Energy Efficiency

IN CALIFORNIA'S PUBLIC POWER SECTOR

19TH EDITION – 2025

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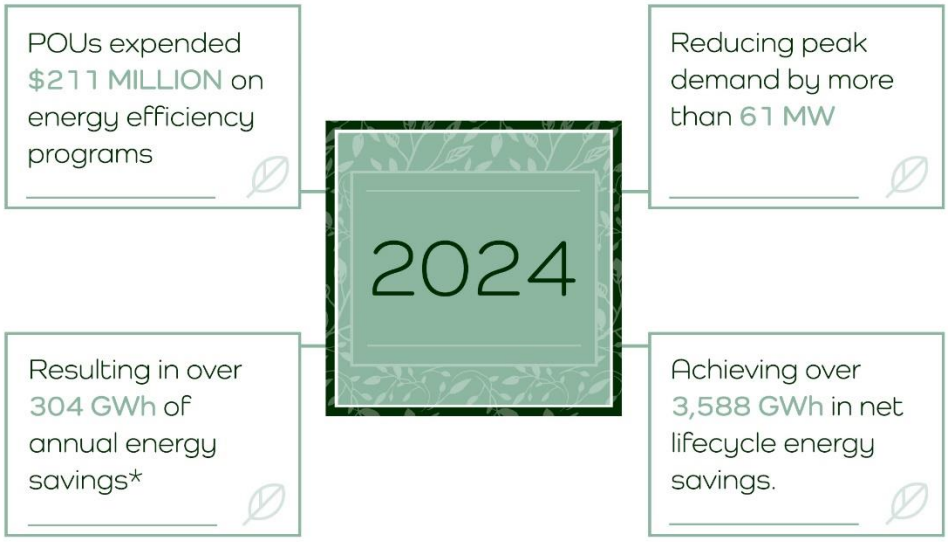
EXECUTIVE SUMMARY

California's Publicly Owned Utilities (POUs) continue to collaborate to develop cost-effective Energy Efficiency (EE) programs and report annual results to their customers and the California Energy Commission (Energy Commission) in a consistent and comprehensive manner. This 19th edition report presents the latest results from POUs' wide range of EE programs.

During the Fiscal Year (FY) 2024 reporting cycle, POUs expended over **$211 million** on EE programs for their communities, including low-income customers, resulting in over **304 Gigawatt hours (GWh)** of net annual energy savings and reducing peak demand by more than **61 Megawatts (MW).** Since the enactment of Senate Bill (SB) 1037 (Kehoe, 2005), public power has spent over **$3.113 billion** on EE and demand reduction, achieving over **3,588 GWh** in net lifecycle energy savings.



*This includes EE and LI. It does not include CSS.

California's POUs are exploring new methods to reduce energy use and Greenhouse Gas (GHG) emissions in a cost-effective manner. As indicated in the utility narratives, many POUs have expanded their electrification and GHG gas reduction efforts, focusing on clean energy solutions that may demonstrate greater cost-effectiveness than remaining EE opportunities.

Appendix A contains additional information on each POU's portfolio, including program descriptions, expenditures, and energy savings. **Appendix B** presents a comprehensive outline of the calculations used within the Cost Effectiveness Tool (CET) Reporting Platform (RP) (CET/RP).

INTRODUCTION

Pursuant to the Public Utilities Code, each year POUs are required to report the following information to customers and the Energy Commission :[1]

- Investments in EE and demand reduction programs.
- Descriptions of each EE and demand reduction program, program expenditures, cost-effectiveness of each program, and expected and actual EE savings and demand reduction results.
- Sources for funding of EE and demand reduction programs.
- Methodologies and input assumptions that are used to determine cost-effectiveness of programs.
- A comparison of the POUs' annual EE targets and the POUs' reported electricity efficiency savings and demand reductions.

This collaborative report compiles the required data from the individual POUs into a comprehensive document in compliance with the California Public Utilities Code.

The State's POUs supply approximately one-quarter of California's electricity to a broad range of communities with widely differing climates, customer bases, and economic conditions. This compilation is presented to foster analyses of broader EE trends and offer policymakers data-driven considerations regarding the practical impacts of related policies.

The POUs have long supported California's EE policies and administered programs to provide financial incentives and rebates to POU customers for investments in a variety of energy-saving measures. The purpose of this report is to reflect on the successes and challenges of the past year, while looking ahead to guide discussions on how to achieve further energy savings in the future.

> "Energy efficiency is the foundation of deep decarbonization and is one of the best-established and most-implemented examples of a distributed, zero-carbon resource."
>
> **Energy Efficiency Impact Report**[2]

[1] California Public Utilities Code (Cal. Pub. Util. Code) § 9505.
[2] https://energyefficiencyimpact.org/

PROGRAM RESULTS

This section provides an overview of the EE program results for public power in California during FY 2024. Most POUs manage and implement EE programs on a fiscal year basis; for POUs that operate on a calendar year basis, their respective report results for FY 2024 are equal to that of Calendar Year 2024.[3]

In summary, during the 2024 reporting cycle, POUs collectively spent over **$211 million** on EE programs, resulting in more than **304 GWh** of net annual energy savings, with **3,589 GWh** of net lifecycle energy savings and reduced peak demand by **over 61,582 kilowatts (kW)**.

TABLE 1: Historic Program Results

Fiscal Year	Net Peak Savings (kW)	Net Annual Savings (MWh)	Net Lifecycle Savings (MWh)	Total Utility Expenditures
2006	52,552	169,303	2,249,214	$54,412,728
2007	56,772	254,332	3,062,361	$63,151,647
2008	82,730	401,919	4,473,801	$103,907,266
2009	117,435	644,260	6,749,912	$146,093,107
2010	93,712	522,929	5,586,299	$123,433,250
2011	81,121	459,459	4,604,364	$132,372,795
2012	82,561	439,710	4,638,521	$126,936,631
2013	89,305	521,478	5,722,100	$134,475,230
2014	110,437	568,980	6,414,228	$169,940,735
2015	124,807	644,703	7,836,316	$162,896,993
2016	107,925	771,592	10,253,633	$154,796,668
2017	113,549	861,942	11,991,602	$226,386,251
2018	129,244	638,656	8,267,536	$218,730,235
2019	147,405	646,281	7,312,304	$260,675,319
2020	126,522	475,631	5,221,787	$261,918,171
2021	81,596	254,310	2,850,853	$158,527,378
2022	70,858	361,940	4,265,855	$223,075,217
2023	87,510	355,286	4,114,639	$180,313,119
2024	61,582	304,555	3,588,787	$211,236,782
Total	**1,817,623**	**9,297,266**	**109,204,122**	**$3,113,279,522**

[3] POU fiscal years run from July 1 to June 30, except for the following POUs who operate on a calendar year basis: Imperial Irrigation District, Merced Irrigation District, Modesto Irrigation District, Plumas-Sierra Rural Electric Co-op, Sacramento Municipal Utility District, Truckee Donner Public Utility District, and Turlock Irrigation District.

As shown in **Table 1**, public power has collectively spent over **$3.113 billion** on EE programs, resulting in **109,204 GWh** in net lifecycle energy savings since 2006 and avoided the development of **1,817 MW** of generation resources to serve peak demand during that time. Table 1 also shows that Net Annual Savings continue to be below that realized prior to 2020, indicating that there has been a significant shift in the energy efficiency savings available for utility programs.

This year's report has been updated to more accurately account for energy savings from electrification measures. To calculate the savings for electrification measures with fuel substitution, positive therm savings are converted to an equivalent kWh and combined with the negative kWh savings, resulting in a net equivalent kWh savings. Savings for electrification measures are included in the energy efficiency totals in Tables 1-10.

California's POUs continue to support the statewide goal of doubling EE by 2030 under the Energy Commission's direction. Using the Energy Commission's methodology to determine cumulative energy savings, POUs' cumulative first-year savings from FY 2015 through FY 2024 equals **4,953 GWh**, as presented in **Table 2** below. The POUs' energy efficiency results are influenced by a number of factors, including the lingering effects of the Covid-19 pandemic, which continues to impact both program delivery and participation rates. Additionally, the market for easily implemented energy-saving measures is approaching saturation, which is limiting potential savings from many traditional EE programs. Compounding these challenges are ongoing budget constraints and limitations in workforce capacity, which further constrain the scope of EE initiatives.

TABLE 2. California POU Cumulative 1st Year Energy Savings Comparison

Net 1st Year Savings per Installation Year (GWh)										Cumulative Savings	CEC Cumulative Savings Target
2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
644.7	771.6	861.9	638.7	646.3	475.6	254.3	361.9	355.3	304.6	4,953	5,826

Table 3, shown on the next page, provides a comprehensive summary of the EE savings for all POUs' respective EE Portfolios in FY 2024. The 16 largest utilities subject to Integrated Resource Plan (IRP) requirements account for the majority of savings within the public power community. As in past years, the two largest POUs, Los Angeles Department of Water & Power (LADWP) and Sacramento Municipal Utility District (SMUD), accounted for 61% of the total POU savings during the 2024 reporting cycle. Taken as a group, the 16 IRP POUs produced 96% of the total savings. The remainder of the savings were realized by 25 smaller POUs located throughout California.

TABLE 3. EE Program Results by Utility

Utility	Gross Peak Savings (kW)	Gross Annual Energy Savings (kWh)	Gross Lifecycle Energy Savings (kWh)	Net Peak Savings (kW)	Net Annual Energy Savings (kWh)	Net Lifecycle Energy Savings (kWh)	Net Lifecycle GHG Reduction (Lbs)	Total Utility Cost	PAC	TRC	Utility ($/kWh)
Alameda	30	125,130	1,838,749	24	98,744	1,454,316	1,314,968	$96,156	2.00	2.59	0.088
Anaheim	1,150	5,643,006	70,988,219	1,150	5,643,006	70,988,219	51,079,261	$7,109,605	1.12	1.25	0.130
Azusa	812	2,575,929	33,081,351	810	2,574,198	33,029,433	21,297,631	$1,508,029	2.35	10.45	0.060
Banning	92	263,991	3,637,226	72	203,661	2,761,683	2,004,452	$232,588	1.54	1.77	0.112
Biggs	0	0	0	0	0	0	0	$0			0.000
Burbank	1,522	8,424,103	87,068,113	1,522	8,424,103	87,068,113	55,057,287	$1,544,618	9.17	2.07	0.023
Colton	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	67,541,462	$353,954	29.03	0.60	0.006
Corona	0	0	0	0	0	0	0	$0			0.000
Glendale	1,148	16,836,201	121,765,187	1,148	16,836,201	121,765,187	72,061,573	$5,559,405	2.88	2.87	0.056
Gridley	0	306	3,209	0	99	1,029	579	$43,257	0.00	0.00	51.348
Healdsburg	14	210,294	2,969,507	11	186,995	2,609,538	897,759	$192,053	0.72	0.44	0.097
Imperial	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	199,345,960	$7,802,170	3.85	6.19	0.042
IPUC	0	0	0	0	0	0	0	$0			0.000
Lassen	35	280,936	2,793,139	28	214,314	2,158,085	1,656,279	$151,831	1.82	1.70	0.086
Lodi	488	4,043,242	59,575,177	439	3,763,311	54,743,565	39,211,771	$521,761	11.10	9.92	0.013
Lompoc	14	90,296	1,046,630	11	62,859	734,647	470,730	$190,653	0.37	0.35	0.327
Los Angeles	27,137	105,765,910	1,372,197,451	27,137	105,765,910	1,372,197,451	143,533,874	$104,439,779	0.99	0.76	0.108
Merced	63	783,693	11,715,540	39	437,937	6,549,664	4,734,589	$345,813	2.22	2.77	0.071
Modesto	440	3,093,165	43,569,402	240	1,687,977	23,835,868	16,519,452	$1,236,520	2.80	1.48	0.069
Moreno Valley	94	462,873	4,352,463	60	304,966	2,973,872	2,292,558	$841,735	0.69	0.69	0.348
Palo Alto	259	2,514,731	31,251,650	220	2,137,521	26,563,902	17,188,681	$1,452,901	1.60	0.60	0.070
Pasadena	2,715	12,137,668	47,965,091	2,498	11,890,498	43,172,908	29,659,091	$2,675,228	2.22	6.90	0.074
Plumas-Sierra	28	105,581	1,481,808	17	60,775	865,216	646,068	$134,512	0.88	0.29	0.207
Port of Oakland	0	0	0	0	0	0	0	$14,547			0.000
Rancho Cucamonga	140	328,025	3,280,251	140	328,015	3,280,150	3,005,151	$43,440	8.67	11.62	0.017
Redding	8	87,963	1,169,924	8	87,716	1,166,788	663,012	$284,876	0.33	0.42	0.276
Riverside	2,732	12,260,949	175,327,094	2,334	11,222,289	150,729,763	110,311,879	$6,694,735	3.32	8.80	0.060
Roseville	321	16,364,712	60,913,039	290	11,797,347	52,592,327	29,427,743	$3,324,682	1.15	0.85	0.078
Sacramento	7,103	92,961,802	1,026,528,421	4,626	75,128,534	849,176,559	127,818,975	$42,494,274	0.38	0.13	0.071
San Francisco	40	1,478,321	22,174,812	40	1,478,321	22,174,812	10,959,574	$404,304	2.60	10.52	0.024
Shasta Lake	19	115,337	1,666,397	11	72,496	908,151	645,061	$120,994	0.90	0.84	0.173
Silicon Valley Power	1,610	15,920,490	211,292,988	1,309	13,001,627	176,950,363	74,722,370	$3,266,415	7.23	2.54	0.024
Truckee Donner	17	163,326	2,197,935	10	87,614	1,103,515	755,398	$659,750	15.01	15.11	0.793
Turlock	324	2,126,262	31,449,174	193	1,188,640	17,718,683	12,044,835	$1,085,345	2.08	1.03	0.082
Ukiah	45	106,798	1,142,646	30	85,339	871,167	682,788	$114,707	1.29	1.00	0.163
Vernon	69	999,309	11,042,794	69	999,309	11,042,794	7,556,599	$113,887	10.01	2.15	0.013
Victorville	0	0	0	0	0	0	0	$0			0.000
EE and Electrification Subtotal	61,678	331,824,694	3,867,410,265	57,470	298,855,650	3,519,888,452	1,105,107,409	$195,054,527	1.47	0.87	0.077
Low Income	4,144	6,380,542	76,476,684	4,112	5,699,125	68,898,549	19,684,338	16,182,255			
Total	**65,822**	**338,205,237**	**3,943,886,949**	**61,582**	**304,554,775**	**3,588,787,000**	**1,124,791,747**	**$211,236,782**	**1.37**	**0.86**	**0.082**

Table 4 breaks down the statewide results by end-use. While lighting programs once again account for the largest share (**32%**) of the gross annual EE program savings, total savings from lighting programs continue to trend downwards.

