgrades for their company owned street lights between late 2018 and early 2020. Installation of 646 LED street light upgrades was complete for one community in late 2018. In 2019, 3,432 street lights in 14 communities were upgraded to LED. Installations for the remaining 397 lights in three communities will be complete in

³⁶ Note these plans were made before the COVID-19 pandemic.

2020, resulting in a total of 4,475 lights upgraded. The total annual energy savings for all eighteen communities is 2.7 million kWh and total Wattsmart Business incentives is \$143,669. Feedback from the communities has been very positive.

- **Yakima Energy Fair** – Pacific Power hosted a successful energy fair in Yakima on June 26, 2019. The event was targeted for local area small businesses and included presentations on energy efficiency as well as other offerings such as Blue Sky and electric vehicles. There was an electric vehicle ride and drive event held on site at the end of the event. As part of promoting the event, customers were invited to request an assessment to identify savings opportunities at their business. 72 energy efficiency assessments were completed both before and after the event. 62 people attended the event (excluding program staff).
- **Targeted Small Business Campaign** – This campaign provides approved Wattsmart Small Business Vendors who signed a Non-Disclosure agreement (in addition to the vendor participation agreement already on file) with refined customer lists (containing business name, address, phone number only) to more effectively connect with customers eligible for the small business enhanced incentives. Prior to providing the specially developed customer lists, postcards are mailed to each customer on the list to introduce them to the program and let them know a Vendor will be contacting them. The intent of this initiative is to improve the efficiency of approved vendor’s sales processes and boost small business participation. In 2019, postcards were sent to 55 small businesses³⁷ and lists were provided to vendors for follow-up. This resulted in 12 new project starts and 4 projects with total annual savings of 199,592 kWh completed in 2019. Pacific Power Wattsmart Business Vendor co-branded shirts were made available in 2019. The shirts provided significant help in promoting vendor credibility with small business customers.
- **eLearning Platform** - In addition to seven courses that were launched in 2018, nine new courses were added to the eLearning platform for Wattsmart Business vendors in 2019:
 1. Lighting Products Safety Concerns and Valid Certifications
 2. Advanced Networked Lighting Controls
 3. Introduction to HVAC
 4. Programmable Smart Thermostats
 5. Ductless Heat Pumps
 6. Wattsmart Advanced Exterior Dimming
 7. Lighting Incentive Program Path Part 1
 8. Lighting Incentive Program Path Part 2
 9. DesignLights Consortium Networked Lighting Controls Training Course (8-course module developed by the DesignLights Consortium that is hosted on the Pacific Power Wattsmart Learning Center platform)

³⁷ The postcards have been mailed in four separate waves starting in late 2018 to a total of 70 small businesses with each wave going to a small number of eligible customers (about 15 customers per contractor). Once the contractor follow-up contacts were complete and the contractor was able to do more follow-ups, another wave was mailed to the next small group of eligible customers.

Vendors can take advantage of the eLearning Platform anywhere they have a connected device. Program outreach staff will continue to work with vendors to engage them with the platform and obtain ideas for relevant and timely new courses.

In Washington, there are 25 registered users on the platform with 25 course completions and 98 assigned courses and 19 in-process courses.

- **Advanced Rooftop Unit Control (ARC)** – In 2019, the program continued to offer a vendor incentive³⁸ aimed at mechanical Wattsmart Business vendors to promote and install the ARC measure at Pacific Power businesses. The vendor incentive was promoted in Wattsmart Business Vendor network communications and field staff promoted the incentive in their regular outreach. In 2018, Young’s heating and Cooling received three of the five available gift cards. Although the two remaining gift cards were not claimed in 2019, there is a project moving forward at a large customer facility for which the vendor may be eligible for the incentive in 2020. In 2019, All Seasons Heating and Air Conditioning sent two employees through training at Transformative Wave and they are now certified to install the ARC measure. (Young’s heating and cooling staff in Walla Walla became certified by Transformative Wave in 2018.)

During the March 2019 Wattsmart Business Vendor training, contractors were given an in-depth look at an ARC retrofit project that was videoed during an actual in-field installation. Attendees got to see how controls optimize existing inefficient Rooftop Unit (RTU) technology and were able to witness immediate real-time savings. Additionally, four ARC Manufacturers exhibited at the event and answered questions from attendees.

