

Energy Division Central Files Document Coversheet

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1. Fill out coversheet completely. Coversheet can be embedded as page 1 of the electronic compliance filing, or can be submitted as a separate document that is attached to the email that delivers the compliance filing.
2. If the coversheet is submitted as separate document, please name the coversheet file with the same document name used in your primary document (see Section A) + plus the word "cov" (for coversheet). For example, the name of the coversheet file will be something like: **PacifiCorp Monthly Gas Report 201602 COV.docx**
3. If the document is confidential, add CONF (for confidential). For example, the name of the coversheet file will be something like: **PacifiCorp Monthly Gas Report 201602 CONF.docx** and **PacifiCorp Monthly Gas Report 201602 COV CONF.docx**
4. All documents are required to be submitted in an electronically *searchable* format.
5. Documents need to reference the reason for the mandate that ordered the filing in Section B or C. If you are unable to reference a proceeding or explain the origin of your filing, please contact Energy Division Central Files.
6. To find a proceeding number (if you only have a decision number), go to <http://docs.cpuc.ca.gov/DecisionsSearchForm.aspx>; enter the decision number, and the results shown include the proceeding number.

A. Document Name

Today's Date: 4/2/2024

1. Utility Name: PacifiCorp (U 901 E)
2. Document Submission Frequency (Annual, Semi-Annual, YTD, Quarterly, Monthly, Weekly, Ad-hoc, Once, Other Event): Annual
3. Report Name: Report on Energy Efficiency Programs
4. Reporting Interval (for this submission, e.g. 2015 Q1 – that data date): 2023 CY
5. Document File Name (format as 1+2 + 3 + 4): PacifiCorp Annual Report on Energy Efficiency Programs 2023 CY
6. Append the confidential and/or cover sheet notation, as appropriate. [Click here to enter text.](#)

Sample Document Names:

Utility Name + Submittal Frequency + Report Name + Year + Reporting Interval + (COV or CONF or both or neither)

<i>PacifiCorp Annual Report on Energy Efficiency Programs 2023 CY</i>	

7. Identify whether this filing is original or revision to a previous filing.
 - a. If revision, identify date of the original filing: [Click here to enter text.](#)

B. Documents Related to a Proceeding

All submittals should reference both a proceeding and a decision, if applicable. If not applicable, leave blank and fill out Section C.

1. Proceeding Number (starts with R, I, C, A, or P plus 7 numbers): A.07-07-011, A.20-12-018
2. Decision Number (starts with D plus 7 numbers): D.08-01-041, D.21-12-034
3. Ordering Paragraph (OP) Number from the decision: [Click here to enter text.](#)

Energy Division Central Files Document Coversheet

C. Documents Submitted as Requested by Other Requirements

If the document submitted is in compliance with something other than a proceeding, (e.g. Resolution, Ruling, Staff Letter, Public Utilities Code, or sender's own motion), please explain:

As part of the program implementation plans PacifiCorp committed to provide an annual report covering participation, energy savings, expenditures, and highlights of program activities for its energy efficiency programs.

D. Document Summary

Provide a Document Summary that explains why this report is being filed with the Energy Division. This information is often contained in the cover letter, introduction, or executive summary.

Annual report on the Company's energy efficiency programs.

E. Sender Contact Information

1. Sender Name: Carrie Meyer
2. Sender Organization: PacifiCorp (U 901 E)
3. Sender Phone: 503-347-1802
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F. Confidentiality

1. Is this document confidential? No Yes
 - a. If Yes, provide an explanation of why confidentiality is claimed and identify the expiration of the confidentiality designation (e.g. Confidential until December 31, 2020.) [Click here to enter text.](#)

G. CPUC Routing

Energy Division's Director, Ed Randolph, requests that you not copy him on filings sent to Energy Division Central Files. Identify below any Commission staff that were copied on the submittal of this document.

1. Names of Commission staff that sender copied on the submittal of this Document: Leuwam Tesfai, Amy Reardon, Peter Franzese, Mia Hart

ver.5/19/2016

April 2, 2024

VIA ELECTRONIC MAIL

Leuwam Tesfai
Deputy Executive Director for Energy and Climate Policy
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California Public Utilities Commission
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San Francisco, CA 94102-3298
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**RE: PacifiCorp's (U-901-E) 2023 Annual Report on Energy Efficiency Programs;
Application 20-12-018, Decision 21-12-034**

PacifiCorp d/b/a Pacific Power (PacifiCorp) hereby submits its annual report on its energy efficiency programs. As part of the implementation plans PacifiCorp provided in Application 07-07-011, PacifiCorp committed to provide, starting in 2009, an annual report covering participation, energy savings and expenditures by sector and program, and highlights of program activity. This requirement was continued in the Company's most recent Application 20-12-018 Decision 21-12-034. The attached report covers these topics for calendar year 2023.

It is respectfully requested that all formal correspondence and Staff requests be addressed to the following:

By E-mail (**preferred**): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232

Informal inquiries may be directed to Pooja Kishore, Regulatory Affairs Manager at 503-813-7314.

Sincerely,



Matthew McVee
Vice President, Regulatory Policy and Operations

Enclosure

Cc: Amy Reardon, CPUC Energy Division amy.reardon@cpuc.ca.gov
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2023 California Review of Energy Efficiency Programs

Issued April 2, 2024

Pacific Power
825 NE Multnomah St.
Portland, OR 97232

<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 46,000 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, 2023, through December 31, 2023. Pacific Power, on behalf of its customers, invested \$773,059 in energy efficiency and peak reduction resource acquisitions during the reporting period. The investment yielded approximately 1.2 gigawatt-hours ("GWh") in first-year energy savings,⁶ and approximately 279 gross kilowatts ("kW") of

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.

⁶ Reported ex-ante savings are gross at generation.

lifetime demand savings from 2023 energy efficiency acquisition. The portfolio results in 2023 were less than the approved energy savings for 2023 in Commission Decision (D.) 21-12-034 of 2,425,000 kWh (gross at generation) and the budget of \$1,026,093.⁷The portfolio achieved approximately 86% of the savings and expenditures were approximately 85% of projected expenditures for 2023 in the 2023-2024 Biennial Budget Advice Letter (Advice Letter 697-E) and Home Energy Reports filing (Advice Letter 706- E).

