



2022 California Review of Energy Efficiency Programs

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<https://www.pacificorp.com/environment/demand-side-management.html>

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EXECUTIVE SUMMARY

Pacific Power is a multi-jurisdictional electric utility providing retail service to customers in California, Oregon, and Washington. Pacific Power, a division of PacifiCorp, serves approximately 49,000 customers in California. Pacific Power acquires energy efficiency and peak reduction resources as cost-effective alternatives to the acquisition of supply-side resources.

PacifiCorp develops a biennial integrated resource plan (IRP) as a means of balancing cost, risk, uncertainty, supply reliability/deliverability and long-run public policy goals.¹ The IRP presents a framework of future actions to ensure that Pacific Power 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.

Pacific Power uses outsourced program delivery implementers for its programs.² Evaluations for each of the programs are performed by independent external evaluators to validate energy savings derived from Pacific Power's energy efficiency programs.³

Pacific Power utilizes earned media, customer communications, education, and outreach, advertising as well as program specific marketing to communicate the value of energy efficiency, provide information regarding low-cost, no-cost energy efficiency measures and to educate customer on the availability of programs, services, and incentives.⁴

The Company offers two energy efficiency programs to customers in California. Home Energy Savings is offered to residential customers⁵ and Wattsmart Business is offered to commercial, industrial, and irrigation customers. Costs associated with the energy efficiency programs are recovered through schedule S-191. This report provides details on program results, activities, and expenditures of the demand side management (DSM) Cost Adjustment Tariff Rider ("Schedule S-191") as of the reporting period from January 1, 2022, through December 31, 2022. Pacific Power, on behalf of its customers, invested \$939,444 in energy efficiency and peak reduction resource

¹ Information on PacifiCorp's IRP can be found at <https://www.pacificorp.com/energy/integrated-resource-plan.html>.

² Program Administration can be found at <https://www.pacificorp.com/environment/demand-side-management.html> under the "Program Administration" section.

³ Program Evaluation information for each program can be found at the following address: <https://www.pacificorp.com/environment/demand-side-management.html> under the "Reports and program evaluations by state" section.

⁴ Communications, Outreach and Education can be found at <https://www.pacificorp.com/environment/demand-side-management.html> under the "Communications and Outreach" section.

⁵ The Company's energy savings assistance program for income-qualified residential customers is outside of the scope of this report.

acquisitions during the reporting period. The investment yielded approximately 2.2 gigawatt-hours (“GWh”) in first-year energy savings,⁶ and approximately 395 gross kilowatts (“kW”) of lifetime demand savings from 2022 energy efficiency acquisition. The portfolio results in 2022 exceeded the approved energy savings for 2022 in Commission Decision (D.) 21-12-034 of 2,001,000 kWh and the budget of \$824,520.⁷ The portfolio achieved approximately 9% more savings and expenditures were approximately 4% less than projected in the 2022 Annual Budget Advice Letter (Advice Letter 657-E and 657-E-A).

The Demand-side Management (“DSM”) portfolio was not cost effective based on the Total Resource Cost (TRC) test and was cost effective based on the Program Administrator Cost (PAC)⁸ test, which are the two primary cost benefit tests in California.⁹ The Home Energy Savings program was not cost effective on a TRC basis largely driven by low participation. The Wattsmart Business program was cost-effective on a TRC basis. Pacific Power is making the necessary changes for 2023 by transitioning Home Energy Savings to an equity program and continuing to run Wattsmart Business as a resource acquisition program. Cost-effectiveness results are provided in Table 11 and Appendix A.

In 2022, Pacific Power’s portfolio included the following programs:

- **Energy Efficiency Programs:**
 - Home Energy Savings
 - Wattsmart Business

REGULATORY ACTIVITIES

Energy efficiency programs are funded through a Commission-approved DSM Tariff Rider, the Public Purpose Charge (Schedule S-191).

On December 31, 2020, PacifiCorp filed Application A.20-12-018 to continue its energy efficiency programs beyond 2021. The application included a March 31st due date for annual reports.