TABLE 4. EE Program Results by End-Use Category

EndUse	Gross Peak Savings (kW)	Gross Annual Energy Savings (kWh)	Gross Lifecycle Energy Savings (kWh)	Net Peak Savings (kW)	Net Annual Energy Savings (kWh)	Net Lifecycle Energy Savings (kWh)	Net Lifecycle GHG Reduction (Lbs)	Total Utility Cost	PAC	TRC	Utility ($/kWh)
<All Types>	1,479	8,153,126	109,678,320	1,411	7,614,893	101,749,004	66,296,231	$2,922,601	5.57	2.79	0.037
Appliance & Plug Loads	6,181	8,178,760	96,771,634	4,115	6,208,295	71,794,805	18,467,076	$5,201,156	0.60	0.21	0.098
BROs	1,890	20,464,404	21,153,951	1,889	16,185,147	16,771,262	13,425,988	$1,191,804	1.43	1.58	0.071
Building Envelope	13,057	12,353,349	241,465,473	12,759	11,748,835	229,391,393	43,946,468	$15,394,243	2.29	1.26	0.108
Codes & Standards	3	94,667	1,638,346	3	77,917	1,354,344	485,705	$254,323	0.20	0.20	0.274
Commercial Refrigeration	1,032	7,175,853	93,955,054	931	6,780,486	88,161,562	26,350,219	$5,507,609	1.22	1.03	0.087
Food Service	2	13,969	164,926	2	13,476	159,544	13,114	$22,336	0.50	0.32	0.189
HVAC - Cooling	10,587	37,636,498	570,255,617	9,446	33,518,085	503,078,912	239,984,428	$42,900,298	1.45	0.88	0.122
HVAC - Heat Pump	-646	34,109,640	465,620,603	-670	33,650,782	458,716,382	115,513,586	$7,591,009	1.44	0.21	0.024
HVAC - Heating	4	16,395,829	245,937,442	4	10,287,477	154,312,150	24,461,684	$2,114,833	0.45	0.03	0.020
Lighting - Indoor	10,754	83,804,257	919,544,770	10,473	78,678,273	874,396,934	186,643,650	$61,360,177	1.12	1.03	0.092
Lighting - Outdoor	7,887	23,281,990	360,319,689	7,813	21,341,639	323,047,413	167,605,722	$14,223,537	1.90	1.57	0.063
Miscellaneous	6,229	26,224,080	167,188,479	6,228	26,206,194	166,915,318	117,551,596	$15,701,238	1.79	2.08	0.117
Process	189	1,660,935	24,880,443	161	1,410,110	21,131,505	14,322,693	$370,144	6.63	6.83	0.024
Service & Domestic Hot Water	103	7,061,185	91,337,518	87	6,784,433	87,843,665	19,897,089	$6,625,618	0.41	0.31	0.104
Water Pumping / Irrigation	2,217	14,422,824	206,362,907	2,217	14,368,092	205,579,727	16,069,461	$1,852,771	8.00	8.65	0.013
Whole Building	709	30,793,328	251,135,093	601	23,981,517	215,484,532	34,072,699	$11,820,830	0.47	0.38	0.079
EE and Electrification Total	**61,678**	**331,824,694**	**3,867,410,265**	**57,470**	**298,855,650**	**3,519,888,452**	**1,105,107,409**	**$195,054,527**	**1.47**	**0.87**	**0.077**

Table 5 presents the statewide EE program results by sector. In 2024, the Commercial and Industrial (C&I) sectors account for approximately half of California POUs' annual energy savings **(50%)**; the overall percentage of C&I savings has been trending down over the past three years. In comparison, the proportion of EE savings from residential programs has increased, resulting in **45%** of the gross annual EE program savings.

TABLE 5. EE Program Results by Sector

Sector	Gross Peak Savings (kW)	Gross Annual Energy Savings (kWh)	Gross Lifecycle Energy Savings (kWh)	Net Peak Savings (kW)	Net Annual Energy Savings (kWh)	Net Lifecycle Energy Savings (kWh)	Net Lifecycle GHG Reduction (Lbs)	Total Utility Cost	PAC	TRC	Utility ($/kWh)
<All Types>	2,059	14,362,977	219,512,984	2,012	13,893,831	213,016,525	24,236,929	$2,535,179	6.19	9.06	0.018
Agricultural	1	91,220	1,305,300	0	36,488	522,120	365,614	$36,948	1.55	0.34	0.094
Commercial	26,326	160,954,726	2,012,570,249	25,461	149,856,416	1,865,598,960	594,203,921	$102,905,411	1.55	1.17	0.075
Industrial	763	5,797,894	85,377,511	611	4,781,010	70,988,143	48,638,679	$1,396,447	5.36	2.50	0.026
Other	177	698,178	6,801,863	177	698,178	6,801,863	5,335,204	$4,562,915	0.16	0.16	0.868
Residential	32,353	149,919,700	1,541,842,358	29,209	129,589,727	1,362,960,841	432,327,062	$83,617,627	1.23	0.56	0.088
EE and Electrification Total	**61,678**	**331,824,694**	**3,867,410,265**	**57,470**	**298,855,650**	**3,519,888,452**	**1,105,107,409**	**$195,054,527**	**1.47**	**0.87**	**0.077**

Table 6, on the next page, presents the statewide EE program results by building type.

TABLE 6. EE Program Results by Building Type

BuildingType	Gross Peak Savings (kW)	Gross Annual Energy Savings (kWh)	Gross Lifecycle Energy Savings (kWh)	Net Peak Savings (kW)	Net Annual Energy Savings (kWh)	Net Lifecycle Energy Savings (kWh)	Net Lifecycle GHG Reduction (Lbs)	Total Utility Cost	PAC	TRC	Utility ($/kWh)
<All Types>	18,746	71,023,201	1,079,823,265	17,996	64,023,288	978,787,469	408,149,314	$17,554,816	6.65	4.89	0.026
<Multiple Types>	1,327	10,837,175	125,483,715	1,272	10,593,255	122,520,049	71,215,750	$5,605,638	2.86	2.73	0.057
Assembly	112	2,158,494	23,070,418	111	1,980,705	21,552,185	3,129,833	$1,121,817	0.87	0.23	0.069
Education - Community College	52	1,653,642	23,878,106	52	1,384,682	19,843,706	2,334,166	$2,622,294	0.26	0.26	0.192
Education - Primary School	1,139	6,870,159	76,223,134	1,122	6,727,842	75,226,915	5,672,746	$15,465,596	0.34	0.32	0.274
Education - Secondary School	302	2,773,565	31,953,669	302	2,630,615	30,474,076	2,968,451	$4,510,880	0.35	0.25	0.201
Education - University	704	4,192,040	49,228,581	703	4,157,980	49,041,882	4,247,055	$1,928,529	1.72	1.20	0.053
Grocery	58	587,031	6,423,890	54	508,371	5,655,017	1,096,781	$274,674	1.50	0.64	0.064
Health/Medical - Hospital	607	4,945,534	64,181,642	584	4,750,333	61,706,878	11,852,710	$3,455,176	1.18	0.61	0.077
Health/Medical - Nursing Home	395	3,359,430	35,288,282	395	3,336,518	35,127,898	2,835,242	$1,531,276	1.39	0.53	0.060
Lodging - Hotel	150	1,796,440	23,143,464	150	1,630,130	20,629,008	2,763,001	$810,263	1.20	1.18	0.054
Lodging - Motel	575	3,679,025	44,110,952	575	3,679,025	44,110,952	3,455,279	$3,879,862	0.76	0.76	0.119
Manufacturing Biotech	56	2,540,616	32,680,256	20	1,194,596	13,575,752	2,191,744	$528,182	0.44	0.45	0.054
Manufacturing Light Industrial	300	3,410,830	48,917,903	258	3,121,698	44,803,879	6,838,401	$1,784,810	0.72	0.63	0.058
Office - Large	3,277	24,003,478	281,622,481	3,218	23,385,762	275,498,650	22,254,363	$11,825,410	1.56	0.95	0.058
Office - Small	440	5,580,056	70,251,215	427	5,229,582	66,233,589	7,619,265	$5,206,807	0.51	0.51	0.110
Other Agricultural	42	352,034	2,046,235	42	302,194	1,311,980	980,684	$76,487	1.92	0.64	0.066
Other Commercial	8,812	19,097,963	209,556,980	8,780	18,425,376	204,394,785	72,471,804	$21,976,960	0.69	0.55	0.140
Other Industrial	701	6,866,548	91,911,308	700	6,785,959	90,702,479	39,609,889	$1,882,788	3.74	2.96	0.028
Residential	4,621	57,762,311	238,227,196	4,013	46,516,453	185,180,515	129,164,616	$10,502,462	3.28	3.44	0.072
Residential - Mobile Home	6	4,772	28,777	6	4,772	28,777	6,313	$55,254	0.10	0.10	2.357
Residential - Multi-Family	2,751	6,130,241	67,778,198	2,751	6,129,861	67,770,698	9,629,019	$30,971,566	0.11	0.11	0.663
Residential - Single-Family	14,818	77,024,513	1,072,185,370	12,332	68,365,690	949,488,789	270,471,390	$37,722,069	1.02	0.28	0.058
Restaurant - Fast-Food	20	130,043	1,758,662	16	101,882	1,336,253	370,501	$335,750	0.33	0.41	0.341
Restaurant - Sit-Down	279	2,053,484	22,080,968	279	2,027,671	21,900,279	1,852,212	$2,079,328	0.71	0.72	0.126
Retail - Large	42	2,904,152	21,421,328	39	2,360,914	17,509,290	4,448,424	$637,078	0.82	1.01	0.044
Retail - Small	1,123	8,188,846	96,684,632	1,118	8,169,602	96,549,818	7,503,301	$9,943,971	0.63	0.63	0.139
Storage - Conditioned	152	562,975	8,411,324	91	320,384	4,772,454	2,899,646	$228,428	2.21	0.70	0.064
Storage - Unconditioned	36	863,486	12,059,333	35	608,860	8,239,950	3,279,231	$409,577	1.67	1.26	0.067
Warehouse - Refrigerated	33	472,614	6,978,980	32	401,647	5,914,477	3,796,278	$126,778	5.12	1.34	0.029
EE and Electrification Subtotal	**61,678**	**331,824,694**	**3,867,410,265**	**57,470**	**298,855,650**	**3,519,888,452**	**1,105,107,409**	**$195,054,527**	**1.47**	**0.87**	**0.077**

Table 7 compares the actual savings in 2024 to the POUs' adopted annual targets for each utility. In total, the actual energy savings were approximately 35% below the forecasted targets for 2024. Every four years, POUs are required to identify potentially achievable energy efficiency savings and establish annual targets for energy efficiency for the next 10-year period. The targets for 2024 were established in 2021.

TABLE 9. Forecast vs. Actual for Installation Year 2024 [4] [5]

Utility	Gross/Net	Forecast	Actual	%
Alameda	Net	1,166	120	10.3%
Anaheim	Gross	15,621	6,042	38.7%
Azusa	Net	1,673	2,574	153.9%
Banning	Net	209	204	97.4%
Biggs	Net	7	0	0.0%
Burbank	Gross	8,868	8,425	95.0%
Colton	Net	4,363	4,867	111.6%
Corona	Net	23	0	0.0%
Glendale	Net	17,686	16,836	95.2%
Gridley	Net	92	0	0.1%
Healdsburg	Net	327	187	57.2%
Imperial	Net	12,941	18,218	140.8%
IPUC	Net	235	0	0.0%
Lassen	Net	201	214	106.6%
Lodi	Net	973	3,763	386.8%
Lompoc	Gross	245	90	36.9%
Los Angeles	Gross	246,723	105,791	42.9%
Merced	Net	2,006	438	21.8%
Modesto	Net	18,780	1,778	9.5%
Moreno Valley	Net	316	305	96.5%
Palo Alto	Net	4,900	2,179	44.5%
Pasadena	Net	12,686	11,892	93.7%
Plumas-Sierra	Net	94	61	64.7%
Port of Oakland	Gross	49	0	0.0%
Rancho Cucamonga	Gross	484	328	67.8%
Redding	Net	1,233	88	7.1%
Riverside	Net	16,569	11,657	70.4%
Roseville	Gross	10,240	16,365	159.8%
Sacramento	Gross	100,000	98,114	98.1%
San Francisco	Net	2,698	1,478	54.8%
Shasta Lake	Net	518	72	14.0%
Silicon Valley Power	Net	11,013	13,026	118.3%
Truckee Donner	Net	438	88	20.0%
Turlock	Net	11,078	1,311	11.8%
Ukiah	Net	403	85	21.2%
Vernon	Net	5,069	999	19.7%
Victorville	Net	392	0	0.0%
Total	**Gross**	**510,390**	**327,597**	**64.2%**

[4] To be consistent with EE savings reported in Table 3, Annual targets exclude codes and standards savings.

[5] Not all Small, Non-IRP POUs are included in this list because they either did not develop forecasts for 2024, or did not have any energy savings in 2024.

RESOURCES AND TOOLS

This section provides an overview of the technical resources, analytical tools, methodologies, and input assumptions used or developed by public power to evaluate its EE program and develop EE targets, in accordance with the Public Utilities Code.[6]

EE Cost-Effectiveness Tool and Reporting Platform

Energy Platforms, LLC developed a cloud-based EE cost-effectiveness tool and reporting platform (CET/RP) to improve POUs' tracking and evaluation of program performance and to support the development of reports in compliance with state and federal reporting requirements. This tool was launched in 2019 to calculate the cost-effectiveness of EE and demand reduction measures and programs and to summarize and report the related program expenditures and energy savings. The model includes all of the traditional benefit-cost ratio calculation methodologies used industry-wide to evaluate EE resource programs: Total Resource Cost (TRC), Program Administrator Cost (PAC), Ratepayer Impact (RIM), and Participant Cost Test.

Using this tool, POUs can analyze individual efficiency measures or full portfolios to determine the potential savings and cost-effectiveness before implementation. POUs are able to create unique programs and measures for their utility – and may choose to share them with other POUs collaboratively. The model also allows each POU to be able to specify many key inputs, including, but not limited to, the following:

- retail rates,
- hourly load shapes,
- hourly GHG emissions curves,
- hourly avoided cost, and
- overhead allocations by measure, programs, portfolio, sector, and/or end-use.

The tool allows POUs to manage reference libraries of measures, avoided costs, load shapes, and GHG emissions, allowing useful tracking and comparative scenario analyses for integrated planning purposes. The CET/RP has undergone recent updates to fully integrate the statewide electronic TRM (eTRM) and enable reporting of gas savings and equivalent kWh for fuel substitution measures. Energy Platforms, LLC continues to update and improve the platform to enhance reporting functionality.

[6] Cal. Pub. Util. Code § 9505(a)(4).

Technical Reference Manual

POUs contracted for the development of a POU technical reference manual[7] (TRM) in 2013, and replaced DEER as the basis for which most POUs calculate the energy savings of their programs. The POU TRM has since been updated in 2016, 2017, and 2025. Deviations from the TRM for individual utilities are noted in **Appendix A**

The TRM provides the methods, formulas, and default assumptions used for estimating energy savings and peak demand impacts from EE measures and projects in a user-friendly format. POUs use energy savings estimates to report program accomplishments and measure progress toward program goals. EE measures are documented and classified as either unit energy savings measures, semi-custom measures, or custom measures. The TRM includes nonresidential and residential measures, presenting each measure type in separate sections, grouped by technology type.

In addition, public power continues its involvement in the California Technical Forum's (CalTF) eTRM, an online repository for statewide deemed measures for California.[8] NCPA, SCPPA, SMUD, and LADWP are members of the CalTF Policy Advisory Committee, which consists of statewide EE stakeholders who advise on the organization's vision, mission, and guiding principles, and affirm the annual Work Plan. The eTRM is now integrated into both the POUs' energy efficiency reporting platform and the POU TRM.