To further promote ARC to customers and Vendors, a promotional video³⁹ was created in late 2019, which highlights the benefits of the technology and features a case study of a PacifiCorp customer and Wattsmart Business Vendor.

- **Premium Tier** – In 2019, Stusser Electric in Yakima and Consolidated Electric Supply in Sunnyside were the two vendors that were recognized as Pacific Power’s Wattsmart Business Premium Vendors. Vendor performance is assessed on a quarterly basis in the Vendor Snapshot which also informs the trade ally if they qualified for Premium status. To be considered for Premium status, an approved Wattsmart Business Vendor has to complete a minimum number of projects in the past twelve months and hold a lighting credential such as the NEEA’s NXT Level 1 Designation for both the company and an employee. Pacific Power established performance categories that align with program objectives to assess and rank lighting trade ally performance. In addition to project count and credentials, lighting vendors are also selected based on customer satisfaction, program satisfaction and project submission quality. The Premium Vendors come up first in the online Find-A-Vendor search results and their listing is highlighted so they stand out when someone searches for a lighting vendor. They are also given the opportunity to provide expanded information about their company in their online listing. As of the end of 2019, there were no Premium vendors listed

³⁸ \$100 Amazon gift card per ARC installed for first five units installed, limit of three gift cards per approved vendor

³⁹ The video is available here - https://wattsmartbusiness.com/pacificpower/wp-content/uploads/sites/8/WSB_ARC_PP_Final.mp4

and work is underway to review the Premium Tier initiative and vendors who have the highest potential to meet the requirements.

- **Formal feedback** - Scorecards were provided to approved lighting vendors each quarter in 2019 and program coordinators followed up to review the snapshots with each vendor. The main purpose is to provide vendors with a summary of their performance, help them with continuous improvement and inform them of positive customer comments received from customer surveys. Program coordinators work with individual vendors to address any negative comments. The Vendor Snapshot includes total number of projects, savings, incentives, and the vendor's standing in comparison to other vendors. Starting in 2020, these snapshots will be completed twice a year, however project counts will be updated quarterly into the portal.
- **New Trade Ally Portal** - At the end of 2019, a new Vendor portal, Trade Ally Connect, was launched. This platform hosts all Wattsmart Business vendor tools and resources such as program updates, training courses and marketing materials. Portal content is tailored by vendor expertise/technology, sector and state. Vendors who participate in incentive offers from Wattsmart Business and Home Energy Savings have access to resources for both programs in Trade Ally Connect.

Trade Ally Connect is the first of three new tools for Wattsmart Business Vendors. In 2020, an online incentive application portal and a new online assessment tool that will replace the current Excel-based lighting tool will be launched.

Communications, Outreach and Education

The Company uses earned media, customer communications, paid media, and program specific media to communicate the value of energy efficiency, and provide information regarding low-cost and no-cost energy efficiency measures. The Company endeavors to educate customers on the availability of technical assistance, services, and incentives with the overall goal to engage customers in reducing their energy usage.

Earned Media

Earned media is managed by the Company's external communications department in cooperation with the regional business managers located in Washington. "Earned media" generally refers to favorable television, radio, newspaper, or internet news coverage gained through press releases, media events, opinion pieces, story pitches, or other communication with news editors and reporters.

Customer Communications

As part of the Company's regular communications to its customers, newsletters and bill statement communications promote energy efficiency initiatives. The Company uses its website and social media, such as Twitter and Facebook, to communicate and engage customers on DSM offers and incentives.

Paid Media/Wattsmart campaign

In 2019, the Company deployed a Wattsmart advertising campaign in English and Spanish to inform and educate residential customers about the benefits energy efficiency contributes to the greater good in addition to saving money. The overall paid media objective is to effectively reach our customers through a multi-faceted campaign with programs aimed at specific customer groups and the unifying theme "Being Wattsmart saves me money, and it's good for Washington." This communication campaign aims to create awareness of the importance and benefits of being energy efficient, and to help increase participation in the Company's DSM programs.