The Demand-side Management (“DSM”) resource acquisition portfolio (Wattsmart Business program) was not cost-effective based on the Total Resource Cost (TRC) test or the Program Administrator Cost (PAC)⁸ test, which are the two primary cost benefit tests in California.⁹ See the Wattsmart Business section below for further explanation. The Home Energy Savings program was transitioned to an equity program in 2023. Home Energy Reports is also an equity program. Cost-effectiveness results are provided in Table 18 and Appendix A.

In 2023, Pacific Power’s portfolio included the following programs:

- **Energy Efficiency Programs:**
 - Home Energy Savings
 - Home Energy Reports (new program with start-up costs only in 2023)
 - 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 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 Reports program for residential hard-to-reach and Tribal households via Tier 1 advice letter by December 31, 2022.

On August 24, 2022, PacifiCorp submitted a request for an extension from September 1, 2022, to October 7, 2022, to submit the Biennial Budget Advice Letter, as directed by Ordering Paragraph 4 of

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 called 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

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 budget years 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. This filing was suspended on January 29, 2023, for 120 days.

On March 30, 2023, PacifiCorp filed a Tier 1 Advice Letter (Advice Letter 714-E) as required in Decision (D.) 21-12-034, Ordering Paragraph 3, on program changes that were outlined in the Biennial Budget Advice Letter for 2023-2024 (Advice Letter 697-E). On May 8, 2023, PacifiCorp received a disposition letter noting Advice 714-E was accepted effective June 15, 2023. The program changes were announced on the program website on May 1, 2023, and were effective June 15, 2023.

On April 20, 2023, PacifiCorp filed a Tier 1 Advice Letter (Advice Letter 706-E-A) as a revision to the suspended Advice Letter 706-E. Through this revised filing, PacifiCorp requested approval for a Home Energy Reports equity program for Hard-to-Reach - including California Alternate Rates for Energy (CARE) program participants, multifamily renters, and manufactured home renters - and Tribal customers beginning in 2024. On May 24, 2023, PacifiCorp received a disposition letter noting Advice 706-E-A was approved effective June 1, 2023.

Decision 21-12-034 directs PacifiCorp to submit a Tier 2 advice letter within six months after the San Joaquin Valley Disadvantaged Communities fuel switching pilot evaluation is filed if it decides to commence its fuel switching pilot. The San Joaquin Valley pilot process evaluation was completed in 2020;¹⁰ the impact evaluation is not yet complete. PacifiCorp will continue to follow the progress of the impact evaluation.

PORTFOLIO OF PROGRAMS

RESIDENTIAL ENERGY EFFICIENCY PROGRAMS

HOME ENERGY SAVINGS – EQUITY SEGMENT

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.

¹⁰ Process Evaluation Final Report, dated October 12, 2020, is available at <https://pda.energydataweb.com/api/view/2432/SJV%20DAC%20Final%20Research%20Plan%20101220.pdf>

- 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.

Based on the PacifiCorp service area map and the Disadvantaged Communities Map, PacifiCorp serves Tribal lands which are designated as disadvantaged communities by CalEnviroScreen 4.0. In 2023, PacifiCorp began tracking participation for customers located on Tribal Lands, and results are in the Overall Portfolio Metrics section of this report. The Company does not serve businesses or homes in disadvantaged communities, as identified by the California Environmental Protection Agency (CalEPA) pursuant to Health and Safety Code Section 39711.¹¹

Residential customers residing within designated tribal lands as referenced above, received energy kits, which included four LED light bulbs, a high- performance showerhead and faucet aerators.

Starting in June 2023, the Home Energy Savings program ran as an equity program and offered new incentives for central brushless fan motors, clothes dryers, ductless heat pumps, heat pump conversions, refrigerators and freezers, room air cleaners, room air conditioners, and smart connected power strips. For the higher cost HVAC measures, the program offered enhanced incentives for qualifying hard-to-reach and Tribal customers, and eligibility was defined on the program website. Customer eligibility is as follows: “California residential customers eligible for California Alternate Rates for Energy (CARE) and/or customers residing on tribal lands are eligible for enhanced HVAC incentives.”

In addition to offering enhanced incentives for certain hard-to-reach and Tribal customers, the Home Energy Savings equity program targeted subsets of the Company’s residential customers as follows:

- Target non-English speaking customers with Spanish program materials.
- Utilize focused lead generation developed in consultation with Tribes to engage Tribal customers.
- Coordinate with local organizations to educate other underserved and minority groups about the program and offerings.
- Target multifamily tenants by direct mail, using the multifamily residential rate code.

In 2023, the Home Energy Savings program transitioned to an equity program measured by equity metrics rather than a TRC of 1.0 performance requirement.

¹¹ https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC§ionNum=39711.

Program Performance and Major Achievements in 2023:

- The Home Energy Saving Program achieved 141,247 kWh gross savings at site.
- Disbursed \$45,943 in incentives.
- The program was updated in June 2023 to align with equity-based metrics as well as align with Database of Energy Efficiency Resources (DEER)/eTRM statewide workpapers and values. New program offerings, delivery channels, measures with enhanced incentives were applied to achieve greater participation from Tribal, Hard-to-Reach, and Disadvantaged Community customers. Program staff engaged with a community-based efficiency consultant located in Siskiyou County to gain local market insights on opportunities that would support underserved customers. This resulted in launching a successful kit offering to 300 customers among two tribes, adding new measures with enhanced incentives for underserved customers. Among the new measures, the program added:
 - Added qualification that Energy Star Clothes Washer measure is available in single family, multifamily, and manufactured home installations as either new construction or normal replacement.
 - Added Energy Star Clothes Dryer measure is available in single family, multifamily, and manufactured home installations as either new construction or normal replacement.
 - Added Energy Star Refrigerator or Freezer measure is available in single family, multifamily, and manufactured home installations as normal replacement.
 - Added Room Air Cleaner measure that must meet clean air delivery rate (CADR) to watt ratio listed on program website. Measure is available in single family, multifamily, and manufactured home installations as either new construction or normal replacement.
 - Added Smart Connected Power Strip measure that must meet Tier 2 connected advanced power strip specifications as listed on program website. Measure is available in single family, multifamily, and manufactured home installations as add-on equipment.
 - Increased Heat Pump Water Heater incentive from \$600 to \$400.
 - Expanded availability for customers in Climate Zone 1 to be able to receive rebates for Smart Thermostats.
 - Added Brushless Fan Motor as new measure that must replace a permanent split capacitor (PSC) or shaded pole residential fan (blower) motor. Measure is available in single family, multifamily, and manufactured home installations as normal replacement.
 - Added Ductless Heat Pump with \$1,000 rebate as new measure with minimum 9.0 HSPF. Previous primary heat source must have been a permanently installed electric resistance heating system. Measure is available in multifamily home installations as normal replacement.
 - Added Hard-to-Reach Multifamily Ductless Heat Pump as new measure that offers

- \$1,500 rebate.
 - Added Ductless Heat Pump replacing Forced Air Furnace as new measure with \$1,500 rebate. Minimum 9.0 HSPF. Previous primary heat source must have been a permanently installed electric forced air furnace. Measure is available in single family and manufactured home installations as normal replacement.
 - Added Ductless Heat Pump replacing Forced Air Furnace - Hard-to-Reach with \$2,000 rebate.
 - Added Ductless Heat Pump replacing Zonal heat with \$1,500 rebate. Minimum 9.0 HSPF. Previous primary heat source must have been a permanently installed zonal electric heating system. Measure is available in single family and manufactured home installations as normal replacement.
 - Added Ductless Heat pump replacing zonal heat for Hard-to-Reach rebate of \$2,000.
- 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 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 11 residential vendors and added 1 new residential vendor in 2023.
 - To align with the Home Energy Savings equity program initiatives listed above, the program offered:
 - Residential energy savings kits for 300 customers on Tribal lands. Kits were shipped directly to community-based organizations within the Yurok and Karuk tribal regions and distributed to customers.
 - Added Spanish program materials.
 - Sent a postcard to multifamily customers to promote high-efficiency products such as heat pumps, heat pump water heaters, clothes washer and dryers, and smart thermostats.

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 – Equity Sector program administration:

https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/environment/dsm/california/CA_Home_Energy_Savings_Equity_2023.pdf

HOME ENERGY REPORTS – EQUITY SEGMENT

Program Description

Home Energy Reports (HER) is a residential information-based measure that provides Tribal customers and Hard-to-Reach customers (qualify for CARE, language other than English, and rental tenants of multi-family and manufactured home dwellings) in the program treatment group with comparisons of their household energy usage to similar residences and recommendations for no- and low-cost changes that households can make to save energy. This information is provided via printed reports mailed to residential customers or digital reports sent via email. Recipients of both types of reporting will also have access to an online customer portal which provides similar information, in addition to the opportunity to personalize messaging. The utilization of both digital and paper reports, as well as an online portal, offer enhanced communication with a tailored, multichannel approach, providing a platform supportive of continuous improvement.

Home Energy Reports launched as a new equity program in California in January 2024. Beginning in Q3 of 2023, program design and development activities were undertaken to set up Home Energy Reports. As a result, development costs were incurred in 2023 with no savings. The level of success for a small HER equity program is dependent upon meaningful usage data, traditional trends that indicate a normal energy usage for the dwelling type and size, and a large enough total of customers by dwelling type to compare control and treatment groups across the attributes of dwelling size and type. The level of success potential for this Home Energy Reports program requires meaningful usage data history for appropriate randomized control trial placement, as well as accurate messaging within the customer reports. Providing HTR and Tribal customers with no and low-cost options will have the greatest potential for customers to adopt energy savings practices.

NON-RESIDENTIAL ENERGY EFFICIENCY PROGRAM

WATTSMART BUSINESS – Resource Acquisition Program

Program Description

The commercial, industrial, and irrigation energy efficiency program is consolidated into a Non-Residential Energy Efficiency program, Schedule A-140.¹² The Non-Residential Energy Efficiency program is promoted to the Company's customers as Wattsmart Business.

¹² 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

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:

- 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.
- Enhanced incentives for small businesses: Provide enhanced incentives for lighting upgrades installed by an approved Wattsmart Small Business Contractor at an eligible existing small business customer facility.
- 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 2023, the Wattsmart Business program did not pass TRC with 0.55, nor did it pass PAC at 0.60 including portfolio costs. Nor did it pass the Wattsmart Business program TRC with 0.60, or PAC with 0.68 excluding portfolio costs.

Program participation was down given economic and supply chain issues stemming from the lingering effects from the COVID-19 pandemic and the removal of key measures with the June 2023 program changes. The program did see participation from irrigation customers, but the irrigation category, which was not projected to be cost-effective in the 2023-2024 BBAL, reduced the overall program cost-effectiveness and there wasn't enough participation in other more cost-effective categories keep the program cost-effective. Cost-effectiveness challenges were described in the 2023-2024 Biennial Budget Advice Letter filed October 7, 2022 (see excerpt below from page 20).

"The Company was able to achieve a resource acquisition TRC of 1.0 on paper using the 2021 version of the Avoided Cost Calculator, but this came at the cost of significant cuts across the board and entire sectors with no offering. Measures with good participation in the past such as irrigation and some commercial lighting measures were not cost effective and had to be reduced or removed. To achieve a TRC of 1.0, savings from remaining measures was increased and

program implementation costs reduced significantly. The marketing budget was reduced to less than half. Overall, energy savings were about the same and expenditures were less than half the budget in this BBAL. While the program had a TRC of 1.0 on paper, the outsourced program delivery team was very concerned they would not achieve the proposed level of savings given the reduced budget and measures and challenges in the market stemming from the pandemic and vendor/trade ally availability/priorities. While the Home Energy Savings program could be proposed as an equity program, the Wattsmart Business program needed to meet or exceed a TRC of 1.0 as a resource acquisition program. This could be achieved on paper, but as mentioned above, not realistically, given the removal of measures and budgets.”