Evaluation, Measurement & Verification

California Public Utilities Code requires each POU to make available to its customers and the Energy Commission the results of any independent evaluation that measures and verifies the EE savings and the reduction in energy demand achieved by its EE.[9] The Evaluation, Measurement, & Verification (EM&V) process relies on the approaches articulated in the National Action Plan for EE, adopted CPUC protocols, and the innovation and expertise of firms experienced in program evaluation. EM&V reports help to define the effectiveness of individual programs with the intent of improving future offerings. Key findings from the EM&V reports confirm high realization rates for reported energy savings.[10]

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[7] California Municipal Utilities Association Savings Estimation Technical Reference Manual, 3rd. Ed. 2017. https://www.cmua.org/energy-efficiency-technical-reference-manual.

[8] For more information on the CalTF, visit: http://www.caltf.org/.

[9] Cal. Pub. Util. Code § 9505(d).

[10] See: https://www.cmua.org/emv-reports.

SOURCES OF FUNDING

This section provides an overview of the POUs' sources of funding for its investments in EE and demand reduction programs, as required by the Public Utilities Code.[11] The POUs collectively spent $211 million in FY 2024 from a combination of Public Goods Charge (PGC) funds, Cap-and-Trade (C&T) allowances, and General Fund monies.

Public Goods Charge

The PGC is a "non-bypassable" usage-based charge on local distribution services collected by POUs in accordance with the Public Utilities Code.[12] The PGC is available to fund investments in the following:

- Cost-effective demand-side management services to promote EE and energy conservation,
- New investment in renewable energy resources and technologies,
- Research, development, and demonstration programs for the public interest to advance science or technology not adequately provided by competitive and regulated markets, and
- Services provided for low-income electricity customers.

Cap-and-Trade Allowances

The California C&T program allows utilities to use proceeds from the sale of freely allocated allowances to invest in EE programs to reduce GHG emissions. Expenditures explicitly noted as acceptable include but are not limited to equipment rebates and building retrofits.

Funds are generated once a quarter as part of CARB's regular C&T auctions, but the level of available revenues is expected to increase over time as minimum auction prices have escalation factors that are applied once a year.[13]

General Fund

POUs also support EE improvements and social good in the communities that they serve by using funds from their general operating reserves through programs such as home improvement and retrofit projects, appliance recycling and replacement programs, disconnection assistance programs for DACs, and income-qualified bill assistance discounts

[11] Cal. Pub. Util. Code § 9505(a)(3).
[12] *Id*. § 385.
[13] California Code of Regulations (CCR), Title 17, § 95801.

Appendix A – POU Narratives

Appendix A consists of detailed narratives of each POU's EE programs and general descriptions of the utilities, presented in alphabetic order.

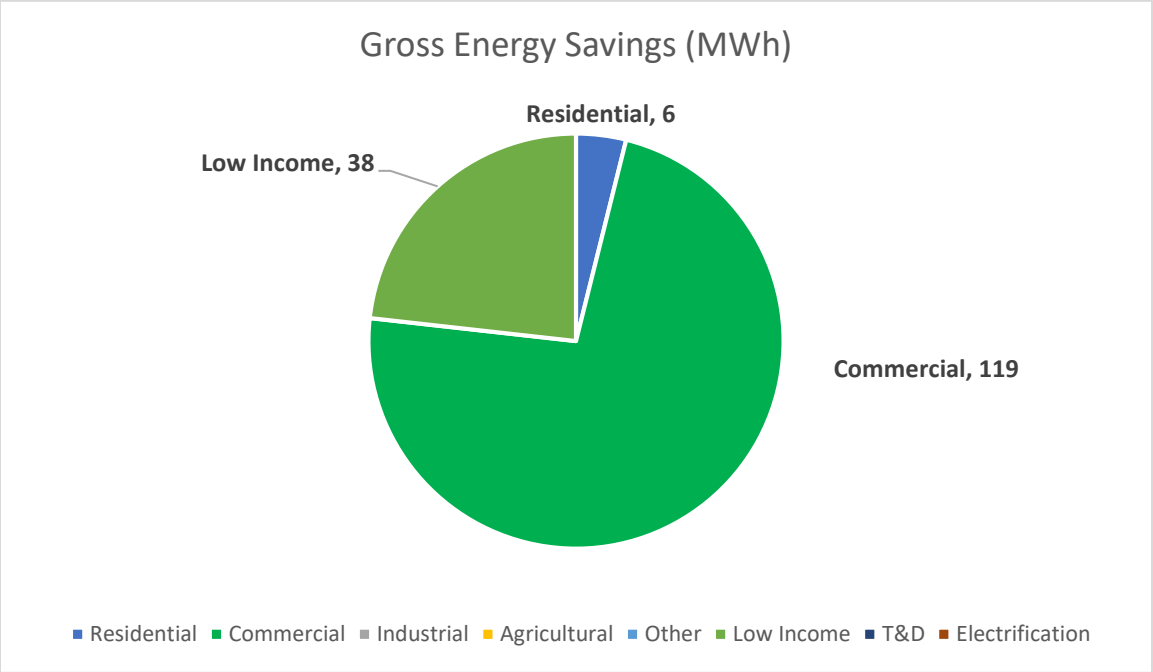
TABLE 10. Annual EE Program Summary

Utility	Gross Peak Savings (kW)	Gross Annual Energy Savings (kWh)	Gross Lifecycle Energy Savings (kWh)	Net Peak Savings (kW)	Net Annual Energy Savings (kWh)	Net Lifecycle Energy Savings (kWh)	Total Utility Cost
Alameda	32	162,996	2,314,633	25	119,857	1,713,799	$237,691
Anaheim	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	$7,886,642
Azusa	812	2,575,929	33,081,351	810	2,574,198	33,029,433	$1,508,029
Banning	92	263,991	3,637,226	72	203,661	2,761,683	$232,588
Biggs	0	0	0	0	0	0	$0
Burbank	1,522	8,425,027	87,072,733	1,522	8,425,027	87,072,733	$1,547,241
Colton	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	$353,954
Corona	0	0	0	0	0	0	$0
Glendale	1,148	16,836,201	121,765,187	1,148	16,836,201	121,765,187	$5,559,405
Gridley	0	306	3,209	0	99	1,029	$43,257
Healdsburg	14	210,294	2,969,507	11	186,995	2,609,538	$229,639
Imperial	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	$7,804,873
IPUC	0	0	0	0	0	0	$0
Lassen	35	280,936	2,793,139	28	214,314	2,158,085	$151,831
Lodi	488	4,043,242	59,575,177	439	3,763,311	54,743,565	$521,761
Lompoc	14	90,296	1,046,630	11	62,859	734,647	$190,653
Los Angeles	27,151	105,790,932	1,372,643,747	27,151	105,790,932	1,372,643,747	$104,875,733
Merced	63	783,693	11,715,540	39	437,937	6,549,664	$345,813
Modesto	454	3,183,226	44,792,141	253	1,778,038	25,058,607	$1,428,309
Moreno Valley	94	462,873	4,352,463	60	304,966	2,973,872	$841,735
Palo Alto	263	2,563,225	31,957,908	223	2,178,741	27,164,222	$1,559,361
Pasadena	2,715	12,139,289	47,982,916	2,498	11,892,119	43,190,734	$2,678,718
Plumas-Sierra	28	105,581	1,481,808	17	60,775	865,216	$134,512
Port of Oakland	0	0	0	0	0	0	$14,547
Rancho Cucamonga	140	328,025	3,280,251	140	328,015	3,280,150	$43,440
Redding	8	87,963	1,169,924	8	87,716	1,166,788	$284,876
Riverside	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	$7,144,896
Roseville	321	16,364,712	60,913,039	290	11,797,347	52,592,327	$3,324,682
Sacramento	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	$55,561,769
San Francisco	40	1,478,321	22,174,812	40	1,478,321	22,174,812	$404,304
Shasta Lake	19	115,337	1,666,397	11	72,496	908,151	$120,994
Silicon Valley Power	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	$3,976,841
Truckee Donner	17	163,326	2,197,935	10	87,614	1,103,515	$659,750
Turlock	470	2,292,200	33,411,179	308	1,311,000	19,169,103	$1,340,341
Ukiah	45	106,798	1,142,646	30	85,339	871,167	$114,707
Vernon	69	999,309	11,042,794	69	999,309	11,042,794	$113,887
Victorville	0	0	0	0	0	0	$0
EE, Electrification, and Low Income Subtotal	**65,822**	**338,205,237**	**3,943,886,949**	**61,582**	**304,554,775**	**3,588,787,000**	**$211,236,782**

ALAMEDA MUNICIPAL POWER

Alameda Municipal Power at a Glance

- Climate Zone: 3
- Customers: 37,895
- Total annual retail sales: 346,026 MWh
- Annual Retail Revenue: $71,536,634
- Annual energy efficiency expenditures for reporting year: $237,691
- Gross annual savings from reporting year portfolio: 163 MWh



Alameda Municipal Power's Overview

- Due to Alameda's temperate climate and large residential customer base, the peak demand for electricity is in the winter (December and January) and early evening.
- Alameda Municipal Power (AMP) has committed to spending its renewable energy credit (REC) funds to reduce greenhouse gas emissions in its service area.

Major Program and Portfolio Changes

FY 2024 savings included the continuation of a non-residential self-install lighting program, a residential online rebate portal for heat pump water heaters, electric dryers, smart thermostats, and a direct-install program for income-qualified residential customers.

Program and Portfolio Highlights

AMP's non-residential lighting retrofit program provided more than 70 percent of total savings. This program provides incentives for lighting upgrades that a customer can do themselves or work with a qualified contractor.

Commercial, Industrial & Agricultural Programs

Non-Residential Self-Install Program: This program offers non-residential customers rebates for energy efficient LED lighting retrofits. AMP maintains this program as a means of offering customers a do-it-yourself option for energy efficiency upgrades. This is a common pathway for chain retailers who are trying to manage incentivized upgrades across various locations.

Residential Programs

- Residential Online Rebates – Customers have been able to participate in residential energy efficiency rebates using a simple web application since March 2016. In FY 2024 AMP approved 36 EE applications. EE rebates were available for electric clothes dryers, heat pump water heaters, and smart thermostats.
- Energy Assistance Program (EAP) Plus – In October 2019, AMP launched a residential direct-install program called EAP Plus, targeting income-qualified residents living in single and multi-family homes. Eligible customers received no-cost energy-efficiency upgrades, including LED bulbs, LED fixtures, refrigerators, advanced power strips, low-flow shower heads, and various weatherization measures. In FY 2024, the program served 52 customers. The program ended in May 2024.

Complementary Programs

AMP currently offers 18 incentive programs, a time-of-use rate, two technical assistance programs, and two financial assistance programs for customers focusing on energy efficiency, building electrification, and clean transportation. Some of these programs are listed below:

- Electric Vehicle (EV) Programs: AMP offers a Time-of-Use rate plan that currently has 984 customers enrolled. AMP offers a $1,500 rebate for the purchase of a used EV with a purchase price less than $40,000. AMP also offers a $500 rebate for the purchase of a Level 2 charger, and a rebate of $100-$600 for the purchase of an electric bike.
- Low-Income Programs: AMP continues to provide financial assistance to Alameda's low-income families through the Energy Assistance through Supportive Efforts (EASE) program and the Energy Assistance Program (EAP). In FY 2024, customer financial

assistance programs provided a total of $244,645.24 in electric bill assistance. A maximum amount of $200 is available per household within a three-year period through the EASE program. EAP provides a 25 percent monthly discount on electric bills. These programs are funded through the public purpose component of AMP's energy charges. AMP also partnered with the Alameda Housing Authority (AHA) to reduce the administrative burden on customers by implementing auto-enrollment for customers living in AHA properties.

- Research, Development, and Demonstration: AMP developed a new heat pump heating, ventilation, and air conditioning (HVAC) rebate for residential and non-residential customers. Additionally, AMP implemented an energy management device program in FY 2024.
- AMP expanded electrification and energy efficiency outreach efforts by offering customers a DIY Energy Audit pilot program and an electrification guide with a cost estimator tool.

Evaluation, Measurement & Verification Studies

AMP completes an Evaluation, Measurement, and Verification (EM&V) study every other year with a focus on the two previous years. The most recent EM&V report was completed by ADM Associates for FY 2021–FY 2022.

Major Differences or Diversions from CA POU TRM for Energy Savings

With a goal of getting the most accurate energy savings, AMP staff used a variety of sources. For the residential lighting energy savings, AMP used historical AMP customer program data, buoyed by a high realization rate in the FY 2022 EM&V report. The energy savings figures for the residential refrigerator/freezer and heat pump water heaters were from the 2017 CMUA TRM. The electric clothes dryer savings were from an Energy Star report.

Energy savings for non-residential programs were calculated using a hybrid of actual pre- and post-installation inspections and the POU TRM 2017. Customized lighting projects were calculated using a combination of the POU TRM 2017 and pre- and post-calculations.

TABLE AMP-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	13,524	106,644	0	8,181	64,364	23	$33,286	0.27	0.32	0.599
Building Envelope	0	821	16,426	0	230	4,599	2	$39,102	0.04	0.04	12.509
Lighting - Indoor	1	23,521	352,814	1	12,701	190,519	70	$69,147	0.33	0.33	0.485
Low-Income	2	37,866	475,884	1	21,112	259,483	96	$141,535	0.24	0.24	0.703
HVAC - Cooling	0	393	5,895	0	314	4,716	2	$2,073	0.35	0.33	0.588
Lighting - Indoor	30	110,826	1,662,390	24	88,661	1,329,912	611	$70,614	2.50	3.52	0.071
Lighting - Outdoor	0	7,958	95,496	0	6,366	76,397	26	$3,829	2.05	3.31	0.063
Miscellaneous	0	2,573	41,168	0	1,544	24,701	10	$9,993	0.38	0.38	0.551
Service & Domestic Hot Water	1	3,380	33,800	0	1,859	18,590	8	$9,647	0.31	0.32	0.628
Energy Efficiency	30	125,130	1,838,749	24	98,744	1,454,316	657	$96,156	2.00	2.59	0.088
EE, Low Income and Electrification	32	162,996	2,314,633	25	119,857	1,713,799	753	$237,691	0.95	1.07	0.184
C&S and T&D								$0			
Utility Total	32	162,996	2,314,633	25	119,857	1,713,799	753	$237,691	0.95	1.07	0.184

TABLE AMP-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	2	37,866	475,884	1	21,112	259,483	96	$141,535	0.24	0.24	0.703
Low-Income	2	37,866	475,884	1	21,112	259,483	96	$141,535	0.24	0.24	0.703
Commercial	30	118,784	1,757,886	24	95,027	1,406,309	637	$74,443	2.48	3.51	0.071
Residential	1	6,346	80,863	0	3,717	48,007	20	$21,714	0.34	0.35	0.586
Energy Efficiency	30	125,130	1,838,749	24	98,744	1,454,316	657	$96,156	2.00	2.59	0.088
EE, Low Income and Electrification	32	162,996	2,314,633	25	119,857	1,713,799	753	$237,691	0.95	1.07	0.184
C&S and T&D								$0			
Utility Total	32	162,996	2,314,633	25	119,857	1,713,799	753	$237,691	0.95	1.07	0.184