On December 31, 2020, PacifiCorp provided Energy Division Staff details on program changes for Home Energy Savings and Wattsmart Business for 2021 that were summarized in the Annual Budget Advice Letter for 2021 (Advice Letter 637-E). The program changes were effective March 15, 2021.

On September 1, 2021, PacifiCorp filed an Annual Budget Advice Letter for 2022 (Advice Letter 657-E) in accordance with D.18-11-033 and D.20-11-032. On December 21, 2021, PacifiCorp filed a supplement to the Annual Budget Advice Letter for 2022 (Advice Letter 657-E-A). On December 24, 2021, PacifiCorp

⁶ Reported ex-ante savings are gross at generation.

⁷ The approved overall energy savings and funding authorized in Decision D.21-12-034 are for the five-year period from 2022-2026.

⁸ The Program Administrator Cost (PAC) test is also referred to as the Utility Cost Test (UCT).

⁹ Cost effectiveness results include Net-to-Gross (“NTG”) ratios from DEER/eTRM per Decision 18-11-033 and D.21-12-034

received a disposition letter noting Advice Letter 657-E and 657-E-A were accepted effective January 1, 2022.

On September 14, 2021, PacifiCorp filed Advice Letter 659-E to increase the public purpose charge (Schedule S-191) that funds the programs. On December 20, 2021, PacifiCorp submitted supplemental Advice Letter 659-E-A to provide additional information as requested by Energy Division staff, and on December 27, 2021, PacifiCorp received a disposition letter noting Advice 659-E and 659-E-A were accepted effective February 1, 2022.

On December 20, 2021, the Commission issued D.21-12-034 approving PacifiCorp's Application A.20-12-018 to continue administering its Energy Efficiency Programs from 2022-2026 and to continue the Surcharge to Fund Public Purpose Programs. The decision modified the interval at which budget advice letters must be provided from annually to biennially and ordered PacifiCorp to file its first Biennial Budget Advice Letter on September 1, 2022. The decision also ordered PacifiCorp to submit a plan, budget and timeline for implementation of a home energy report program for residential hard-to-reach and Tribal households via Tier 1 advice letter by December 31, 2022.

On January 11, 2022, PacifiCorp filed a Tier 1 Advice Letter (Advice Letter 675-E) as required in Decision (D.) 21-12-034, Ordering Paragraph 3, on program changes that were outlined in the Annual Budget Advice Letter for 2022 (Advice Letter 657-E and 657-E-A). On February 3, 2022, PacifiCorp received a disposition letter noting Advice 675-E was accepted effective March 28, 2022. The program changes were announced on the program websites on February 11, 2022 and were effective March 28, 2022.

On August 24, 2022, PacifiCorp submitted a request for an extension of time from September 1, 2022, to October 7, 2022, to submit the Biennial Budget Advice Letter, as directed by Ordering Paragraph 4 of Decision (D.) 21-12-034 (Decision). On September 27, 2022, the request was granted by Executive Director Rachel Peterson.

On October 7, 2022, PacifiCorp filed a Biennial Budget Advice Letter for 2023-2024 (Advice 697-E). This filing included designation of the programs by segment. Home Energy Savings was proposed as an equity program once program changes were approved in 2023, and Wattsmart Business was proposed to continue as a resource acquisition program. On December 19, 2022, PacifiCorp received a disposition letter noting Advice 697-E was approved effective January 1, 2023.

On December 30, 2022, PacifiCorp filed a Tier 1 Advice Letter (Advice Letter 706-E) requesting Commission approval for PacifiCorp's plan to implement Home Energy Reports as an equity program for Hard-to-Reach and Tribal customers beginning in 2023.

PORTFOLIO OF PROGRAMS

RESIDENTIAL ENERGY EFFICIENCY PROGRAM

HOME ENERGY SAVINGS

Program Description

The Home Energy Savings program uses the company's Wattsmart brand for outreach. The program is designed to provide access and incentives for more efficient products and services installed or received in the following home types.