The Wattsmart Business team downloaded the statewide workpapers from the eTRM as of September 1, 2023, and began work in 2023 on program changes for 2024 to align with new and updated statewide workpapers and to seek ways to improve program performance such as by increasing lighting incentives. This work was underway as of the end of 2023 and will be completed in 2024.

Program Performance and Major Achievements in 2023

- In 2023, the program achieved 991,521 kWh gross savings at site.
- Disbursed incentives of \$54,999.
- The program was updated in June 2023 to continue to revise the program based on new/updated statewide energy efficiency workpapers to improve consistency with other California energy efficiency programs and to reach more Hard-to-Reach small business customers. The program changes were described in Advice Letter 714-E and are summarized below.
 - Removed or modified measures to align with statewide workpapers in the eTRM.¹³
 - Removed LED High/Low Bay measures for all lumen ranges.
 - Removed incentives for Electronically Commutated Motors replacing permanent split capacitor motors for evaporator fans in walk-in freezers and coolers. Maintained offering for shaded pole motor replacements.
 - Increased incentives for Commercial Heat Pump Water Heaters to \$500/unit.
 - Increased incentives for Clothes Washers to \$50/unit and specify that only multifamily common areas are eligible for this offering.
 - Reduced incentives for Electric Steam Cookers to \$1,000/unit.
 - Removed the well pump Variable Frequency Drive (VFD) measure. With savings and costs from the most recent revision to the statewide workpaper (September 8, 2022), the measure cost effectiveness is very low.

¹³ The California Electronic Technical Reference Manual (eTRM) was the source for all statewide workpaper deemed measures starting in 2022. <http://www.caltf.org/etrm-overview>

- Introduced the following measures: Classroom HVAC Occupancy Sensor, Commercial Hand-Wrap Machine, Reach-In Refrigerator/Freezer.
- Re-introduced a Small Business Lighting offering to the program for customers on rate schedule A-25 to reach more Hard-to-Reach customers. Incentives for this offer are higher than incentives available for businesses receiving electricity on other rate schedules.

Increased the custom lighting incentives to \$0.20/kWh for custom retrofit lighting and \$0.15/kWh for custom New Construction/Major Renovation (NCMR) lighting.

- Although the irrigation category is not cost-effective, retained several irrigation measures to have an offering for irrigation customers.
- Adaptively managed ongoing economic and supply chain impacts stemming from the lingering effects stemming from the COVID-19 pandemic. For example, outreach representatives kept in close contact with trade allies and large customer projects to accurately reflect the project pipeline. Outreach to the largest commercial and industrial customers confirmed equipment cost increases and availability issues continued to hamper capital project implementation.
- Continued working with large industrial and City entities to identify energy efficiency opportunities. In-person outreach meetings were conducted in June 2023 with large customers and with vendors. After further discussions, a second round of site visits was arranged for October to follow up on initial leads and install data loggers. Two large customers subsequently implemented energy management projects with energy engineering assistance and incentives from the program.
- Continued to support lighting distributors/vendors and encourage them to continue to participate in Pacific Power communities in California. Many of California's Wattsmart Business lighting vendors are in Oregon, and they continue to focus on the generous program offers that are obtainable through Energy Trust of Oregon.
- Outreach performed numerous facility audits and prepared lighting tool estimates for customers and vendors to gain program participation. There were two lighting projects completed in 2023.
- The re-introduced small business lighting offer was promoted to vendors but there were no projects completed. Approved vendors stated that incentive levels were not enough to entice customers to move forward with completing small business lighting upgrades.
- Irrigation customers continued to participate including three who received incentives for well pump VFDs before those incentives ended. The irrigation category was not projected to be cost-effective in the BBAL, so irrigation participation reduced the overall program cost-effectiveness.
- 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 2023, the program added one new

course for California vendors: Identifying Efficiency Opportunities – Wattsmart Business.

- Reached out to food service representatives to increase awareness of program offerings. Outreach schedules recurring check-ins with Food Service representatives within the region to educate them on program opportunities and offers to review their sales invoices and complete customer applications. Suppliers are aware of the program; however, they have not expressed an interest in program participation.

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/CA_Wattsmart_Business_2023.pdf

EXPENDITURES AND RESULTS

TOTAL PORTFOLIO BUDGET AND EXPENDITURES

Table 1: DSM Balancing Account¹⁴

Month	Expenditure ¹⁵	S-191 Revenue ¹⁶	Cash Basis Accumulative Balance ¹⁵	Net Cost Accrual ¹⁶	Accrual Basis Accumulative Balance
22-Dec			\$(200,514)	\$125,226	\$72,243
23-Jan	\$44,923	\$(143,707)	\$(299,299)	\$(47,440)	\$(73,981)
23-Feb	\$62,830	\$(93,886)	\$(330,355)	\$168,592	\$63,554
23-Mar	\$179,268	\$(113,000)	\$(264,087)	\$(31,390)	\$98,431
23-Apr	\$29,087	\$(89,518)	\$(324,518)	\$73,311	\$111,312
23-May	\$68,235	\$(103,854)	\$(360,137)	\$(231,091)	\$(155,398)
23-Jun	\$111,893	\$(76,502)	\$(324,746)	\$(21,946)	\$(141,952)
23-Jul	\$14,958	\$(89,359)	\$(399,147)	\$369,549	\$153,195
23-Aug	\$145,893	\$(117,519)	\$(370,773)	\$(234,765)	\$(53,197)
23-Sep	\$51,294	\$(93,660)	\$(413,140)	\$(71,152)	\$(166,715)

¹⁴ The DSM balancing account is the mechanism used for managing the DSM Tariff Rider revenues and actual DSM-incurred expenditures.

¹⁵ 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.

¹⁶ 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.