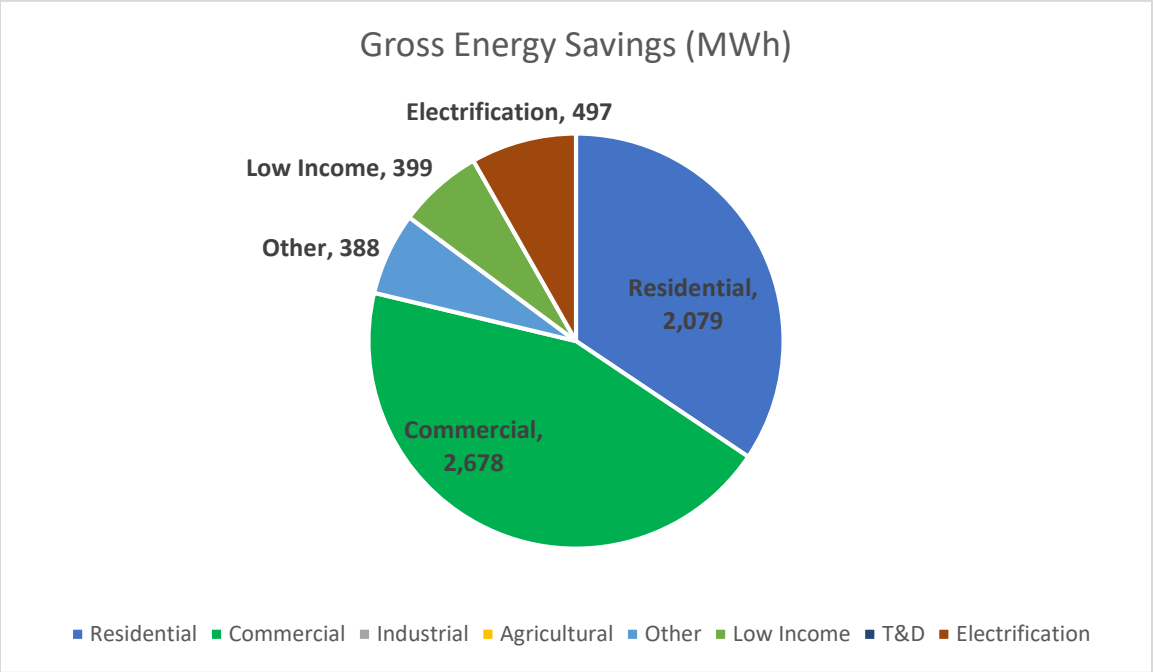
TABLE AMP-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	2	37,816	475,184	1	21,077	258,993	95	$140,082	0.24	0.25	0.698
Residential - Single-Family	0	50	700	0	35	490	0	$1,453	0.05	0.05	3.886
Low-Income	2	37,866	475,884	1	21,112	259,483	96	$141,535	0.24	0.24	0.703
Any	30	118,784	1,757,886	24	95,027	1,406,309	637	$74,443	2.48	3.51	0.071
Multiple	1	3,380	33,800	0	1,859	18,590	8	$9,647	0.31	0.32	0.628
Residential	0	2,966	47,063	0	1,858	29,417	12	$12,067	0.37	0.37	0.557
Energy Efficiency	30	125,130	1,838,749	24	98,744	1,454,316	657	$96,156	2.00	2.59	0.088
EE, Low Income and Electrification	32	162,996	2,314,633	25	119,857	1,713,799	753	$237,691	0.95	1.07	0.184
C&S and T&D								$0			
Utility Total	32	162,996	2,314,633	25	119,857	1,713,799	753	$237,691	0.95	1.07	0.184

ANAHEIM PUBLIC UTILITIES

Anaheim Public Utilities at a Glance

- Climate Zone: 8
- Customers: 123,726
- Total annual retail sales: 2,114,776 (MWh)
- Annual Retail Revenue: $361,992,000
- Annual energy efficiency expenditures for reporting year: $7,886,642
- Gross annual savings from reporting year portfolio: 6,042 MWh



Anaheim Public Utilities Overview

The City of Anaheim, founded in 1857, is one of the nation's premier municipalities and among California's most populous and visited cities. Anaheim spans over 50 square miles, with more than 340,000 residents, 123,000 electric utility customers, and 20 million annual visitors. Anaheim is home to a vibrant business community encompassing diverse sectors, including large industrial manufacturers and world-renowned tourist attractions such as hotels, entertainment venues, theme parks, sports franchises, and the largest LEED-certified convention center on the west coast. While Anaheim is known for its world-renowned attractions, it is also home to a large population of low-income and disadvantaged communities. To support these residents, Anaheim Public Utilities (APU) designs energy

efficiency programs tailored to their needs, providing bill assistance, discount programs, and opportunities to reduce energy costs.

Anaheim owns and operates the only not-for-profit, publicly owned electric utility in Orange County. APU prioritizes a customer-centric approach, offering incentives and resource programs to help customers achieve their sustainability, water conservation, and energy efficiency goals. In alignment with state initiatives for a carbon-free future, APU focuses on simplifying programs, expanding customer choices, and enhancing outreach and community engagement. As Anaheim advances towards a cleaner electric grid, APU aims to design new program areas such as building electrification, enhanced demand response, and new customer incentives that support the transition to a carbon-free future, while keeping bills affordable.

Program and Portfolio Highlights

Community engagement and outreach remains a central focus of APU. In FY 2024, APU participated in 87 community outreach events, connecting with more than 18,600 community members. Through these events, 1,400 applications for bill assistance programs were distributed, and over 500 sign-ups for the Home Utility Check-Up Program were received. In addition to traditional marketing channels such as utility webpages, utility bill inserts, social media, and program flyer distribution, APU facilitated smaller neighborhood events to support customers with the specific needs of their neighborhood. To further complement community engagement, APU will unveil a new Sustainability Education Center in the fall of 2025. The Sustainability Education Center will serve as APU's flagship educational and workforce development venue, providing sustainability-themed workshops and events, STEM education, hands-on energy and water use efficiency exhibits, new technology displays, and career path exploration opportunities.

APU's Dusk-to-Dawn Program has significantly improved security and safety within key multi-family neighborhoods with heightened crime concerns. Through a proactive effort to identify outdoor lighting improvement opportunities, the program focused on areas where lighting could play a critical role in deterring crime and promoting community safety. In FY 2024, 77 multi-family properties received no-cost energy-efficient exterior lights, improving visibility and providing residents with safer, well-lit environments during nighttime hours. Collectively, the Dusk-to-Dawn Program provided no-cost lighting solutions to 297 residential applications and 149 commercial applications, generating cumulative energy savings of over 590 MWh for this reporting period. This initiative underscores the city's commitment to enhancing the quality of life and safety for its communities.

APU's Income-Qualified Weatherization Program achieved notable participation outcomes in FY 2024. The program served 821 residential customers and directly installed 6,800 high-efficiency measures, resulting in cumulative energy savings of 395 MWh. This initiative provides income-qualified community members with turnkey access to energy efficiency benefits, contributing to lower utility costs, home comfort enhancements, and a more sustainable living environment.

Within the commercial sector, APU's Small Business Direct Installation Program provided program participants with 3,655 energy efficiency measures, achieving over 765 MWh of energy conserved.

The LED Welcome Kit distribution initiative remains a core energy efficiency program. Designed to provide new electric utility customers with valuable resources, each Welcome Kit contains four high-efficiency LED lamps, and a detailed brochure that includes city information, contact details, program information, and available resources. In FY 2024, the program reached 8,502 customers, resulting in over 1,217 MWh conserved. APU's Commercial Lighting Incentives Program also achieved notable savings in FY 2024, supporting 20 lighting projects and generating over 1,411 MWh of energy savings.

The Home Incentives Program achieved 178 MWh in energy savings through rebates issued for energy-efficient and electrification appliances. By encouraging and incentivizing Anaheim customers to invest in modern, energy-saving technologies, customers are engaging in sustainable behaviors that reduce energy demand, all while lowering their utility bills. Looking ahead, APU remains committed to offering customers an array of program participation options and incentive choices, while enhancing energy efficiency programs to support customers with the state's transition to clean energy and electrification.

In FY 2024, APU held the second annual Sustainable Footprint Contest (formerly Sustainable Home Survey), an initiative designed to highlight community efficiency efforts and recognize local sustainability champions. A total of 57 customers shared their sustainability stewardship stories, with nine participants receiving recognition for their commitment to resource preservation and active involvement in various energy and water efficiency programs. The grand prize winner received $5,000 in home efficiency measure upgrades, with the remaining awardees receiving $3,000 in home efficiency improvements. Participants of the Sustainable Footprint Contest serve as community ambassadors for sustainability, sharing their experiences and inspiring others to participate in APU's home efficiency programs. The initiative highlights the positive impact individuals can make by embracing sustainable living.

Launched in FY 2023, APU's Bright Girls Program provides an annual mentorship opportunity to middle-school girls, encouraging them to explore utilities-related careers. Participants engage in hands-on STEM activities, facility tours, and interactions with accomplished female professionals in the industry. The Bright Girls Program aims to encourage and inspire young girls to envision a future career in the utilities industry. By fostering curiosity and interest in STEM disciplines, the program contributes to developing the next generation of utility leaders and supporting a diverse and inclusive workforce.

Initiated as a pilot project in FY 2022, APU collaborated with the Community Services Department to support the Anaheim Mobile Family Resource Center (MFRC) Program. Through the MFRC initiative, various city departments and non-profit organizations work collectively to travel to neighborhoods throughout Anaheim and provide essential services and information to

disadvantaged residential and multi-family customers, with an on-the-spot utility bill assistance enrollment service provided by APU. In FY 2024, city departments partnered with non-profit, education, faith, and other community organizations to support the MFRC Program, resulting in 6,651 significant contacts with residents through 48 neighborhood events held at 34 key Anaheim neighborhoods. In addition to providing utility support through bill assistance and program enrollment, the project distributed 1,692 food boxes to families, along with a holiday toy distribution effort that reached 2,101 children across all 34 Anaheim neighborhoods.

Commercial, Industrial & Agricultural Programs

As part of APU's ongoing commitment to energy efficiency and demand reduction, the Commercial and Industrial (C&I) programs have focused on implementing energy efficiency and electrification measures that promote effective participation throughout the City of Anaheim. These programs are specifically tailored to assist commercial customers in achieving their energy-saving initiatives. In FY 2024, the APU C&I programs delivered over 3,715 measures to business customers, resulting in significant energy savings totaling over 2,784 MWh. These achievements underscore the impact and effectiveness of energy conservation throughout Anaheim.

- Comprehensive Energy Assessments: Customized on-site analyses aligned with ASHRAE standards, offering actionable recommendations for achieving energy efficiency goals.
- Customized Energy Incentives Program: Tailored incentives supporting high-efficiency technologies such as advanced air conditioning units and energy management systems.
- Heat Pump Incentives Program: Promoting high-efficiency heat pump installations to optimize electricity consumption.
- Lighting Incentives: Encouraging LED lighting upgrades to improve energy efficiency and ensure appropriate lighting levels.
- New Construction: Providing design assistance and incentives for projects that exceed Title 24 energy standards.
- Small Business Energy & Water Direct Install/Assessment Program: Delivering analyses and upgrades for small businesses, focusing on LED lighting, smart thermostats, and HVAC/refrigeration tune-ups.
- Air Purifier Rebate: Offering rebates for ENERGY STAR® certified air purifiers.
- Dusk-to-Dawn Lighting: Providing free high-efficiency LED fixtures with photo sensors, such as wall packs and pole-mounted parking lot lights, to commercial customers.
- Energy & Water Incentives for Multi-family Housing Projects: Financial incentives for new and rehabilitated multi-family dwellings to promote sustainability.
- Tree Power Program: Distributing complimentary shade trees and offering related incentives to commercial customers.

Residential Programs

APU is dedicated to offering customers a range of program options to help them achieve their energy reduction and water conservation goals. With more than 60 incentive measures and direct-installation services through its residential rebate and turnkey programs, along with emerging electrification and demand response initiatives, APU is continuously advancing innovative resources that promote sustainability and support bill affordability.

- Home Utility Check-Up Program: Complimentary home assessment of electric and water use, customized audit report with efficiency recommendations, outdoor water assessment component with irrigation scheduling and controller programming, direct-installation of LEDs, low-flow shower heads, aerators, toilet leak/dye tab test, and toilet flapper replacement as needed.
- Dusk-to-Dawn Lighting Program: Residential customers can receive up to two free high-efficiency LED fixtures with photo sensors. Participants have the option to pick up lights from the Program contractor's office in Anaheim or receive lighting fixtures during Home Utility Check-Up and Weatherization Program services.
- Dusk-to-Dawn Lighting Program Income-Qualified Assistance: In addition to receiving up to two free outdoor security lights, income-qualified residents may also have the light installed by one of Anaheim's approved and licensed electrical contractors free of charge.
- Weatherization Program: Inter-utility partnership with Southern California Gas Company that assists income-qualified renters and homeowners in making their homes more water and energy-efficient. The program offers no-cost home repairs and replacement of inefficient appliances, consisting of ENERGY STAR® certified ceiling fans and room air conditioners, plug load occupancy sensors in smart power strips, LED lamps, duct sealing and testing, A/C tune-ups with refrigerant recharge, high-efficient toilets, and additional electric, water, and gas-saving measures.
- Home Incentives Program: Provides rebates for the purchase and installation of replacement ENERGY STAR® rated appliances and high-efficiency conservation measures.
- A/C Tune-Up Program: Provides up to a $100 incentive to residential customers who have a licensed HVAC contractor perform an A/C tune-up, with an enhanced incentive of up to $150 for income-qualified customers.
- Refrigerator & Freezer Recycling Program: Provides a $50 incentive to customers who recycle an old, operational refrigerator or freezer. Appliance collection is available at no cost to the customer.
- Uninterruptible Power Supply Rebate Program: Provides a $50 incentive for standard equipment and a $200 incentive for medical device uninterruptible power supply systems that meet ENERGY STAR® certification requirements.

- Electric Portable Power Station Rebate Program: Provides a $50 incentive for standard equipment and a $200 incentive for medical device-associated electric portable power stations. Incentive eligible for battery-powered electric portable power station devices, with a minimum 100W AC output.
- Tree Power Program: Provides up to 6 complimentary shade trees, along with an option for a $20 incentive per shade tree for residential customers.
- MyPower Savings Program: As a demand response program, participating residential customers earn event participation rewards of $1.00 for every kWh of energy reduced during event hours (up to $100 in bill credits per FY). Additionally, instant enrollment bill credits are provided for participants with central A/C units, pool pumps, wall A/C units, and/or EV chargers.
- LED Distribution Program (Welcome Kits): New residential electric utility customers are direct-mailed LED Welcome Kits, inclusive of 4 LED lamps and a welcome brochure with city information and resources.
- Utility Discount Program: Provides a 12% reduction on the electric and/or water portions of utility bills to seniors, military veterans, or long- term disabled customers at or below 80% of the Orange County median income.
- Community Solar Discount Program: Income-qualified customers are eligible to receive a $20 monthly discount on the electric portion of their utility bill for a 12-month period.
- Emergency Assistance Program: Provides up to $350 in utility payment assistance for income-qualified customers experiencing financial hardship.