Key strategies include:

- Implement an advertising campaign that features Wattsmart energy efficiency messaging and connect it to benefits for Washington.
- Promote customer conservation (behavioral changes) and increase participation and savings through the Company's Wattsmart DSM programs.
- Motivate customers in Washington to reduce consumption independently or to do so by participating in the Company's Wattsmart DSM programs.
- Educate customers on how these programs can help them save money on their utility bills, reduce energy consumption and to help Washington thrive.

- Demonstrate by example how business customers are saving energy and enjoying the benefits of being Wattsmart.

General Key Messages:

- Using energy wisely at home and in your business saves you money, and it's good for Washington.
- Surprising as it sounds, Pacific Power wants to help you use less energy.
- Pacific Power is your energy partner
 - We want to help you keep your costs down.
 - We offer Wattsmart programs and cash incentives to help you save money and energy in your home or business.
 - Being Wattsmart is good for your wallet, and for Washington, now and into the future.

To reach residential customers, the Company used TV, radio, social, print and digital. Large-scale typography along with beautiful scenic images of Washington was combined with footage of people taking small steps (changing lighting to LED lamps, adjusting smart thermostat setting) to save energy and money and to make a big difference for Washington and the environment, now and into the future.

To reach business customers a multi-media mix of TV, radio, social and digital were used to reach as many customers as possible with the greatest frequency. Table 21 outlines the Washington media channels used, the value of each channel, and the impressions achieved.

Table 21
2019 Media Channels

Communication Channel	Value to Communication Portfolio	2019 Placements
Television	Television has the broadest reach and works as the most effective media channel	874,800 residential impressions 1,385,100 business impressions
Radio	Given the cost relative to television, radio builds on communications delivered via television while providing for increased frequency of messages	717,480 residential impressions 886,885 business impressions
Newspaper/Magazine	Supports broadcast messages and guarantees coverage in areas harder to reach with broadcast	286,000 residential impressions
Online advertising	Digital display and Google Search	637,668 residential impressions and 8,592 search impressions 434,905 business impressions and 4,097 search impressions
Social Advertising	Advertising on Facebook, Hulu, YouTube and Pandora	236,619 residential impressions 790,840 business impressions

Communication Channel	Value to Communication Portfolio	2019 Placements
Twitter @PacificPower_WA	Awareness for early adopters regarding energy efficiency tips Tweets posted on a weekly basis	1,086 followers through December 2019
Facebook www.facebook.com/pacificpower	Awareness for early adopters regarding energy efficiency tips and a location to share information	23,084 fans through December 2019 (for all Pacific Power states)

The total number of impressions for the campaign in 2019 was 6,005,586.

Links to the Company's current portfolio of advertisements are included in Appendix 5. The audiences for these messages were prioritized as follows:

- Primary - Small and large business in Pacific Power's service area.
- Secondary - Households in Pacific Power's service area.

Program Specific

All energy efficiency program communications are branded under the Wattsmart umbrella to reinforce the campaign and to link changes in behavior to actions customers can take by participating in specific programs. Separate marketing activities administered by and specific to the programs ran in conjunction with the Wattsmart campaign in 2019.

Home Energy Savings

Information on the *Home Energy Savings* program is communicated to customers, retailers and trade allies through a variety of channels including social media, direct mail, email, newsletters and website.

The program team produced refreshed point-of-purchase collateral, incentive applications and launched a new customer website in 2019. The new website, Wattsmartsavings.net, offers improved content, functionality and navigation, along with an easy and seamless transition between Pacific Power's main website, pacificpower.net, and Wattsmartsavings.net.

Promotional efforts in Washington focused primarily on Wattsmart Starter Kits through a series of targeted customer emails and a bill insert.

In addition, the company sent a letter to customers living in manufactured homes with a duct sealing offer. Customers with electrically heated manufactured homes could qualify for free duct sealing through a local trade ally contractor.

Finally, the company worked with Doore Living, The Sustainable Living Center, American Air Heating and Cooling and Smith Insulation to celebrate its energy-efficiency project success on the Brookhaven Quarters multifamily housing property with an event, customer recognition and a press release.

A summary of outreach is displayed in Table 22

Table 22
Home Energy Savings Communication Impressions

Communications Channel	2019
Wattsmart Starter Kits Emails - May	11,020
Wattsmart Starter Kit Emails - November	49,057
Wattsmart Starter Kit bill insert	85,000
Manufactured homes duct sealing letter	500
Total	145,577

Home Energy Reports

Thousands of print and email Home Energy Reports were delivered to Washington customers in 2019. Pacific Power's new and improved website launch in July created a streamlined path for customers to access the Bidgely web platform for energy usage insights.