- New Construction Homes
- Single Family Existing Homes
- Multi-family Housing Units
- Manufactured Homes

The program applies to residential customers receiving electric service on Schedules D, DL-6, DS-8, DM-9 or NEM-35. Landlords who own property where the tenant is billed under Schedules D, DL-6, DS-8, DM-9 or NEM-35 also qualify. The company does not have businesses or homes in the disadvantaged communities, as identified by Cal EPA pursuant to Health and Safety Code Section 3971110.

Measures receiving incentives in 2022 included appliances, HVAC, and water heating.

The Home Energy Savings Program did not pass the TRC with a benefit cost ratio of 0.21 for 2022, nor the PAC with a benefit cost ratio of 0.21. Ultimately, the program saw lower participation rates than forecasted which resulted in the lower savings and lower TRC values. The new water heating measures that were added to the program in 2022 did not have the anticipated uptake, and the program was not able to process any incentives for new homes measures, which could have accounted for a significant percentage of the target in 2022. In 2023, the Home Energy Savings program will transition to be an equity program and will be measured by equity metrics rather than a TRC of 1.0 performance requirement.

Program Performance and Major Achievements in 2022

- The Home Energy Saving Program achieved 12,076 kWh gross savings at site.
- Disbursed \$4,560 in incentives.
- The program was updated in 2022 for greater consistency with other California energy efficiency programs. Changes were intended to improve cost effectiveness, as well as align with Database of Energy Efficiency Resources (DEER) statewide workpapers and values.
- Customers received regular communications about available Home Energy Savings program incentives through Pacific Power Connect newsletters sent in the Spring and Fall.
- Customers received bills featuring an insert promoting available residential incentives and cost savings.
- Customers had the opportunity to learn energy savings tips by completing the Home Energy Advisor survey, an online tool that asks customers about their home

¹⁰ <https://www.cpuc.ca.gov/discom/>

characteristics and provides recommended actions to make their home more energy efficient.

- Continued to reach out to residential focused vendors to establish and strengthen relationships and increase awareness of Wattsmart offerings. Connected with 15 residential vendors in 2022.

Additional information on the program administration can be found on the Company's website under the Program administration section:

<https://www.pacificorp.com/environment/demand-side-management.html>

Direct Link to Home Energy Savings program administration:

<https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/environment/dsm/california/California Program Administration Home Energy Savings.pdf>

NON-RESIDENTIAL ENERGY EFFICIENCY PROGRAM

WATTSMART BUSINESS

Program Description

The commercial, industrial, and irrigation energy efficiency program is consolidated into a Non-Residential Energy Efficiency program, Schedule A-140.¹¹ The Non-Residential Energy Efficiency program is promoted to the company's customers as Wattsmart Business.

Wattsmart Business is intended to influence new and existing non-residential customers to increase the efficiency of electricity usage through the installation of energy efficiency measures and adoption of improved energy management protocols. Qualifying measures include those which, when implemented in an eligible facility, produce verifiable electric energy efficiency improvements.

Incentives and services offered through Wattsmart Business include:

¹¹ Program details such as incentive tables and program definitions are available on our website at https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/savings-energy-choices/wattsmart-business/california/CA_wattsmartBusiness_Definitions_Incentive_Tables_Information.pdf

The program brochure is available at

https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/savings-energy-choices/wattsmart-business/california/CA_wattsmartBusiness_Brochure.pdf

- Typical upgrades included in Incentive Lists: Incentives for listed lighting, HVAC, irrigation, compressed air, 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.
- 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: PacifiCorp is 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.

In 2022, the Wattsmart Business program passed both the TRC with 1.05, and PAC at 1.28.