Complementary Programs

- School Education Programs: Public and private school students engage in the classroom and through hands-on outdoor labs to explore environmental issues. Programs were recently enhanced to incorporate Next Generation Science Standards into curricula that includes education on renewable resources, water conservation, solar power, EV adoption and the benefits thereof, in-home student-led energy and water use assessments, and hands-on field trips to various nature centers and outdoor venues, with educational activities centered around sustainability and environmental stewardship. In FY 2024, School Education Programs reached over 7,700 students and provided 94 outdoor educational experiences across 32 Anaheim schools.
- Water Conservation Student Poster Contest: APU continues to hold an annual “Being Water Wise Is…” Poster Contest, whereby 1st through 8th grade students are invited to submit artwork associated with water conservation, giving students the opportunity to help raise water awareness through the art they create. At the culmination of the contest, winning artwork is printed on APU branded water bottle labels, and an artist recognition is held at a City Council meeting. This year hosted the 33rd annual Student Poster Contest, with 189 artwork entries received.

- Scholarship Program: Supports high school students in their pursuit of post-secondary education by offering a monetary award to assist with continued studies in a STEM-related field. Participants are required to submit an essay detailing their involvement in their community and schools, as well as the potential positive impact of STEM-related careers on their communities. In the summer of 2024, scholarship recipients also participated in a paid internship with APU, in collaboration with Workforce Development and Hope Builders.
- Anaheim Innovative Mentoring Experience (AIME) Program: Through the 4-session Program, students learn to collaborate with others from different schools, while exploring a variety of skill sets, inclusive of resume building, interview skills, teamwork, and public speaking. Participants learn of utility power/water resources and sustainability initiatives and are exposed to various utility jobs and career paths.
- Bright Girls Program: Mentorship initiative designed to inspire middle-school girls to learn about various utilities-related career path opportunities, engage in hands-on STEM activities, tour utility facilities, and interact with female professionals in the industry.
- Sustainable Footprint Program: Community outreach initiative and customer sustainability recognition program. This year, nine exemplary customers were acknowledged for their commitment to resource conservation and active participation in various energy and water efficiency programs.
- Sustainable Schools Award Program: Each year, Anaheim Public Utilities recognizes K-12 Anaheim schools for making positive environmental impacts on campus and in curriculums. Through the Sustainable Schools Award Program, schools showcase their energy- and water-efficiency programs, unique environmental initiatives, and environmental education programs for students and staff. Two winning schools are recognized each year and receive the opportunity to select one grand prize, including 30 ENERGY STAR® laptops, digital smart boards, or support for an on-site school sustainability project. In addition to the Sustainable Schools Award program, APU offers educators additional resources such as facility tours, extracurricular programs, and projects to enhance the educational experience for Anaheim students.
- Battery Storage Rebate Program: Incentive of up to $3,000 available for residential customers who install an energy storage system with a minimum 5 kWh capacity. In FY 2024, a total of 30 battery storage systems were incentivized.
- Private Use EV Charger Rebate Program: Incentive of up to $1,000 for residential and business customers who install Level 2 plug-in electric vehicle chargers for personal or business use. A total of 395 Private Use EV Charger Rebates were issued in FY 2024.
- Public Access EV Charger Station Rebate Program: Initiative provides up to $5,000 per level 2 EV charging station and $10,000 per direct current (DC) fast charging station at multi-unit dwelling locations or other publicly accessible areas; up to $10,000 per EV charging station servicing affordable housing or schools and colleges; up to an additional $5,000 for program participants who choose to install an associated sub-meter; and

Anaheim Public Utilities rebates the City's plan check fees (up to $1,500/installation) and pays permit fees (approx. $170/charger) for the EV charger(s). The program includes an enhanced rebate for chargers located at multi-unit dwellings within low-income and disadvantaged communities. In FY 2024, APU incentivized 59 public chargers, 3 plan check fees, and 1 commercial permit fee waiver.

- EV Fleet Charger & Infrastructure Rebate Program: Incentive is open to commercial customers, schools and colleges, and provides rebates for networked Level 2 or greater EV chargers and associated EV charger infrastructure upgrades. Maximum of ten EV chargers per year; Commercial Business Fleet Customers receive up to $5,000 per EV charger, up to $45,000 per site for associated EV charger infrastructure upgrades and up to $5,000 for associated sub-meter installation costs. School Customers receive up to $10,000 per EV charger, up to $95,000 per site for associated EV charger infrastructure upgrades and up to $5,000 for associated sub-meter installation costs. In FY 2024, APU incentivized 22 fleet chargers.
- EV Ride Sharing Program: Provides access to EVs for residents who live in multi-family accommodations located within disadvantaged or low-income communities and who may not otherwise have access to EVs. The program provides rebates to property owners and property management companies who host EV ride sharing company vehicles and make them available for use to their residents. Rebates include up to $24,000 per year for the lease of two EVs, and up to $36,000 per year to cover the cost of licensed driver ridership, for up to three years. In FY 2024, two multi-family properties participated in the program, providing four (4) EVs for residents, which have been actively used with over 192 bookings.
- Municipal EV Charger Installation Assistance Program: Provides rebates to City of Anaheim departments who install EV charging stations at their facilities. The rebate helps offset the costs of chargers and associated infrastructure, playing a crucial role in expanding EV charging infrastructure citywide. In FY 2024, the program supported the installation of 29 chargers across various city departments.
- EV Feasibility and Master Planning Studies: APU partners with a consultant to offer no-cost, no-commitment feasibility and master planning studies to commercial sites, multi-family dwellings, schools, and municipal facilities. Customers who participate in a feasibility study receive a high-level report with EV charging installation recommendations. A master study will include an in-depth report that provides technical specifications and long-term planning (10-year electrification expansion plan). In FY 2024, a total of 10 feasibility and master planning studies were successfully completed.
- EV Ride-and-Drive Events: APU promotes and advocates the use of plug-in vehicles through events and education. In partnership with Plug In America, three (3) free EV test drive events were hosted in FY 2024. Attendees were given the opportunity to learn more about EVs through test driving and interactions with knowledgeable volunteers

and dealer staff. Events held at Imperial Elementary and Savanna High School were well attended, with over 218 test drives. Additionally, APU hosted its annual OC Green Expo in June 2024, which featured an EV test drive experience with over 306 participants, connecting the community with sustainable resources, organizations, and vendors.

- Residential and Commercial Water Savings Resulting from Equipment Rebates: Businesses and residents are eligible for rebates by installing or retrofitting with qualifying water-saving devices through the "SoCal Water$mart" Program in partnership with the Metropolitan Water District of Southern California. Water savings result from the application of measures such as Rotating Sprinkler Nozzles, Weather-Based Irrigation Controllers, Soil Moisture Sensor Systems, Turf Replacement, High-Efficiency Clothes Washers, Premium High-Efficiency Toilets, Rain Barrels & Cisterns.
- Leak Repair Rebate Program: Offers incentives to customers who demonstrate repair of water leaks in and around their residences, providing up to $500 for income-qualified single-family customers and $250 for non-income-qualified residents.
- LED Street Lighting Retrofit Initiative: Anaheim is currently in the process of converting its city streetlights from HPS to LED lights. In FY 2024, a total of 602 streetlights were retrofitted with LED lighting, resulting more than 140 MWh of energy conserved.
- Holiday Light Exchange Program: Provides free LED holiday light strands to residents who turn in old incandescent holiday light strands.

Evaluation, Measurement & Verification Studies

Under SCPPA and CMUA Energy Efficiency Services Resolution No. 2021-105, Anaheim contributed to the development of tools and services that calculate and report the cost-effectiveness of energy efficiency and demand response programs.

TABLE APU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	2,676	53,520	0	2,676	53,520	15	$2,234	2.33	5.02	0.061
HVAC - Heat Pump	142	491,170	5,421,894	142	491,170	5,421,894	1,698	$174,832	3.59	214.91	0.040
Service & Domestic Hot Water	0	3,600	54,000	0	3,600	54,000	19	$2,549	2.66	5.02	0.063
Electrification	142	497,446	5,529,414	142	497,446	5,529,414	1,732	$179,615	3.56	120.58	0.040
Appliance & Plug Loads	0	28,132	380,120	0	28,132	380,120	107	$23,767	1.62	5.02	0.081
Building Envelope	49	33,972	665,142	49	33,972	665,142	204	$27,000	2.72	5.02	0.059
HVAC - Cooling	72	67,790	632,797	72	67,790	632,797	260	$114,346	1.26	6.35	0.221
Lighting - Indoor	470	2,714,707	35,076,518	470	2,714,707	35,076,518	12,374	$421,316	9.19	15.00	0.015
Lighting - Outdoor	34	807,234	12,681,132	34	807,234	12,681,132	5,536	$4,497,365	0.32	0.32	0.483
Miscellaneous	384	1,204,826	13,669,351	384	1,204,826	13,669,351	4,452	$1,193,745	1.20	1.24	0.112
Water Pumping / Irrigation	0	247,841	2,230,570	0	247,841	2,230,570	829	$475,207	0.60	1.41	0.252
Whole Building	0	41,058	123,174	0	41,058	123,174	45	$177,242	0.08	0.08	1.503
Energy Efficiency	1,009	5,145,560	65,458,805	1,009	5,145,560	65,458,805	23,807	$6,929,990	1.05	1.15	0.137
Appliance & Plug Loads	0	4,550	63,700	0	4,550	63,700	18	$8,282	0.78	5.02	0.170
HVAC - Cooling	33	28,627	175,000	33	28,627	175,000	73	$44,454	1.01	1.01	0.287
Lighting - Indoor	19	166,316	2,494,742	19	166,316	2,494,742	942	$283,781	1.01	1.01	0.152
Miscellaneous	158	199,808	1,998,755	158	199,808	1,998,755	809	$440,520	1.01	1.01	0.267
Low-Income	210	399,301	4,732,197	210	399,301	4,732,197	1,842	$777,037	1.01	1.02	0.209
EE, Low Income and Electrification	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	27,381	$7,886,642	1.11	1.23	0.135
C&S and T&D								$0			
Utility Total	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	27,381	$7,886,642	1.11	1.23	0.135

TABLE APU-2. Energy Efficiency Program Results by Sector

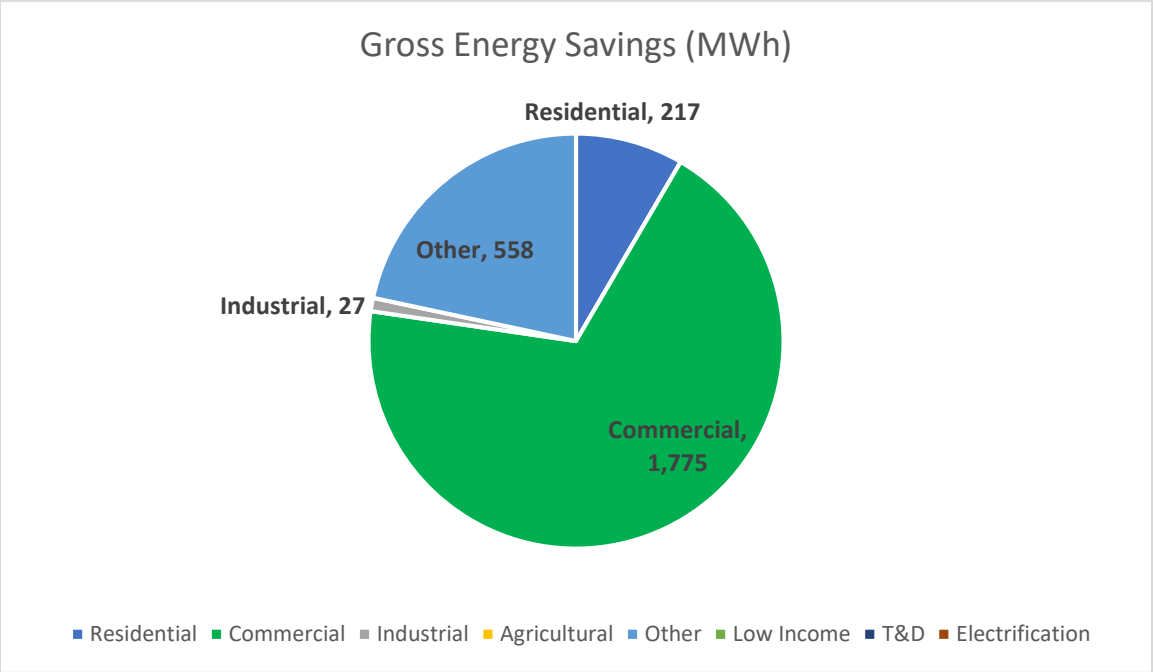
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	139	486,414	5,350,554	139	486,414	5,350,554	1,670	$144,213	4.25		0.033
Residential	3	11,032	178,860	3	11,032	178,860	62	$35,403	0.75	5.02	0.272
Electrification	142	497,446	5,529,414	142	497,446	5,529,414	1,732	$179,615	3.56	120.58	0.040
Any	0	247,841	2,230,570	0	247,841	2,230,570	829	$475,207	0.60	1.41	0.252
Commercial	598	2,678,107	31,229,209	598	2,678,107	31,229,209	10,900	$1,087,676	3.08	3.66	0.044
Other	34	140,366	2,807,319	34	140,366	2,807,319	1,311	$4,430,128	0.07	0.07	2.322
Residential	377	2,079,246	29,191,707	377	2,079,246	29,191,707	10,768	$936,979	3.58	4.27	0.043
Energy Efficiency	1,009	5,145,560	65,458,805	1,009	5,145,560	65,458,805	23,807	$6,929,990	1.05	1.15	0.137
Residential	210	399,301	4,732,197	210	399,301	4,732,197	1,842	$777,037	1.01	1.02	0.209
Low-Income	210	399,301	4,732,197	210	399,301	4,732,197	1,842	$777,037	1.01	1.02	0.209
EE, Low Income and Electrification	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	27,381	$7,886,642	1.11	1.23	0.135
C&S and T&D								$0			
Utility Total	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	27,381	$7,886,642	1.11	1.23	0.135

TABLE APU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Other Commercial	139	486,414	5,350,554	139	486,414	5,350,554	1,670	$144,213	4.25		0.033
Residential	3	11,032	178,860	3	11,032	178,860	62	$35,403	0.75	5.02	0.272
Electrification	142	497,446	5,529,414	142	497,446	5,529,414	1,732	$179,615	3.56	120.58	0.040
Any	5	115,806	1,618,134	5	115,806	1,618,134	509	$188,316	0.94	0.99	0.166
Multiple	0	247,841	2,230,570	0	247,841	2,230,570	829	$475,207	0.60	1.41	0.252
Other Commercial	626	2,708,361	32,503,804	626	2,708,361	32,503,804	11,742	$5,330,082	0.66	0.68	0.208
Residential	329	2,046,342	28,562,086	329	2,046,342	28,562,086	10,561	$916,072	3.59	4.24	0.043
Residential - Single-Family	48	27,211	544,211	48	27,211	544,211	167	$20,313	2.95	5.02	0.055
Energy Efficiency	1,009	5,145,560	65,458,805	1,009	5,145,560	65,458,805	23,807	$6,929,990	1.05	1.15	0.137
Residential	180	375,704	4,607,879	180	375,704	4,607,879	1,791	$745,179	1.01	1.02	0.206
Residential - Mobile Home	20	16,394	87,083	20	16,394	87,083	36	$23,816	1.01	1.01	0.302
Residential - Single-Family	10	7,203	37,234	10	7,203	37,234	15	$8,042	1.01	1.01	0.239
Low-Income	210	399,301	4,732,197	210	399,301	4,732,197	1,842	$777,037	1.01	1.02	0.209
EE, Low Income and Electrification	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	27,381	$7,886,642	1.11	1.23	0.135
C&S and T&D								$0			
Utility Total	1,360	6,042,307	75,720,415	1,360	6,042,307	75,720,415	27,381	$7,886,642	1.11	1.23	0.135

Azusa Light & Water at a Glance

- Climate Zone: 9
- Customers: 17,477
- Total annual retail sales: 234,019 MWh
- Annual Retail Revenue: $44,407,427
- Annual energy efficiency expenditures for reporting year: $1,508,029
- Gross annual savings from reporting year portfolio: 2,576 MWh



Azusa Light & Water Overview

Since the inception of its energy efficiency programs, Azusa Light & Water has expended over $18 Million toward providing energy conservation information to the Azusa community and rewarding businesses and residents for upgrading inefficient energy-consuming equipment with more energy-efficient equipment. These efforts have resulted in a consistent annual peak demand and energy use reduction of approximately one percent.