23-Oct	\$76,428	\$(53,394)	\$(390,106)	\$32,163	\$(111,519)
23-Nov	\$29,387	\$(97,981)	\$(458,700)	\$2,881	\$(177,231)
23-Dec	(239,197) ¹⁷	\$(106,909)	\$(804,805)	\$104,207	\$(419,130)
2023 Total	\$574,998	\$(1,179,289)			

Table 2: California Gross Results January 1, 2023 – December 31, 2023¹⁸

Energy Efficiency Program	kWh Savings (At site)	kWh Savings (At gen)	Investment
Home Energy Savings (<i>Equity Segment</i>)	141,247	153,647	\$142,214
Home Energy Reports (<i>Equity Segment</i>) ¹⁹	0	0	\$118,306
Total Residential	141,247	153,647	\$260,520
WSB Commercial	113,728	123,545	\$53,158
WSB Industrial	614,272	666,657	\$248,426
WSB Irrigation	263,529	286,662	\$134,584
Total Wattsmart Business (Resource Acquisition)	991,529	1,076,864	\$436,172
Portfolio - EM&V			\$52,166
Portfolio - DSM Central			\$23,872
Portfolio – TRL			\$329
Total Energy Efficiency	1,132,777	1,230,511	\$773,059

Table 3: Portfolio Level Forecast Expenditures – Breakdown by Cost Category²⁰

Cost Category Description	2023 Expenditures	% of Total
Administrative Costs	\$71,377	9%
Direct Implementation – Incentives	\$100,942	13%
Direct Implementation - Non-Incentives	\$501,435	65%
IOU's administered marketing, education, and outreach	\$22,937	3%
EM&V	\$76,368	10%
Total²¹	\$773,059	100%

Table 4: Equity Expenditures as a Percent of Overall

Cost Category Description	2023 Expenditures	% of Total
Home Energy Savings - Equity	\$142,214	18%

¹⁷ The negative expenditure in 23-Dec is due to incorrect general ledger coding, Pacific Power found the error and made necessary adjustments in 2024.

¹⁸ Monthly expenditures for approved energy efficiency programs.

¹⁹ Revenue collected through the DSM Tariff Rider.

²⁰ 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.

²¹ General Ledger detail available in the California Actual Program Cost file.

Home Energy Reports - Equity	\$118,306	15%
Total Equity Segment	\$260,520	34%²²
Wattsmart Business – Resource Acquisition	\$436,172	56%
Portfolio Expenditures (DSM/TRM/EM&V)	\$76,368	10%
Total	\$773,059	100%

²² 2023 equity segment was >30% of total expenditures due to Home Energy Reports start-up costs (\$118,306) and lower participation in the Wattsmart Business program reduced the overall expenditures.

Table 5: 2023 Program Level Expenditures – Breakdown by Cost Category

Cost Category Description	Home Energy Savings (Equity) (a)	Home Energy Reports (Equity) (b)	Wattsmart Business Expenditures (c)	2023 Total Portfolio Expenditures (d)	2023 Total Expenditures (a+b+c+d)	% of Total
Utility Administrative Costs	\$26,949	\$18,306	\$25,978	\$144	\$71,377	9%
Direct Implementation – Incentives	\$45,943		\$54,999		\$100,942	13%
Direct Implementation - Non-Incentives	\$67,876	\$100,000	\$333,560		\$501,436	65%
IOU's administered marketing, education, and outreach	\$1,447		\$21,491		\$22,937	3%
EM&V				\$76,368	\$76,368	10%
Total	\$142,214	\$118,306	\$436,028	\$76,512	\$773,059	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 6-8 summarize first year annual and lifecycle ex-ante (pre-evaluation) electric and demand savings (gross and net) for 2023.

Table 6: 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 (Equity Segment)	141,247	128,847	153,647	148,175
Wattsmart Business	991,539	906,195	1,076,864	1,033,413
Total	1,132,777	1,035,042	1,230,511	1,181,588

Table 7: 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 (Equity Segment)	1,524,086	1,116,195	1,657,885	1,214,186
Wattsmart Business	4,116,211	2,900,729	4,470,468	3,150,377
Total	5,640,297	4,016,924	6,128,353	4,364,563

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

²⁴ Lifecycle savings without discount rate.

Table 8: Gross and Net kW Savings²⁵

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 (<i>Equity Segment</i>)	32	23	35	25
Wattsmart Business	225	158	244	172
Total	257	182	279	197

- 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 PacifiCorp serves Tribal lands which are designated as disadvantaged communities by CalEnviroScreen 4.0, updated in May 2022. Starting in 2023, PacifiCorp began tracking participation by customers located on Tribal lands. There were no Wattsmart Business projects completed by customers located on Tribal lands in 2023. For Home Energy Savings, energy savings kits were distributed to customers residing on Tribal Lands. The participation in tables 9-10 represents these energy saving kits.

Table 9: Tribal First Year Annual Savings Gross and Net

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 (<i>Equity Segment</i>)	62,470	53,100	67,955	63,198
Total	62,470	53,100	67,955	63,198

Table 10: Tribal Lifecycle kWh Gross and Net 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 (<i>Equity Segment</i>)	416,678	329,384	453,258	358,300
Total	416,678	329,384	453,258	358,300

- Hard-to-Reach Participation – Tables 11-13 represent the Company’s hard-to-reach customer participation by program.

4.

5. Table 11: 2023 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
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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.