Program Performance and Major Achievements in 2022

- In 2022, the program achieved 2,052,407 kWh gross savings at site.
- Disbursed incentives of \$348,046.
- The program was updated in 2022 to continue to improve consistency with other California energy efficiency programs. These changes are intended to
 - align with [DEER/eTRM statewide workpapers](#)¹², including removal or modification of measures.
 - Edited eligibility requirements for LED High Bay and Low Bay measures to only provide incentives for equipment rated 30,000 lumens and higher.
 - Moved Type B and Type C TLED retrofit measures from site-specific to deemed and changed incentives.
 - Removed Type B and Type C TLED New Construction/Major Renovation offerings from the program.
 - Reduced incentive for custom New Construction/Major Renovation lighting projects.
 - Created new measures for air-cooled screw chillers and high-performance conveyor toasters.
 - Revised eligibility requirements for ultra-low temperature freezers and heat pump water heaters.

¹² The California Electronic Technical Reference Manual (eTRM) will be the source for all statewide deemed measures starting in 2022. <http://www.caltf.org/etrm-overview>

- Revised irrigation water distribution measures.
- Adaptively managed ongoing impacts stemming from the COVID-19 pandemic. For example, outreach and onsite inspections continued to be performed virtually where necessary.
- Updated the Pacific Power branded lighting incentive and savings calculation tool and customer facing report for use in proposing lighting projects to customers.
- Continued to add courses to the eLearning Platform for participating vendors. The platform has a variety of courses that cover available incentives, measure requirements, and resources for applying. In 2022, the program added one new course for California vendors: DesignLights Consortium Networked Lighting Controls Training Course.
- Continued to support Lighting distributors/vendors and encourage them to continue to participate in Pacific Power communities.
- Continued to work with Hallie Gallinger and Cascade Energy to support managed and non-managed customers.
- Reached out to food service representatives to increase awareness of program offerings.
- Continued working with large industrial and City entities to identify energy efficiency opportunities.

Additional information on the program administration can be found on the Company's website under the Program administration section:

<https://www.pacificorp.com/environment/demand-side-management.html>

Direct Link to Wattsmart Business program administration:

https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/environment/dsm/california/California_Program_Administration_NonResidential.pdf

EXPENDITURES

TOTAL PORTFOLIO BUDGET AND EXPENDITURES

Table 1: DSM Balancing Account¹³

Month	Expenditure ¹⁴	S-191 Revenue ¹⁵	Cash Basis Accumulative Balance ¹⁶	Net Cost Accrual ¹⁷	Accrual Basis Accumulative Balance ¹⁸
21-Dec			\$ (2,587)	\$ (53,704)	\$ 144,945
22-Jan	\$ 53,961	\$ (79,006)	\$ (27,631)	\$ 27,510	\$ 147,411
22-Feb	\$ 57,248	\$ (89,318)	\$ (59,700)	\$ 12,824	\$ 128,166
22-Mar	\$ 84,267	\$ (92,542)	\$ (67,975)	\$ 43,359	\$ 163,250
22-Apr	\$ 52,936	\$ (105,884)	\$ (120,923)	\$ (74,575)	\$ 35,727
22-May	\$ 136,210	\$ (90,351)	\$ (75,065)	\$ 17,896	\$ 99,482
22-Jun	\$ 132,195	\$ (103,594)	\$ (46,464)	\$ 28,816	\$ 156,899
22-Jul	\$ 102,553	\$ (102,861)	\$ (46,773)	\$ (44,529)	\$ 112,062
22-Aug	\$ 201,430	\$ (105,503)	\$ 49,155	\$ 60,124	\$ 268,113
22-Sep	\$ (10,533)	\$ (94,707)	\$ (56,085)	\$ 132,428	\$ 295,301
22-Oct	\$ 61,719	\$ (102,073)	\$ (96,438)	\$ (130,340)	\$ 124,607
22-Nov	\$ 126,413	\$ (68,175)	\$ (38,200)	\$ 47,898	\$ 230,743
22-Dec	\$ (43,398)	\$ (118,916)	\$ (200,514)	\$ 3,814 ¹⁹	\$ 72,243
2022 Total	\$ 955,002	\$ (1,152,929)			

¹³ The DSM balancing account is the mechanism used for managing the DSM Tariff Rider revenues and actual DSM-incurred expenditures.