Major Program and Portfolio Changes

Retired the Proctor Engineering HVAC analysis, retrofit, and maintenance program for the packaged HVAC throughout the City municipal buildings and replaced the program with the Synergy Energy Efficiency (EE) Audit and Direct Installation (DI) for Residential and Non-Residential Programs, which will initially focus on the hard to reach manufactured and mobile home market. Future expansion of the program is planned for low income and disadvantaged communities.

Program and Portfolio Highlights

The direct install Small Business Audit/Retrofit Program continues to provide the maximum impact on meeting the needs of the harder-to-reach businesses and small retailers within the service territory. These hard-to-reach customers have a very tight cash flow and are often unable to participate in the rebate programs unless there is little to no up-front monetary outlay. This program allows customers to immediately see the savings and avoid the initial cash outlay associated with the typical rebate-type programs.

Commercial, Industrial & Agricultural Programs

- Business Partnership Program: Retrofit existing buildings and factories with high-efficiency lighting, air conditioning, and process equipment.
- Free Energy Audits: Provide suggestions on the most energy-efficient equipment and more cost-effective methods of operations.
- New Business Retrofit Program: Encourage the use of the most energy-efficient equipment in the design and construction of new buildings and factories.
- Small Business Audit/Retrofit Program: Provide free utility audit, free LED retrofit, free packaged A/C tune-ups, the first $1,500 free lighting retrofit, and recommendations for further energy-saving measures with a corresponding 50% rebate up to a maximum rebate of $10,000 per customer account.
- "The Proctor Engineering HVAC Tune-Up and Retrofit Program": Provided free HVAC tune-ups and HVAC equipment replacement recommendations.

Residential Programs

Home Weatherization and Residential EnergyStar® Appliance Rebate Program: Rebates are offered for a variety of home weatherization measures and most high-efficiency appliances that have the EnergyStar® rating, including but not limited to, refrigerators, air conditions, LED Televisions and computer monitors, dishwashers, clothes washers, pool pumps, ceiling fans, and various lighting measures.

Complementary Programs

- The Public Facilities Program is essentially the same as the current commercial and industrial programs; therefore, they are included in the same category for funding and savings.
- City Schools "Tinker" Program: Provides an interactive 5th-grade conservation education program to all 5th-grade classes within the City of Azusa, both private and public.
- Low-Income Programs: The Azusa Light & Water Low Income Assistance Program is outlined in Rule No. 18 of Azusa Light & Water's Rules and Regulations. Interested customers are required to fill out an application and provide documentation of income. In general, Azusa Light & Water's guidelines for qualifying customers follow the low-income thresholds used by the State.
- Research, Development, and Demonstration: Azusa Light & Water, jointly with the Southern California Public Power Authority (SCPPA), is an active member of the APPA DEED Program.

Evaluation, Measurement & Verification Studies

Azusa Light & Water contracted with Lincus Energy to complete a study of the various energy efficiency programs and associated savings. The Lincus study is available on the CMUA website and the Azusa Light & Water website.[14] Azusa Light & Water will continue to make EM&V reports available to the CEC and other parties as they are completed and will continue with its EM&V programs and practices in the future.

Major Differences or Diversions from CA POU TRM for Energy Savings

For savings, Azusa Light & Water uses a combination of figures from the POU TRM, E3, utility work papers, and custom savings analysis, along with vendor calculations when applicable.

[14] http://www.ci.azusa.ca.us/DocumentCenter/View/26058

TABLE Azusa-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	41	146,977	1,794,690	41	146,977	1,794,690	589	$50,915	3.72	10.68	0.036
Building Envelope	607	1,809,968	27,079,861	605	1,808,237	27,027,943	8,555	$1,359,458	2.13	10.40	0.067
Miscellaneous	134	352,240	3,406,568	134	352,240	3,406,568	1,194	$89,169	4.18	10.68	0.033
Water Pumping / Irrigation	30	266,744	800,232	30	266,744	800,232	311	$8,487	10.68	10.68	0.011
Energy Efficiency	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060
EE, Low Income and Electrification	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060
C&S and T&D								$0			
Utility Total	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060

TABLE Azusa-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	567	1,774,572	26,452,536	567	1,774,572	26,452,536	8,358	$1,291,705	2.17	10.68	0.065
Industrial	31	26,743	367,735	31	26,743	367,735	124	$27,548	1.41	10.68	0.098
Other	143	557,812	3,994,544	143	557,812	3,994,544	1,357	$63,172	6.76	10.68	0.019
Residential	70	216,802	2,266,536	69	215,071	2,214,618	810	$125,604	2.16	8.32	0.075
Energy Efficiency	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060
EE, Low Income and Electrification	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060
C&S and T&D								$0			
Utility Total	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060

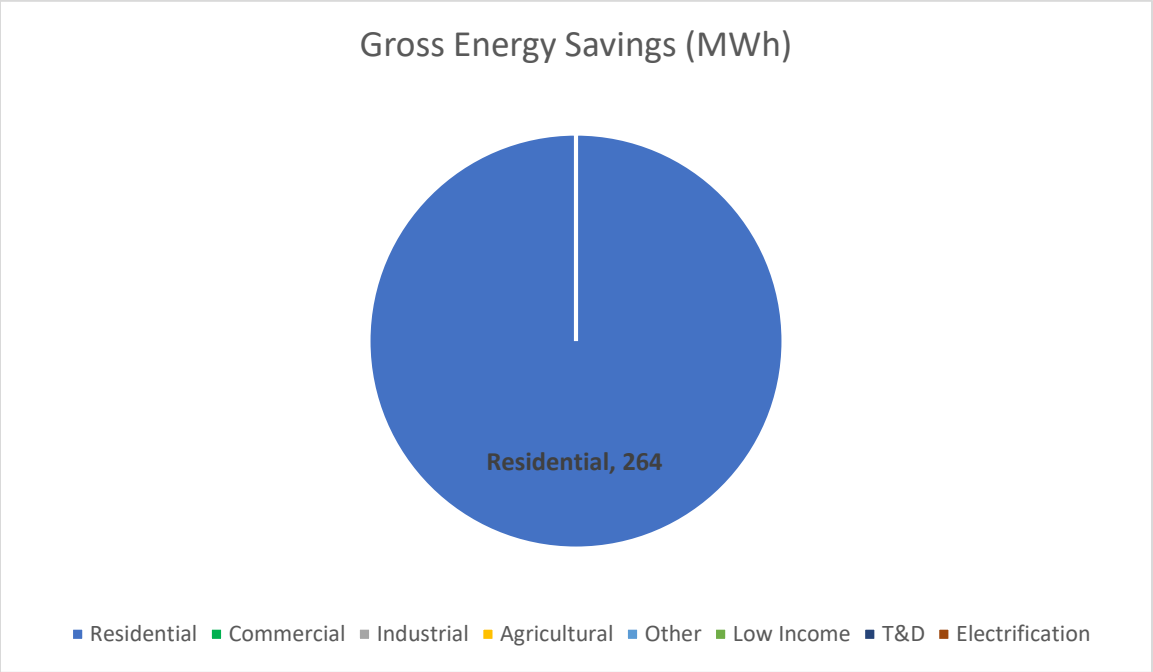
TABLE Azusa-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	667	1,953,152	28,125,572	667	1,953,152	28,125,572	8,921	$1,167,203	2.55	10.68	0.055
Other Agricultural	30	266,744	800,232	30	266,744	800,232	311	$8,487	10.68	10.68	0.011
Other Commercial	13	112,488	1,521,276	13	112,488	1,521,276	483	$179,187	0.92	10.68	0.153
Other Industrial	31	26,743	367,735	31	26,743	367,735	124	$27,548	1.41	10.68	0.098
Residential	70	216,802	2,266,536	69	215,071	2,214,618	810	$125,604	2.16	8.32	0.075
Energy Efficiency	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060
EE, Low Income and Electrification	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060
C&S and T&D								$0			
Utility Total	812	2,575,929	33,081,351	810	2,574,198	33,029,433	10,649	$1,508,029	2.35	10.45	0.060

CITY OF BANNING ELECTRIC UTILITY

City of Banning Electric Utility at a Glance

- Climate Zone: 15
- Customers: 13,358
- Total annual retail sales: 145,496 MWh
- Annual Retail Revenue: $28,185,138
- Annual energy efficiency expenditures for reporting year: $232,588
- Gross annual savings from reporting year portfolio: 264 MWh



Banning Overview

During FY 23/24, Banning spent $302,408 in Energy Efficiency programs, which have provided 515,895 kWh of energy savings. It should be noted that the City of Banning is deemed an economically disadvantaged area. A significant portion of the City's population is either low-income or senior citizens living on a fixed income. Due to the economic demographics of Banning's population, a significant portion of Public Benefits dollars are utilized to provide low-income assistance through a monthly utility bill credit.

The master-planned community of Atwell continues to grow. To date, approximately 1,167 homes have been built totaling 3.2 MW of new roof-top solar, and adheres to 2019 Title 24 Construction Standards.

Major Program and Portfolio Changes

One of Banning's new goals for FY 23/24 was to expand energy audits and direct installations of efficiency measures beyond just our commercial customers. There is such a large population of low-income as well as seniors who cannot afford our rebate programs. A new program to reach commercial customers, low-income customers, single-family residences, and manufactured homes has been gaining traction. In addition to many residential customers being served, energy efficiency improvements and lighting measures for added safety have taken place within our downtown corridor. These energy efficiency measures qualified under our Synergy Energy Audit Measures or "S.E.A.M." program.

We have many community outreach events planned and executed by our volunteer C.O.R.E. (community, outreach, relations, and education) Team. Our C.O.R.E. Team actively partners with other City of Banning departments and local organizations to focus on community engagement and social equity. We have had several successful community events and continue evaluating our programs and community-based activities to where we now have a roster of regularly scheduled programs and community-centric events to be held on an annual basis.

One successful program that spurred from a partnership with our Parks and Recreation Department is the "Keep Your Kool...At the Pool" program. During the summer of 2024, the City of Banning Electric Utility sponsored Friday-night "Dive-In Movies" at the local Repplier Aquatic Center. We had another very successful summer with attendance reaching capacity each week and had a total of 2013 participants in attendance for the duration of the program. The goal of this program was to educate attendees about the value of saving electricity from 4:00-10:00pm. This behavior shaping is used to shave peak load when we no longer have an abundance of solar energy. Keep Your Kool At the Pool entices residents to leave their homes to cool off in the community pool rather than stay home and use their air conditioners. To ensure we had the highest participation possible, we sponsored Dive-In Movies every Friday night in the summer of 2024. The kWh savings equaled that of three residential customers' usage for an entire month and helped to decrease the risk of Flex Alerts. This has become one of our C.O.R.E. Team regularly scheduled summer programs and we look forward to continued success each summer.

Banning Electric Utility was proud to partner with the Arbor Day Foundation for our 4th annual Energy-Saving Tree Event in the Spring of 2024. Customers accessed the Arbor Day Foundation website and reserved up to two trees per household in a Banning Electric portal. A day was scheduled for customers to pick up their reserved trees with planting and care instructions given to ensure the successful growth of the trees. Some environmental impacts from our 2024 tree event are 287,458 lbs. of carbon sequestered, 592 lbs. of air pollution removed, 568,680 gallons of stormwater filtered, and $62,775 cumulative community benefits over a 20-year

period. We hope this will continue to be an annual event for years to come, and we already have a waitlist that was started for the 2025 Energy-Saving Tree event.

In addition to the Energy-Saving Tree Program, we have partnered with our Parks and Recreation Department as well the Pass Area Rotary Club, The San Gorgonio Boys and Girls Club, the Banning Senior Center, as well as many other local nonprofit groups to for the past two years to hold an Arbor Day Community Tree Planting event. Our Parks and Recreation Department determines a local park or location that needs shade trees due to previous park vandalism or community blight. We then determine the species, size and placement of trees needed and come together on a scheduled date to plant the trees. The community participation doubled last year when over 100 volunteers came together at our local Lions Park. We planted trees to offer shade to park attendees, offer shade to vehicles parked along the west-side of the park, as well as helped to develop our community canopy and beautify the park. These benefits are in addition to the reduction of GHG emissions and reduction of air pollution storm-drain runoff.

Banning Electric Utility was also instrumental in the development of an expansion for a pallet-home community for the homeless. Entitled "Opportunity Village," this small community for the homeless consisted of portable, energy-efficient, two-person bungalows with heat, air conditioning, and wall-mounted, fold-up beds, and has been very successful in providing shelter to those in need who want to turn their lives around. Opportunity Village has had great success and has become a model for other communities within the State of California who wish to offer options to the homeless.

Program and Portfolio Highlights

- Renewable Portfolio Standard: In 2024, the City of Banning's energy portfolio was 55.1% renewable. Steps have been taken to increase our renewable portfolio, which has helped in making the City of Banning Electric Utility one of the most renewable utilities in the state. This percentage has slightly declined, but is still an accomplishment we have worked very diligently to achieve and are very proud of as a small municipal utility.
- Solar Energy: Banning has met its California SB1 requirements by providing $2.4 million in rebates for the installation of solar photovoltaic systems in its service territory. The rebates, coupled with Title 24 Construction Standards, have helped install approximately 6.0 MW of customer-owned solar photovoltaic capacity in the city. Banning previously met the NEM Cap of 2.3 MW in 2018.

Commercial, Industrial & Agricultural Programs

- Synergy Energy Audit Measures "S.E.A.M.": Complimentary Energy Audits coupled with complimentary measures for commercial customers such as efficiency upgrades and retrofits such as lighting, refrigeration, motors, air conditioning tune-ups, etc.

- Commercial Programs: Monetary incentives for commercial customers to install more energy-efficient equipment such as lighting, signage, or refrigeration. Customized rebate programs have also been adopted when business-specific energy-efficiency measures are implemented, and kWh and peak demand reduction are demonstrated.
- New Construction: Monetary incentives for new construction projects that exceed energy efficiency above California's Title 24 standards.