²⁶ <https://www.cpuc.ca.gov/discom/>

Home Energy Savings (<i>Equity Segment</i>)	29,245	24,858	31,813	26,827
Wattsmart Business	73,847	56,493	80,221	61,369
Total	103,092	81,351	112,034	88,296

Table 12: 2023 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 (<i>Equity Segment</i>)	411,407	346,935	447,524	377,392
Wattsmart Business	286,932	219,503	311,700	238,451
Total	698,339	566,438	759,224	615,843

Table 13: 2023 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 (<i>Equity Segment</i>)	7	6	7	6
Wattsmart Business	17	13	18	14
Total	23	19	25	20

Table 14: Home Energy Savings Program (*Equity Segment*) Eligible Program Measures

Measure Category	Total kWh/Year Savings at Site	Total Incentive	Measure Quantity
Appliances	1,090	\$230	12
HVAC	66,046	\$42,650	28
Water Heating	11,220	\$2,600	8
Whole Home	421	\$463	1
Energy Kits	62,470	\$9744	300
Grand Total	141,247	\$55,687	350

Table 15: Wattsmart Business Program Performance by Sector

Sector	Total kWh/Yr Savings @ Site	Total Incentive	Total External Project ID's
Commercial	113,728	\$9,438	3
Industrial	614,272	\$12,285	1
Irrigation	263,529	\$33,276	13
Grand Total	991,529	\$54,999	17

Table 16: Wattsmart Business Installed Program Measures

Sector	Total kWh/Yr Savings @ Site	Total Incentive	Total External Project ID's
Irrigation	263,529	\$33,276	13
Lighting	90,493	\$8,973	2
Energy Management	637,507	\$12,750	2
Grand Total	991,529	\$54,999	17

EQUITY PROGRAM METRICS REPORTING

Table 17: Equity Metrics Tracking

CPUC number	Metric/Indicator	Metric Details	Quantity/%
Equity_1	Metric	Total # residential (Single Family (SF) or Multifamily (MF) unit) equity-targeted households (HHs) served by the Equity programs	46
Equity_6	Metric	Total # MF equity-targeted buildings served by the Equity programs	0
Equity_23	Metric	Total # of contractors/workers served by Equity Segment Programs	16
Equity_24	Indicator	Total # (indicator for all) [and % (metric for Program Administrators (PA) with no relevant legal restriction)] of contractors and/or workers that are disadvantaged workers or otherwise underrepresented, who are directly involved in implementing Equity Segment programs	Quantity: 9. Representing 56% of total.
Equity_25	Indicator	Total # (indicator for all) [and % (metric for PAs with no relevant legal restriction)] of companies/non-profits who are Diverse Business Enterprises (DBE) or otherwise underrepresented (e.g., BIPOC-owned) with contracts to implement Equity Segment programs	0
Equity_26	Metric	Expected first-year bill savings in total \$ for equity-targeted program participants (metric)	\$5,634
Equity_27	Indicator	GHG reductions (tons)_EquityAll	45,381
Equity_28	Indicator	GHG reductions (tons)_EquityDAC	-
Equity_29	Indicator	GHG reductions (tons)_EquityHTR	5,493
Equity_30	Indicator	GHG reductions (tons)_EquityUnderserved	39,887
Equity_31	Indicator	Total kWh savings_EquityAll	91,715
Equity_32	Indicator	Total kWh savings_EquityDAC	-
Equity_33	Indicator	Total kWh savings_EquityHTR	29,245
Equity_34	Indicator	Total kWh savings_EquityUnderserved	62,470
Equity_35	Indicator	Total kW savings_EquityAll	13.4
Equity_36	Indicator	Total kW savings_EquityDAC	-
Equity_37	Indicator	Total kW savings_EquityHTR	1.4
Equity_38	Indicator	Total kW savings_EquityUnderserved	12
Equity_43	Indicator	Community engagement activities during program design and to identify community needs and solutions	See footnote ²⁷

²⁷ During the program design phase of creating an equity program in California, the program consulted with Great Northern Services, a CBO located in Weed, CA that provides energy assistance, low-income weatherization, and Low-Income Home Energy Assistance Program (LIHEAP) services in Siskiyou County. Recommendations included adding ductless heat pump retrofits as an offering with a \$2,000 incentive to target mid-to-low-income customers. Great Northern Services also recommended that whole house fans, energy efficient appliances, programmable thermostats, and kits

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 2023-2024 BBAL.

The Company only used approved net-to-gross ratios from DEER/eTRM in the cost effectiveness assessment for the 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 Test (TRC) 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 Test (UCT) 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.

The program researched available offerings for these measures in the CA eTRM, and in the RTF for measures where there is not an eTRM measure available. HES program used the findings to include incentives for ductless heat pumps (including enhanced incentives for customers who qualify for CARE or reside on tribal lands), smart thermostats, room air conditioners, room air cleaners, clothes washers, clothes dryers, refrigerators/freezers, and energy savings kits for customers residing on tribal lands.

- 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 2023-2024 BBAL.

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

Table 18: Portfolio Cost Effectiveness

Program	Segment	Benefit/Cost Test ²⁸				
		PTRC	TRC	UCT/PAC	PCT	RIM
Home Energy Savings	Equity	0.62	0.56	0.71	1.44	0.37
C&I Programs (non-residential) exc. portfolio costs	Resource Acquisition	0.68	0.61	0.74	3.25	0.33
C&I Programs (non-residential) inc. portfolio costs	Resource Acquisition	0.60	0.55	0.64	3.25	0.31
Total Portfolio	Equity + Resource Acq.	0.52	0.47	0.55	2.49	0.29

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

²⁸ Based on Decision 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.

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 2023 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 19: 2023 Evaluation Activities

Evaluation	Responsible Consultant	Status	Published
2021-2022 Home Energy Savings Evaluation	ADM	Completed	2023
2022-2023 Wattsmart Business Evaluation	ADM	In Progress	Est. 11-2024



MEMORANDUM

To: Alesha Mander, PacifiCorp
From: Eli Morris, Andy Hudson, Julian Graybill Brubaker, Elizabeth Applegate, AEG
Date: 3/29/2024
Re: PacifiCorp California Portfolio and Sector Level Cost-Effectiveness Results – PY2023

AEG estimated the cost-effectiveness of PacifiCorp's overall energy efficiency portfolio in the state of California based on Program Year (PY) 2023 costs and savings estimates provided by PacifiCorp. This memo provides cost-effectiveness results at the portfolio and sector levels. The portfolio passes the Participant Cost Test (PCT).