¹⁴ Monthly expenditures for approved energy efficiency programs.

¹⁵ Revenue collected through the DSM Tariff Rider.

¹⁶ Current balance of the account; a running total of account activities, excluding the accrued cost. A positive balance means cumulative expenditures exceeds cumulative revenue; a negative balance means cumulative revenue exceeds cumulative expenditures.

¹⁷ 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. This accounting principle was applied to the balancing account but would not be included when calculating carrying charges.

¹⁸ Current balance of the account including accrued costs. A positive balance means cumulative expenditures exceeds cumulative revenue; a negative balance means cumulative revenue exceeds cumulative expenditures

¹⁹ December 2022 accrual

Table 2: California Gross Results January 1, 2022 – December 31, 2022²⁰

Energy Efficiency Program	kWh Savings (At site)	kWh Savings (At gen)	Investment	
<i>Home Energy Savings</i>	12,076	13,136	\$	38,146
Total Residential	12,076	13,136	\$	38,146
WSB Commercial	1,342,284	1,458,150	\$	525,803
WSB Industrial	214,539	232,835	\$	90,274
WSB Irrigation	495,584	539,086	\$	171,573
Total Wattsmart Business	2,052,407	2,230,071	\$	787,650
Portfolio - EM&V			\$	89,814
Portfolio - DSM Central			\$	23,534
Portfolio – TRL			\$	300
Total Energy Efficiency	2,064,483	2,243,208	\$	939,444

Table 3: Portfolio Level Forecast Expenditures – Breakdown by Cost Category²¹

Cost Category Description	2022 Expenditures	% of Total
Administrative Costs	\$ 76,527	8%
Direct Implementation – Incentives	\$ 352,606	38%
Direct Implementation - Non-Incentives	\$ 392,471	42%
IOU's administered marketing, education, and outreach	\$ 28,025	3%
EM&V	\$ 89,814	10%
Total²²	\$ 939,444	100%

Table 4: 2022 Program Level Expenditures – Breakdown by Cost Category

Cost Category Description	2022 Home Energy Savings Expenditures (a)	2022 Wattsmart Business Expenditures (b)	2022 Total Portfolio Expenditures (c)	2022 Total Expenditures (a+b+c)	% of Total
Utility Administrative Costs	\$ 7,559	\$ 66,384	\$ 2,584	\$ 76,527	8%
Direct Implementation – Incentives	\$ 4,560	\$ 348,046		\$ 352,306	38%
Direct Implementation - Non-Incentives	\$ 24,523	\$ 346,698	\$ 21,250	\$ 392,471	42%

²⁰ Gross Savings

²¹ Decision 18-11-033 included an order to submit Annual Budget Advice Letters (“ABAL”) starting in September 2019 that include a breakdown of expenses, including at minimum the following categories: incentive payments, program evaluations, and administrative expenses.

²² General Ledger detail available in the California Program Cost V2 file.

Cost Category Description	2022 Home Energy Savings Expenditures (a)	2022 Wattsmart Business Expenditures (b)	2022 Total Portfolio Expenditures (c)	2022 Total Expenditures (a+b+c)	% of Total
IOU's administered marketing, education, and outreach	\$ 1,504	\$ 26,521		\$ 28,025	3%
EM&V			\$ 89,814	\$ 89,814	10%
Total	\$ 38,146	\$ 787,649	\$ 113,648	\$ 939,444	100%

OVERALL PORTFOLIO LEVEL METRICS REPORTING

D.18-11-033 included an order to conform to “Overall Portfolio Level” metrics requirements as prescribed in D.18-05.041.

1. Energy Savings – Tables 5-7 summarize first year annual and lifecycle ex-ante (pre-evaluation) electric and demand savings (gross and net) for 2022.