Residential Programs

- Air Conditioner: Monetary incentives to replace an existing central air conditioning unit with a new high-efficiency unit.
- Air Conditioner Tune-Ups: Monetary incentives for getting air conditioning units tuned up.
- EnergyStar® Appliances: Monetary incentives for purchasing products that meet the Energy Star® criteria.
- EnergyStar® Refrigerator: A monetary incentive for replacing an old inefficient refrigerator with a new energy-efficient unit.
- Recycling: Rebates offered to remove and recycle operating old and inefficient refrigerators and freezers.
- Energy Weatherization: Monetary incentives to replace inefficient materials with products that will improve the energy efficiency of their facility and reduce energy use.
- Shade Tree: Rebates offered to plant shade trees around homes to help reduce the amount of energy used for air conditioning.
- Smart Thermostat: Rebates are offered for the installation of a programmable, WIFI-enabled thermostat.
- Summer Savings Program: Rebates created to assist our low-income customers who cannot afford a new air conditioner to cool off in the summer. These rebates are for box fans, ceiling fans, and room a/c units to circulate the air and help stay cool during the hot summer months.

Complementary Programs

- Low-Income Assistance: An electric utility discount for qualified customers. As mentioned above, the majority of Public Benefits funds are spent to provide low-income assistance. Currently, we have 955 customers on our Low-Income Assistance with assistance totaling $372,450 during this FY.
- Medical Discount Program: An electric utility discount for qualified customers. This program has approximately 516 customers and providing assistance of $154,800 during this FY.

Evaluation, Measurement & Verification Studies

The City of Banning Electric Utility has hired third-party firms, such as Lincus, Inc., to perform EM&V studies in previous years. The City will continue with its EM&V programs and practices.

Major Differences or Diversions from CA POU TRM for Energy Savings

The City of Banning uses CMUA measures. There are no major differences or diversions.

TABLE Banning-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	50	143,040	1,430,400	40	114,432	1,144,320	420	$99,639	1.32	1.32	0.105
Appliance & Plug Loads	0	6,487	61,169	0	6,163	58,111	18	$2,182	2.76	1.86	0.046
Building Envelope	32	32,827	655,037	24	18,187	363,316	127	$14,348	4.55	6.13	0.058
HVAC - Cooling	7	19,639	258,134	6	15,411	210,594	82	$57,093	0.83	1.59	0.358
Lighting - Outdoor	2	497	2,485	1	268	1,342	1	$1,713	0.09	0.12	1.391
Miscellaneous	0	61,500	1,230,000	0	49,200	984,000	355	$57,613	1.86	1.86	0.086
Energy Efficiency	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
EE, Low Income and Electrification	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
C&S and T&D								$0			
Utility Total	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112

TABLE Banning-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
Energy Efficiency	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
EE, Low Income and Electrification	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
C&S and T&D								$0			
Utility Total	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112

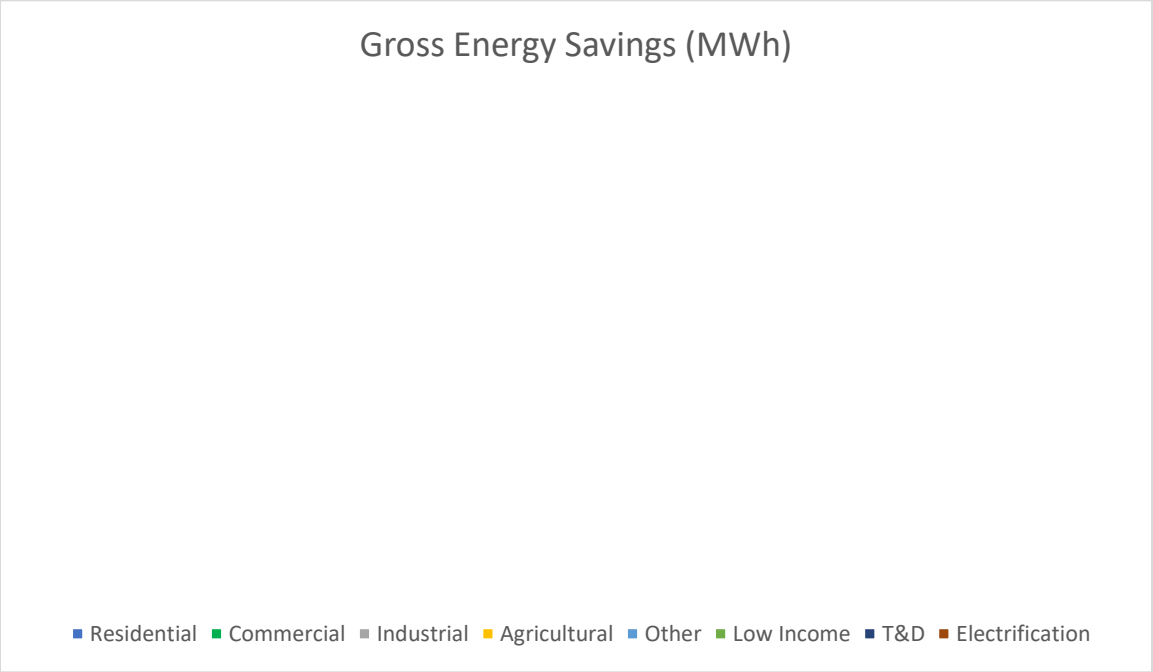
TABLE Banning-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	4	66,861	1,259,254	2	53,710	1,008,878	364	$60,653	1.81	1.84	0.088
Multiple	50	144,913	1,447,753	40	114,432	1,144,320	420	$99,920	1.32	1.32	0.106
Residential	38	51,529	921,564	29	34,978	601,376	216	$71,551	1.60	2.74	0.167
Residential - Single-Family	0	688	8,655	0	541	7,110	3	$464	1.99	2.40	0.084
Energy Efficiency	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
EE, Low Income and Electrification	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112
C&S and T&D								$0			
Utility Total	92	263,991	3,637,226	72	203,661	2,761,683	1,002	$232,588	1.54	1.77	0.112

CITY OF BIGGS

City of Biggs at a Glance

- Climate Zone: 11
- Customers: 694
- Total annual retail sales: 4,997 MWh
- Annual Retail Revenue: $1,000,938
- Annual energy efficiency expenditures for reporting year: $0
- Gross annual savings from reporting year portfolio: 0 MWh



City of Biggs Overview

The City of Biggs is primarily a small residential city with one large industrial customer. A significant portion of the City's population is either low-income or senior citizens living on fixed incomes.

Complementary Programs

Low-Income Programs: Biggs works with Community Action Agency of Butte County to provide Home Energy Assistance Program (HEAP) grants to income-qualified households within our service territory. Complimentary on-site energy audits are performed by our partner, Efficiency Services Group, to resolve high usage complaints.

TABLE Biggs-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
HVAC - Cooling	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

TABLE Biggs-2. Energy Efficiency Program Results by Sector

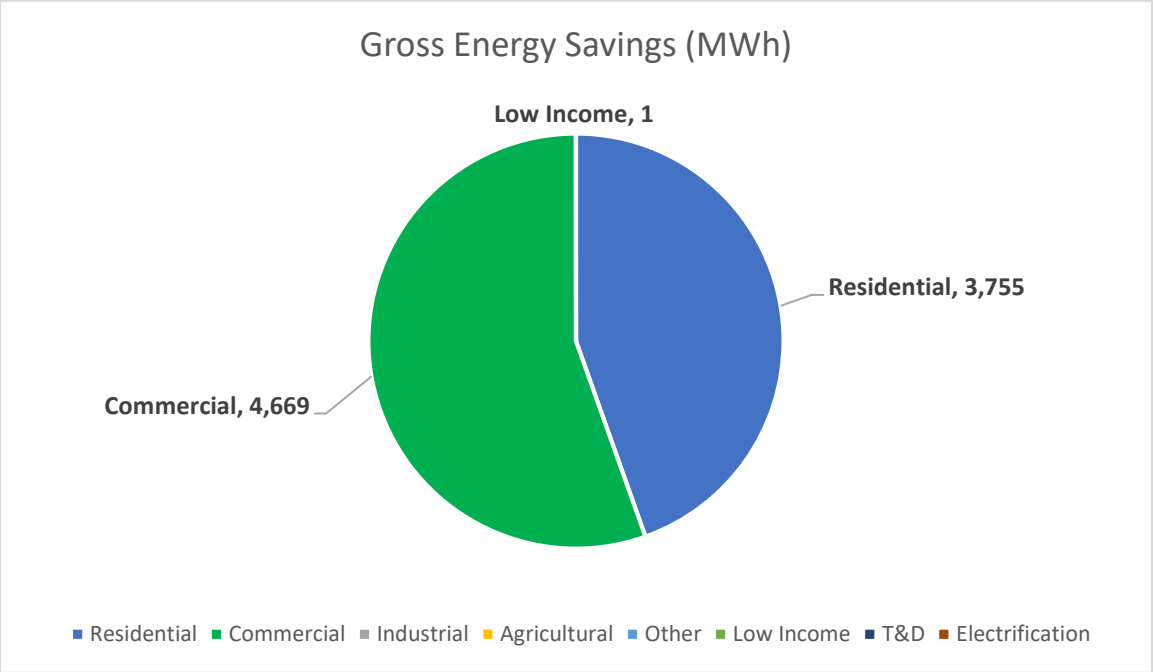
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

TABLE Biggs-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Warehouse - Refrigerated	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

Burbank Water & Power at a Glance

- Climate Zone: 9
- Customers: 53,153
- Total annual retail sales: 942,640 MWh
- Annual Retail Revenue: $173,452,000
- Annual energy efficiency expenditures for reporting year: $1,571,121
- Gross annual savings from reporting year portfolio: 8,425 MWh



Burbank Water & Power Overview

Burbank Water & Power (BWP) provides electric, water, and fiber optic network services to its customers.

Burbank is home to major entertainment companies such as The Walt Disney Company, Warner Bros Studios, The Burbank Studios, Nickelodeon, Cartoon Network, ABC Studios, Netflix, and KCET. There are also numerous small media businesses in the City of Burbank. Burbank also features unique shopping and dining neighborhoods like Downtown Burbank and Magnolia Park. The Empire Center, the Burbank Town Center, and one of North America's largest IKEAs are also in Burbank.

The residential community of Burbank consists of about 22,000 single-family homes that range from post-war bungalows to two-story homes. There are also about 24,000 multi-family dwellings, and the number of multi-family homes continues increasing with infill and high-density development. Burbank is in California's Climate Zone 9.

The Integrated Resource Plan (IRP), adopted by the Burbank City Council in November 2023, directs BWP to reduce GHG emissions by implementing energy efficiency, demand response programs, beneficial electrification programs, and integrating carbon-free energy.

BWP actively promotes Transportation Electrification by offering educational initiatives and programs, including the Used Electric Vehicle (EV) Rebate Program, Residential EV Charger Rebate Program, and Commercial EV Charger Rebate Program. BWP is also committed to making public charging easy. BWP owns and operates 107 public charging ports in Burbank.

Major Program and Portfolio Changes

During FY 2023-2024, a number of BWP's customer efficiency programs had gaps in services due to vendors that ceased operations in the region or contracting delays. These programs include: AC Replace Before it Breaks, Business Bucks, and the low-income Refrigerator Exchange.

BWP's Business Rebates saw an increase in savings which can be partly attributed to the hiring of a dedicated Key Accounts Manager who promoted BWP's programs to large and extra-large business customers.

Program and Portfolio Highlights

BWP manages a comprehensive program portfolio that delivers value to Burbank residents and businesses. Programs focus on energy efficiency, behavioral-based savings, peak load reduction, low-income assistance, and clean technologies that mitigate greenhouse gas emissions. BWP continues to strive for increased participation in existing energy efficiency programs and launch new programs to increase savings. Programs must have the customer in mind, as their success is ultimately dependent on the customer's actions.

The Home Improvement Program (HIP) continues to be one of the most popular residential programs. This program includes energy and water surveys, installation of both energy and water-saving measures, and home weatherization services, available to all single-family and multi-family customers in Burbank. The HIP services are provided at no cost to BWP customers, with all energy-water efficiency measures prioritized based on their cost-effectiveness.

Commercial, Industrial & Agricultural Programs

- Business Rebates: Businesses in Burbank can receive a rebate from the Business Rebates program by retiring inefficient equipment and installing new energy-efficient

equipment. BWP offers a menu of deemed incentives and an option for a custom rebate based on annual energy savings achieved.

- Business Bucks Program: The program offers small and mid-sized businesses an energy efficiency survey and retrofits.
- LED Street Lighting Project: The program provides incentives for replacing inefficient high-pressure sodium (HPS) streetlights with energy-efficient LEDs.

Residential Programs

- Home Rewards Rebate Program: BWP provides rebates for purchasing and installing ENERGY STAR® rated appliances and high-efficiency measures.
- Home Improvement Program: The program offers energy-water surveys, energy-water measures installation, and home weatherization services to all Burbank single-family and multi-family customers.
- Energy Saving Trees Program: The program from the Arbor Day Foundation provides a one-stop shop for residential and commercial customers to learn about the benefits of shade trees and get complimentary shade trees delivered to their property for planting. When properly sited, mature shade trees provide shade that helps reduce air conditioning costs and loads on the grid.
- Student Energy and Water Education Program: The program provides energy and water education services, materials, and conservation kits to sixth-grade students attending public schools in Burbank.
- OPower Web Portal: Residential customers can access their electric usage information through the Opower Web Portal to better understand their energy usage and reduce their electricity consumption.
- Home Energy Reports: The program provides energy reports to residential customers on their energy usage and educates them about more energy-efficient usage within a home through feedback and tips.
- Weekly Energy Updates: The program provides a weekly email report to residential customers to inform them about their energy usage patterns and trends.
- High Bill Alerts: The program uses AMI data to help customers save energy and money when they are likely to use more energy than usual.
- AC Replace Before It Breaks Program: This mid-stream incentive program provided HVAC replacement incentives to residential customers to help them save energy by ensuring that their air conditioning system is operating at the optimal level. The program stopped during this FY due to the vendor ceasing operations in the region.
- Low-income Refrigerator Exchange: BWP offered income-qualified and Lifeline-approved customers a program to replace an old inefficient refrigerator with a new ENERGY STAR® certified refrigerator at no cost. This program was suspended in late 2023 due to the vendor ending its operations in Southern California.

Complementary Programs

- Lifeline Program: Offers a reduced electric rate for low-income qualified senior or disabled customers.
- Life Support Program: Offers low-income qualified customers with life support equipment an exemption from the utility user tax.
- Project Share Program: Offers income-qualified customers a one-time yearly stipend towards their utility bills. The program is funded by community donations.
- Charging Station Rebates: Customers who install a Level 1 smart outlet, Level 2 (240V) EV charger or DC Fast Charger are eligible for a rebate from BWP. Residential customers can get a reimbursement for up to $1,500 per charging port for their home, and commercial customers can get a rebate for up to $20,000 per charging port for their business.
- Used EV Rebates: To support the adoption of EVs, the program offers residential customers a $1,000 rebate towards a pre-owned EV purchase. It is designed for customers who prefer pre-owned EVs or have income constraints to acquire a new EV.

Evaluation, Measurement & Verification Studies

BWP is committed to providing cost-effective, ongoing EM&V efforts for its energy efficiency programs. EM&V costs are covered in the individual program budgets. Conservation staff and the Key Account Manager review all program applications for completeness and accuracy. To support EM&V activities, in-person inspections are completed for Business Rebates.