This memo provides analysis inputs and results in the following tables:

- Table 1: Cost-Effectiveness Analysis Inputs
- Table 2: Portfolio Level Costs, Nominal - PY2023
- Table 3: Program-Level Costs by Program, Nominal - PY2023
- Table 4: Program-Level Savings by Program, PY2023
- Table 5: Energy Efficiency Benefit/Cost Ratios by Program Type
- Table 6: 2023 Total Portfolio Cost-Effectiveness Results
- Table 7: 2023 C&I Energy Efficiency Sector Cost-Effectiveness Results
- Table 8: 2023 Residential Energy Efficiency Sector Cost-Effectiveness Results
- Table 9: Home Energy Savings Measure Category Level Cost-Effectiveness Results, PY2023
- Table 10: Wattsmart Business Measure Category Level Cost-Effectiveness Results, PY2023

The following assumptions were utilized in the analysis:

- **Avoided Costs:** Hourly values provided by PacifiCorp are from the 2021 Integrated Resource Plan (IRP) Preferred Portfolio, utilizing the 2020 California Avoided Cost Calculator consistent with PacifiCorp's annual budget advice letter for 2023-2024. These are converted into annual values using California load shapes from the IRP.



- **Modeling Inputs:** measure savings, costs, measure lives, incentive levels, and portfolio costs were based on estimates provided by PacifiCorp.
- **Other Economic Assumptions:** Discount rate, line loss, retail rate, energy-to-capacity conversion factor, and inflation rate values were provided by PacifiCorp and are presented in Table 1 below.

Tables 1 through 4 below summarize cost-effectiveness assumptions for the PacifiCorp California energy efficiency portfolio. All costs and impacts are presented at the portfolio level.

Table 1: Cost-Effectiveness Analysis Inputs

Parameter	Value
Discount Rate	6.88%
Residential Line Loss	8.78%
Commercial Line Loss	8.63%
Industrial Line Loss	8.53%
Irrigation Line Loss	8.78%
Residential Energy Rate (\$/kWh)	\$0.1182
Commercial Energy Rate (\$/kWh)	\$0.1411
Industrial Energy Rate (\$/kWh)	\$0.1126
Irrigation Energy Rate (\$/kWh)	\$0.1542
Energy-to-Capacity Conversion Factor	0.00017898
Inflation Rate ²⁹	2.16%

Table 2: Portfolio Level Costs, Nominal - PY2023^{2,30}

Category	PY2023
EM&V	\$52,166
DSM Central	\$23,872
TRL	\$329
Home Energy Reporting (start-up costs)	\$118,306
Total	\$194,674

²⁹ Future rates determined using a 2.16% annual escalator.

³⁰ To align with annual budget expectations, cost-effectiveness inputs are presented in nominal dollars.



Table 3: Program-Level Costs by Program, Nominal - PY2023

Program	Direct Implementation (Non-Incentive) Costs	Utility Administrative Costs	Incentives	Marketing, Education and Outreach	Total Utility Costs	Gross Customer Costs
Home Energy Savings	\$67,876	\$26,949	\$45,943	\$1,447	\$142,214	\$136,798
Wattsmart Business	\$333,560	\$26,122	\$54,999	\$21,491	\$436,172	\$187,591
Total	\$401,436	\$53,071	\$100,942	\$22,937	\$578,386	\$324,389

Table 4: Program-Level Savings by Program, PY2023

Program	Gross Savings (kWh)	Realization Rate	Adjusted Gross Savings (kWh)	Net to Gross Ratio	Net Savings (kWh)	Measure Life
Home Energy Savings	141,247	96%	136,217	76%	103,097	11.00
Wattsmart Business	991,529	96%	951,521	73%	698,093	4.00
Total	1,132,777	96%	1,087,738	74%	801,189	5.00

Tables 5 through 8 present the cost-effectiveness results at the portfolio and sector levels.

Table 5: Energy Efficiency Benefit/Cost Ratios by Program Type

Program	Program Segment	PTRC	TRC	UCT	PCT	RIM
Home Energy Savings	Equity	0.62	0.56	0.71	1.44	0.37
Wattsmart Business	Resource Acquisition	0.68	0.61	0.74	3.25	0.33
Wattsmart Business w/portfolio costs	Resource Acquisition	0.60	0.55	0.64	3.25	0.31
Total Portfolio	Total Portfolio	0.52	0.47	0.55	2.49	0.29



Table 6: 2023 Total Portfolio Cost-Effectiveness Results

Cost-Effectiveness Test	Levelized \$/kWh	Levelized \$/kW	NPV Costs	NPV Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.24	\$1,328	\$913,093	\$474,747	(\$438,346)	0.52
Total Resource Cost Test (TRC) No Adder	\$0.24	\$1,328	\$913,093	\$431,588	(\$481,505)	0.47
Utility Cost Test (UCT)	\$0.20	\$1,138	\$782,803	\$431,588	(\$351,215)	0.55
Participant Cost Test (PCT)			\$324,389	\$806,701	\$482,312	2.49
Rate Impact Test (RIM)			\$1,478,818	\$431,588	(\$1,047,230)	0.29
Total System Benefits						\$384,735
Lifecycle Revenue Impacts (\$/kWh)						\$0.00018
Discounted Participant Payback (years)						2.0

Table 7: 2023 C&I Energy Efficiency Sector Cost-Effectiveness Results

Cost-Effectiveness Test	Levelized \$/kWh	Levelized \$/kW	NPV Costs	NPV Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.18	\$988	\$526,728	\$356,198	(\$170,530)	0.68
Total Resource Cost Test (TRC) No Adder	\$0.18	\$988	\$526,728	\$323,816	(\$202,912)	0.61
Utility Cost Test (UCT)	\$0.15	\$818	\$436,172	\$323,816	(\$112,356)	0.74
Participant Cost Test (PCT)			\$187,591	\$609,967	\$422,376	3.25
Rate Impact Test (RIM)			\$991,139	\$323,816	(\$667,323)	0.33
Total System Benefits						\$276,962
Lifecycle Revenue Impacts (\$/kWh)						\$0.00023
Discounted Participant Payback (years)						1.3



Table 8: 2023 Residential Energy Efficiency Sector Cost-Effectiveness Results

Cost-Effectiveness Test	Levelized \$/kWh	Levelized \$/kW	NPV Costs	NPV Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.22	\$1,239	\$191,692	\$118,549	(\$73,142)	0.62
Total Resource Cost Test (TRC) No Adder	\$0.22	\$1,239	\$191,692	\$107,772	(\$83,919)	0.56
Utility Cost Test (UCT)	\$0.18	\$983	\$151,958	\$107,772	(\$44,186)	0.71
Participant Cost Test (PCT)			\$136,798	\$196,734	\$59,936	1.44
Rate Impact Test (RIM)			\$293,005	\$107,772	(\$185,233)	0.37
Total System Benefits						\$60,919
Lifecycle Revenue Impacts (\$/kWh)						\$0.00004
Discounted Participant Payback (years)						7.6



Tables 9 and 10 present cost-effectiveness results at the measure category levels.