Table 5: First Year Annual Savings Gross and Net²³

Program	First Year Gross kWh Savings at Site	First Year Net kWh Savings at Site	First Year Gross kWh Savings at Gen	First Year Net kWh Savings at Gen
Home Energy Savings	12,076	11,016	13,136	9,555
Wattsmart Business	2,052,407	1,874,743	2,230,071	1,715,801
Total	2,064,483	1,885,759	2,243,208	1,725,357

Table 6: Lifecycle kWh Gross and Net Savings²⁴

Program	Lifecycle Gross kWh Savings at Site	Lifecycle Net kWh Savings at Site	Lifecycle Gross kWh Savings at Gen	Lifecycle Net kWh Savings at Gen
Home Energy Savings	120,987	88,006	131,608	95,732
Wattsmart Business	13,969,987	10,748,412	15,179,283	11,678,836
Total	14,090,974	10,836,419	15,310,891	11,774,568

Table 7: Gross and Net kW Savings²⁵

²³ Decision 18-11-033 included an order to conform to ‘Overall Portfolio Level’ metrics requirements as prescribed in Decision 18-05-041.

²⁴Lifecycle savings without discount rate.

²⁵ kW savings are not additive over the measure life since it is time independent and therefore lifecycle impacts are reported consistent with first year kW savings. Totals may be off due to rounding.

Program	First Year Gross kW Savings at Site	First Year Net kW Savings at Site	First Year Gross kW Savings at Gen	First Year Net kW Savings at Gen
Home Energy Savings	2	2	2	2
Wattsmart Business	361	278	392	302
Total	363	280	395	304

2. Disadvantaged Communities – The company does not have businesses or homes in disadvantaged communities, as identified by CalEPA pursuant to Health and Safety Code Section 39711.²⁶
3. Hard-to-Reach Participation – Tables 8-10 represent the company’s hard-to-reach customer participation by program.

Table 8: 2022 Hard to Reach Markets First Annual Gross and Net kWh Savings

Program	First Year Gross kWh Savings at Site	First Year Net kWh Savings at Site	First Year Gross kWh Savings at Gen	First Year Net kWh Savings at Gen
Home Energy Savings	7,627	6,483	8,297	7,052
Wattsmart Business	761,365	606,470	775,083	658,820
Total	768,992	612,953	783,379	665,872

Table 9: 2022 Hard to Reach Markets Lifecycle Gross and Net kWh Savings

Program	Lifecycle Gross kWh Savings at Site	Lifecycle Net kWh Savings at Site	Lifecycle Gross kWh Savings at Gen	Lifecycle Net kWh Savings at Gen
Home Energy Savings	76,186	64,758	82,875	70,443
Wattsmart Business	5,130,770	4,086,945	5,573,658	4,439,730
Total	5,206,957	4,151,704	5,656,533	4,510,174

Table 10: 2022 Hard to Reach Markets Gross and Net kW Savings

Program	First Year Gross kW Savings at Site	First Year Net kW Savings at Site	First Year Gross kW Savings at Gen	First Year Net kW Savings at Gen
Home Energy Savings	1	1	1	1
Wattsmart Business	134	107	146	116
Total	135	108	147	117

Table 11: Home Energy Savings Eligible Program Measures

Measure Category	Total kWh/Year Savings at Site	Total Incentive	Measure Quantity
Appliances	822	\$ 360	9
HVAC	664	\$ 200	4
Water Heating	10,590	\$ 4,000	7

²⁶ <https://www.cpuc.ca.gov/discom/>

Measure Category	Total kWh/Year Savings at Site	Total Incentive	Measure Quantity
Grand Total	12,076	\$ 4,560	20

Table 12: Wattsmart Business Program Performance by Sector

Sector	Total kWh/Yr Savings @ Site	Total Incentive	Total Projects
Commercial	1,342,284	\$ 240,234	155
Industrial	214,539	\$ 36,082	8
Irrigation	495,584	\$ 71,731	40
Grand Total	2,052,407	\$ 348,046	203