Wattsmart Business

In 2019, customer communications and outreach supported Wattsmart Business using radio, print, paid digital display and search advertising, digital video (OTT), direct mail, email and social media. This was in addition to customer direct contact by Company project managers and regional business managers, as well as trade ally partners and content on the Company's website.

During 2019, the Company used radio and print advertising to encourage customers to inquire about incentives for lighting and lighting controls, Eblasts and digital search ads directed viewers to the Company's website⁴⁰. Targeted direct mail was also sent to irrigation customers in the spring and fall to encourage energy-saving retrofits, Emails encouraged customers to reach out for free energy assessments for lighting. Repeated email communications focused on the benefits and incentives for HVAC assessments. Targeted direct mail was aimed at small business customers to generate interest in lighting upgrades and incentives.

One customer was recognized as Wattsmart Business Partners of the year, presented with a trophy, and announced in a press release. In 2019, the program garnered 1,682,478 impressions. A breakdown of impressions by media type is shown in Table 23

Table 23
Wattsmart Business

Communications Channel	2019 Impressions
Radio	1,096,150
Newspaper	159,825
Magazine	34,500
Digital Display	1,659,301
Digital Video (OTT)	236,472

⁴⁰ www.pacificpower.net/wasave

Communications Channel	2019 Impressions
Radio	1,096,150
Google Search	3,017
Social Media (Facebook)	573,282
Eblasts	6,040
Yakima Energy Fair Mail	8,536
Irrigation Direct Mail	4,951
WA Direct Business Mail	1,067
Small Business Direct Mail	55

Energy Education in Schools

The Company offers a Wattsmart Schools education program through the National Energy Foundation (NEF). The program is designed to develop a culture of energy efficiency among teachers, students, and families. The centerpiece is a series of one hour presentations with educational and entertaining video components as well as hands-on, large group activities for 4th and 5th grade students. Teachers are provided instructional materials for use in their classrooms, and students are sent home with a Home Energy Worksheet to explore energy use in their homes and to encourage efficient behaviors.

In 2019, NEF conducted presentations in Washington schools in the fall. Between September 1 and the first week of November 2019, the program met its outreach goals of reaching 3,567 students and 145 teachers with 47 school presentations and 53 percent of “Home Energy Worksheets”, which are used as part of a home energy audit activity, completed, and returned. The NEF 2019 Report can be found in Appendix 5.

Evaluations

Evaluations are performed by independent external evaluators to validate energy and demand savings derived from the Company's energy efficiency programs. Industry best practices are adopted by the Company with regards to principles of operation, methodologies, evaluation methods, definitions of terms, and protocols including those outlined in the National Action Plan for Energy Efficiency Program Impact Evaluation and the California Evaluation Framework guides.

A component of the overall evaluation effort is aimed at the reasonable verification of installations of energy efficient measures and associated documentation through review of documentation, surveys and/or ongoing onsite inspections.

Verification of the potential to achieve savings involves regular inspection and commissioning of equipment. The Company engages in programmatic verification activities, including inspections, quality assurance reviews, and tracking checks and balances as part of routine program implementation and may rely upon these practices in the verification of installation information for the purposes of savings verifications in advance of more formal impact evaluation results. A summary of the inspection process is included in Appendix 2.

Evaluation, measurement and verification tasks are segregated within the Company to ensure they are performed and managed by personnel who are not directly responsible for program management.

Information on evaluation activities completed or in progress during 2019 is summarized in the chart below. Summary of the recommendations are provided in Appendix 6. The evaluation reports are available at <https://www.pacificorp.com/environment/demand-side-management.html>

Table 24
2019 Evaluation Activities

Program / Activities	Years Evaluated	Evaluator	Progress Status
Home Energy Savings	2017-2018	ADM	Complete
WA Verification of Savings	2018-2019	AEG	In-process
Wattsmart Business	2018-2021	Cadmus	In-process
Home Energy Reports	2018-2019	Cadmus	In-process
Low Income Weatherization	2016-2017	ADM	In-process