Table 9: Home Energy Savings Measure Category Level Cost-Effectiveness Results, PY2023

Program	Measure Category	Utility Benefits (\$)	Utility Costs (\$)	Utility Cost Test	TRC Benefits (\$)	TRC Costs (\$)	TRC Test	P-TRC Benefits (\$)	P-TRC Costs (\$)	P-TRC Test	Participant PV Benefits (\$)	Participant PV Costs (\$)	PCT Test	Ratepayer PV Benefits (\$)	Ratepayer PV Costs (\$)	RIM Test
Home Energy Savings	Appliances	\$644	\$973	0.66	\$644	\$1,976	0.33	\$709	\$1,976	0.36	\$1,450	\$2,271	0.64	\$644	\$2,193	0.29
Home Energy Savings	HVAC	\$64,538	\$87,665	0.74	\$64,538	\$122,907	0.53	\$70,992	\$122,907	0.58	\$128,751	\$113,356	1.14	\$64,538	\$173,766	0.37
Home Energy Savings	Water Heating	\$7,243	\$10,247	0.71	\$7,243	\$10,415	0.70	\$7,968	\$10,415	0.77	\$13,512	\$3,933	3.44	\$7,243	\$21,159	0.34
Home Energy Savings	Whole Home	\$548	\$750	0.73	\$548	\$5,533	0.10	\$602	\$5,533	0.11	\$1,133	\$7,494	0.15	\$548	\$1,420	0.39
Home Energy Savings	Energy Kits	\$34,799	\$52,322	0.67	\$34,799	\$50,861	0.68	\$38,279	\$50,861	0.75	\$51,888	\$9,744	5.33	\$34,799	\$94,467	0.37

Table 10: Wattsmart Business Measure Category Level Cost-Effectiveness Results, PY2023

Program	Measure Category	Utility Benefits (\$)	Utility Costs (\$)	Utility Cost Test	TRC Benefits (\$)	TRC Costs (\$)	TRC Test	P-TRC Benefits (\$)	P-TRC Costs (\$)	P-TRC Test	Participant PV Benefits (\$)	Participant PV Costs (\$)	PCT Test	Ratepayer PV Benefits (\$)	Ratepayer PV Costs (\$)	RIM Test
Wattsmart Business	Irrigation	\$136,189	\$128,252	1.06	\$136,189	\$231,146	0.59	\$149,808	\$231,146	0.65	\$257,725	\$176,654	1.46	\$136,189	\$352,701	0.39
Wattsmart Business	Lighting	\$48,336	\$59,047	0.82	\$48,336	\$58,928	0.82	\$53,169	\$58,928	0.90	\$86,552	\$10,178	8.50	\$48,336	\$136,625	0.35
Wattsmart Business	Energy Management	\$139,291	\$248,873	0.56	\$139,291	\$236,654	0.59	\$153,220	\$236,654	0.65	\$265,691	\$760	349.68	\$139,291	\$501,813	0.28

1/23/2024

PROGRAM ADMINISTRATION

CALIFORNIA

NON RESIDENTIAL ENERGY EFFICIENCY Program Year 2023

Program Description

Commercial, industrial, and irrigation energy efficiency services and incentives are offered through the Non-Residential Energy Efficiency program, Wattsmart Business.

Wattsmart Business¹ is designed to influence new and existing non-residential customers to increase the efficiency of electric energy usage both through the installation of efficient equipment as well as adoption of improved energy management protocols. Qualifying measures include those which produce verifiable electric energy efficiency improvements compared to an established baseline.

Wattsmart Business offerings include:

- Typical upgrades included in Incentive Lists: Incentives for listed lighting, HVAC, motors, food service, 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.
- Enhanced incentives for small businesses: Provide enhanced incentives for lighting upgrades installed by an approved Wattsmart Small Business Contractor at an eligible existing small business customer facility.
- 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 saving.
- Project Financing: PacifiCorp is teamed with National Energy Improvement Fund, an energy efficiency project financing firm, to provide customers with access to third party

¹ The current program brochure and incentive tables are available at [CA wattsmartBusiness Brochure.pdf \(pacificpower.net\)](#) and [CA wattsmart Business Incentive Lists.pdf \(pacificpower.net\)](#)

Current program detail (in addition to the program tariff, Schedule A-140) maintained on the Company's website is available at [CA wattsmartBusiness Definitions Incentive Tables Information.pdf \(pacificpower.net\)](#).



financing options for instances where funds for project implementation are not available from within the customer's organization.

Program Administration

The program includes multiple delivery channels, including Trade Ally, Managed Account Delivery and Project Facilitation.

Trade Ally: In this channel, the program is marketed through local trade allies who receive support from one of two competitively procured outsourced program administrators. The Company contracts with Resource Innovations, Inc.² ("RI") and Cascade Energy for commercial measures and industrial/agricultural measures, respectively, for services including those listed below.

- 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.
- Inspections – verify on an on-going basis the installation of measures.

Managed Account Delivery and Project Facilitation: 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 managers³ to identify projects and provide program services and incentives or refer project leads to the appropriate channel identified above. Cascade Energy also works directly with customers to facilitate more complex projects involving measures that are not on the incentive lists.

² RI also delivers the Home Energy Savings program, allowing consolidation of some administrative functions and the residential and non-residential trade ally networks.

³ Regional business managers are responsible for directly working with California commercial and industrial/ag customers.