Table 13: Wattsmart Business Installed Program Measures

Sector	Total kWh/Yr Savings @ Site	Total Incentive	Total Projects
Irrigation	495,584	\$ 71,731	40
Lighting	1,025,351	\$ 225,266	158
Motors	161,878	\$ 24,282	1
Energy Management	220,547	\$ 4,411	2
Refrigeration	78,398	\$ 11,760	1
Compressed Air	70,649	\$ 10,597	1
Grand Total	2,052,407	\$ 348,046	203

TOTAL COST EFFECTIVENESS RESULTS BY PORTFOLIO AND PROGRAM

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 follows the methodology specified in California’s Standard Practice Manual. The analysis 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.

Based on D.18-11-033, PacifiCorp’s model was revised in 2018 to include a greenhouse gas adder for the incremental value of avoided greenhouse gas emissions.

Based on D.21.12.34, PacifiCorp’s model was authorized for use through 2026 with documentation of avoided cost adjustments to the California Avoided Cost Calculator (ACC) provided in the Company’s 2022 ABAL.

The company only used approved net-to-gross ratios from DEER/eTRM in the cost effectiveness assessment for the 2022 program year.

Each of the cost-effectiveness tests is outlined below. The primary cost/benefit tests are the Total Resource Cost (TRC) and UCT.

- PacifiCorp Total Resource Test (PTRC) is the total resource cost test with an additional 10% added to the net benefit side of the benefit/cost formula to account for non-quantified environmental and non-energy benefits of conservation resources over supply side alternatives.
- Total Resource Cost (TRC) Test considers the benefits and costs from the perspective of all utility customers, comparing the total costs and benefits from both the utility and utility customer perspectives.
- Utility Cost (UCT) Test also called the Program Administrator Cost Test (PAC), provides a benefit to cost perspective from the utility only. The test compares the total utility cost incurred to the benefit/value of the energy and capacity saved and contains no customer costs or benefits in calculation of the ratio.
- Participant Cost Test (PCT) compares the portion of the resource paid directly by participants to the savings realized by the participants.
- Ratepayer Impact Cost Test (RIM) examines the impact of energy efficiency expenditures on non-participating ratepayers overall. Unlike supply-side investments, energy efficiency programs reduce energy sales. Reduced sales typically lower revenue requirements while putting near-term upward pressure on the rates remaining fixed costs are spread over fewer kilowatt-hours.

To accurately reflect the value of energy efficiency to PacifiCorp’s system and align with CPUC avoided cost guidance, PacifiCorp relied on the ACC Excel file available on the CPUC website and adjusted inputs as appropriate to align with PacifiCorp’s system and 2021 IRP to develop hourly values of avoided costs consistent with approach outlined in D.18-11-033, D.21.12.034 and the Company’s ABAL for 2022.

These ACC avoided cost values were then input to the cost-effectiveness modeling tool for assessment.

Table 14: Portfolio Cost Effectiveness

Program	Benefit/Cost Test ²⁷				
	PTRC	TRC	UCT/PAC	PCT	RIM
Energy Efficiency Portfolio	1.00	0.91	1.08	2.98	0.40
Residential Energy Efficiency Portfolio	0.23	0.21	0.21	2.64	0.16
C&I Programs (non-residential)	1.15	1.05	1.28	2.98	0.43

²⁷ Based on decision 18-11-033, PacifiCorp’s model was revised in 2018 to include greenhouse gas adder for the incremental value of avoided greenhouse gas emissions.

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, 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 efforts 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.

Evaluation, measurement, and verification tasks are segregated within the Company organization 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 2022 summarized in the chart below. Completed evaluation reports are available at the following link, under the “Reports and program evaluations by state” section:

<https://www.pacificorp.com/environment/demand-side-management.html>

Table 15: 2022 Evaluation Activities

Evaluation	Responsible Consultant	Status	Published
Wattsmart Business Program Evaluation 2020-2021	Cadmus	Completed	2022