Major Differences or Diversions from CA POU TRM for Energy Savings

The majority of energy savings values used to evaluate BWP's programs are sourced from the Technical Reference Manual (TRM), developed for California's Publicly Owned Utilities (POUs). In cases where a particular measure is not listed in the TRM, BWP typically relies on a verified utility work paper or custom savings analysis, supplemented by vendor calculations to estimate energy savings.

TABLE BWP-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	1,216	4,506,206	67,593,090	1,216	4,506,206	67,593,090	21,482	$828,737	14.73	2.63	0.016
Appliance & Plug Loads	1	37,573	415,481	1	37,573	415,481	145	$20,577	2.61	0.51	0.061
Building Envelope	19	152,824	3,054,977	19	152,824	3,054,977	674	$12,731	15.12	3.55	0.006
HVAC - Cooling	36	74,235	1,476,925	36	74,235	1,476,925	570	$121,095	2.82	0.53	0.125
Lighting - Outdoor	4	18,000	360,000	4	18,000	360,000	165	$4,941	14.20	0.49	0.020
Miscellaneous	245	3,635,265	14,167,640	245	3,635,265	14,167,640	4,493	$556,536	2.32	1.04	0.044
Energy Efficiency	1,522	8,424,103	87,068,113	1,522	8,424,103	87,068,113	27,529	$1,544,618	9.17	2.07	0.023
Appliance & Plug Loads	0	924	4,620	0	924	4,620	2	$2,624	0.28	0.28	0.619
Low-Income	0	924	4,620	0	924	4,620	2	$2,624	0.28	0.28	0.619
EE, Low Income and Electrification	1,522	8,425,027	87,072,733	1,522	8,425,027	87,072,733	27,530	$1,547,241	9.15	2.07	0.023
Codes & Standards	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
Codes & Standards	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
C&S and T&D	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
Utility Total	1,697	9,073,560	90,315,398	1,697	9,073,560	90,315,398	28,682	$1,571,121	9.35	2.14	0.022

TABLE BWP-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	1,275	4,668,864	69,255,012	1,275	4,668,864	69,255,012	22,070	$955,237	13.13	2.55	0.018
Residential	247	3,755,239	17,813,101	247	3,755,239	17,813,101	5,458	$589,380	2.75	0.85	0.039
Energy Efficiency	1,522	8,424,103	87,068,113	1,522	8,424,103	87,068,113	27,529	$1,544,618	9.17	2.07	0.023
Residential	0	924	4,620	0	924	4,620	2	$2,624	0.28	0.28	0.619
Low-Income	0	924	4,620	0	924	4,620	2	$2,624	0.28	0.28	0.619
EE, Low Income and Electrification	1,522	8,425,027	87,072,733	1,522	8,425,027	87,072,733	27,530	$1,547,241	9.15	2.07	0.023
Other	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
Codes & Standards	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
C&S and T&D	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
Utility Total	1,697	9,073,560	90,315,398	1,697	9,073,560	90,315,398	28,682	$1,571,121	9.35	2.14	0.022

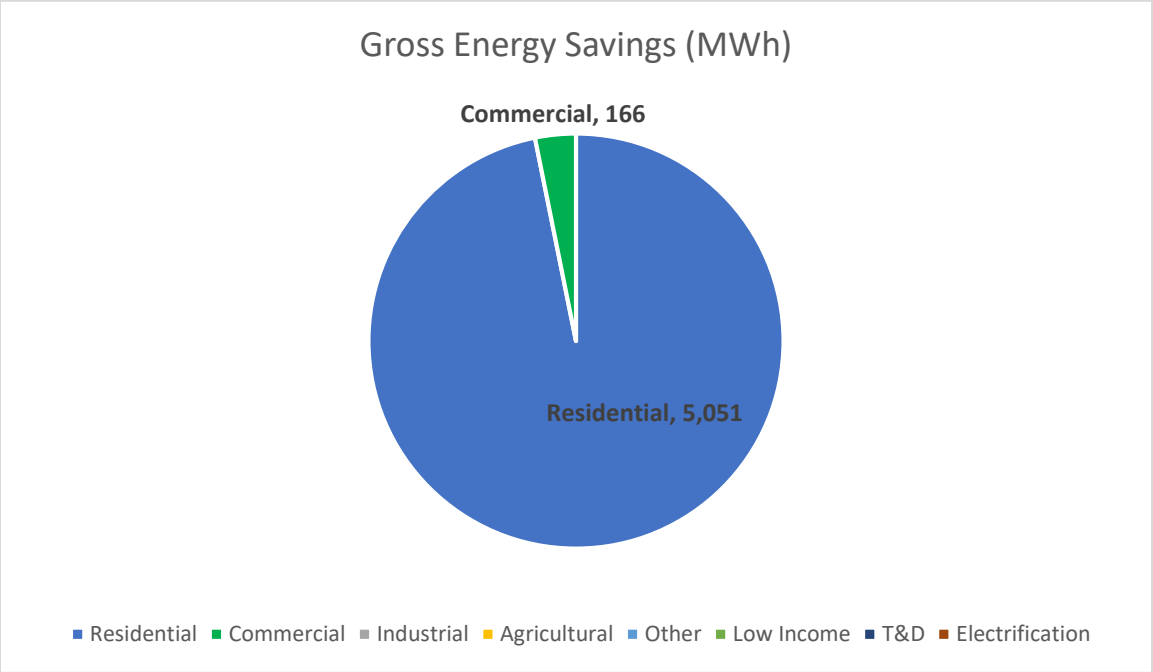
TABLE BWP-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	1,275	4,668,864	69,255,012	1,275	4,668,864	69,255,012	22,070	$955,237	13.13	2.55	0.018
Residential	245	3,687,132	16,791,456	245	3,687,132	16,791,456	5,181	$566,411	2.73	0.86	0.040
Residential - Single-Family	2	68,108	1,021,645	2	68,108	1,021,645	277	$22,969	3.22	0.63	0.031
Energy Efficiency	1,522	8,424,103	87,068,113	1,522	8,424,103	87,068,113	27,529	$1,544,618	9.17	2.07	0.023
Residential	0	924	4,620	0	924	4,620	2	$2,624	0.28	0.28	0.619
Low-Income	0	924	4,620	0	924	4,620	2	$2,624	0.28	0.28	0.619
EE, Low Income and Electrification	1,522	8,425,027	87,072,733	1,522	8,425,027	87,072,733	27,530	$1,547,241	9.15	2.07	0.023
Any	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
Codes & Standards	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
C&S and T&D	175	648,533	3,242,665	175	648,533	3,242,665	1,151	$23,880	22.34	22.34	0.008
Utility Total	1,697	9,073,560	90,315,398	1,697	9,073,560	90,315,398	28,682	$1,571,121	9.35	2.14	0.022

COLTON ELECTRIC UTILITY

Colton Electric Utility at a Glance

- Climate Zone: 10
- Customers: 22,377
- Total annual retail sales: 332,240 MWh
- Annual Retail Revenue: $81,609,216
- Annual energy efficiency expenditures for reporting year: $353,954
- Gross annual savings from reporting year portfolio: 5,217 MWh



Colton Electric Utility Overview

Colton Electric Utility (CEU) was established by Ordinance 119 on October 17th, 1895. For 130 years, CEU has been committed to providing cost-effective, reliable power and EE programs for the Colton Electric Service territory. CEU proactively pursues new strategies to engage residents and businesses to participate in EE programs. CEU continues to focus on reducing demand on the grid through energy efficiency rebates, direct EE installation programs, inter-utility partnerships with Southern California Gas Company, programs to serve the low-income, and education and outreach.

Major Program and Portfolio Changes

CEU does not have any major program changes in this reporting year.

The Energy Services team continues to market and provide more online services for a growing population of computer-literate customers.

Program and Portfolio Highlights

Arbor Day Foundation Energy tree saving program is a community favorite. Every Earth Day in April, CEU offers residents 200 free shade trees to advance energy savings by shading their property. The program uses GIS location software that calculates the kWh savings based on the property location where the resident plants a tree. Once the program is complete the utility tracks all the energy savings year over year and is provided the shape file for the City's Urban Forestry Management plan. This program not only helps clean our water supply, reduces soil erosion and reduces the heat island effect it.

Commercial, Industrial & Agricultural Programs

EE Rebates Non-Residential: Commercial and industrial customers participating in lighting and equipment upgrades and custom measures were rebated $0.10 per kWh saved on the projected first year's savings.

- Municipal Direct Install: This program provided direct installation of energy efficiency measures throughout City owned facilities.
- Commercial DI: Small business customers with less than 20 kW of demand participated in an energy audit and direct install of EE measures up to $5,000 per business.
- The Commercial/Industrial Energy Rebate Program provides rebates to commercial/industrial customers that install new energy efficiency equipment from lighting upgrades to programs specific to the customer's business. The amount of the rebate depends upon the annual energy savings.
- Lighting and Equipment Upgrade Rebates: Commercial and industrial buildings can benefit from substantial rebates given for improving lighting and equipment by increasing energy efficiency and lowering consumption. CEU offers $.10 per kWh saved on the projected first year of savings.
- Commercial Energy Audit: Commercial businesses can participate in CEU commercial energy audit ASHRAE I or level II. Businesses who participate in this audit can be eligible for additional direct install opportunities depending on audit recommendations. This is a program to assist businesses who are concerned with their energy consumption and want to learn how they can minimize their usage, shift their load, and save on energy costs.
- Multifamily Energy Efficiency Direct Install Program: apartment complexes throughout CEU territory can apply to have common area EE upgrades in lighting, thermostats, and AC tune-ups.

- Sustainability Partners: Colton Sustainability partners are champions of the environment, stewards of efficiency, and are committed to the goals of our community. As a partner, a business demonstrates civic pride, a dedication to sustainability and actively seek out incentives that benefit both the business and the community at large. CEU will celebrate the business proactive vision. There are three ways to become a partner:
    1. Energy Efficiency – Equipment upgrades, demand-side management, renewables
    2. Water Conservation – Drought tolerant landscaping, installation of water-efficient devices (such as smart irrigation controllers)
    3. Recycling – Participation in the Commercial Recycling Program, innovative implementation of Commercial/Industrial Recycling & Organics program.

Residential Programs

Energy Efficiency (EE) Upgrade Rebates: CEU offers a variety of rebates on several home energy efficiency improvements. Currently CEU offers rebates on: Occupancy sensors, energy star ceiling fans, pool pumps, solar attic fans, whole house fans, room ACs, evaporative coolers, solar tube lights, energy star clothes washers, energy star dishwasher and energy star refrigerators, and smart thermostats. Customers who participate in the rebate program will experience a reduction in their annual energy costs. Additional programs listed below:

- AC Tune-Up Rebate: This program offers a rebate for preventative maintenance on residential customer AC units up to 5 tons in size. The program requires the customer to select their own licensed AC contractor that will replace filters, check refrigerant levels and adjust the AC unit to minimize seasonal air conditioning costs.
- Air Conditioner Upgrade and Replacement Program: This program offers up to $150/ton rebate to replace an old AC with a SEER2 15.3 or higher AC system. Upgrading AC systems will significantly lower residential customer's energy costs.
- Online Energy Audit: Colton Electric Utility's new online energy assessment tool assists customers to find ways to save energy and money. The MyEnergyXpert is easy to use and designed to be completed in just a few minutes. This assessment tool provides an easy-to-follow improvement plan. Residents will also be connected to rebates available through the online platform that also links to the web shop.
- Residential Energy Audit: CEU residential customers with energy usage of over 10,000 kWh annually can qualify to participate in a residential energy audit. Participants can be eligible for additional direct install opportunities depending on audit recommendations. Customers who previously participated in an energy audit in the past two years with over 10,000 kWh of usage can participate in up to $500 of direct install measured recommendations.
- Residential WebShop: CEU residents can now purchase LED light bulbs, smart power strips, holiday lights and smart thermostats from the comfort of their own home. CEU provides up to $50.00 per FY to buy down the cost of these items and provides free

shipping. The customer can order directly from CEU's website and the items are shipped directly to the customer's home.

- Residential Weatherization Rebates: CEU offers residential customers rebates for installing replacement windows and insulation in their homes. Windows must meet Energy Star approval with a U-Factor less than 0.35 and SHGC less than 0.30 at a rebate amount of $4.00 per sq. ft. Insulation may be added to the attic, and/or exterior walls. Rebates will also be provided for radiant barriers installed within the attic space. Insulation and radiant barrier must meet the following R-Values:
    - Attic Insulation - Minimum R-30 Rebate is $0.40 per sq. ft.
    - Radiant Barrier - Minimum R-19 Rebate is $0.30 per sq. ft.
    - Exterior Walls - Minimum R-13 Rebate is $0.20 per sq. ft.
- Treebate: CEU residents are offered up to $50.00 a tree to plant an approved tree on their property that would reduce their energy bill by providing shade to their home. Residents have a maximum of 5 trees in a lifetime.

Complementary Programs

- Electric Vehicles: CEU continues to grow its EV program. The utility currently has 18 level II public chargers available, an EV incentive rate which adds 250 kWh to residential 2nd Tier of energy, a used EV rebate of $1000 and a low-income rebate of $1500 and an EV charger rebate of $500 for level II chargers. CEU also installed 7 Level II chargers for fleet and one 50kW fast charger. CEU continues to work on facilitating the state incentives to expand fleet electric vehicles with participation in LCFS and developing rebate programs to incentivize customers to participate.
- Energy Storage: Colton Electric Utility participates in an energy storage working group through SCPPA. Energy storage is being renewed for future participation. CEU has purchased 8 Ice Bear thermal energy storage units for installation in 2018 as part of a trial project.
- Electrification incentives: CEU will continue to explore incentive programs to reduce GHG emissions through electrification. Heat pump water heaters are being evaluated for a future incentive.

Evaluation, Measurement & Verification Studies

CEU contracts with Alternative Energy Services Consulting (AESC) annually to complete CEU programs studies of the residential and commercial program and associated savings. Current studies are available on CEU's website.[15] CEU will continue to make EM&V reports available to the CEC and other parties as they are completed and will continue with its EM&V programs and practices in the future, budgeting $10,000 per year.

[15] www.ci.colton.ca.us/DocumentCenter/View/3225

Major Differences or Diversions from CA POU TRM for Energy Savings

The sources used to calculate program performance were the TRM and DEER data. The TRM vs. 2.4.4 was utilized for all measures that get updated in all Title 24 code changes.

TABLE CEU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	1	15,824	185,688	0	4,934	67,241	22	$255	29.03	3.12	0.005
Building Envelope	2	13,236	264,724	1	3,706	74,123	17	$76	29.03	0.00	0.002
HVAC - Cooling	536	3,391,484	83,569,050	466	3,375,196	83,405,460	29,746	$319,896	29.03	3.58	0.006
Lighting - Indoor	84	689,306	3,537,447	51	376,580	1,973,815	786	$8,018	29.03	0.62	0.004
Lighting - Outdoor	6,498	89,301	1,339,516	6,498	89,301	1,339,516	625	$5,229	29.03	1.00	0.005
Miscellaneous	11	1,017,730	10,177,305	11	1,017,730	10,177,305	2,575	$20,479	29.03	29.00	0.002
Energy Efficiency	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006
EE, Low Income and Electrification	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006
C&S and T&D								$0			
Utility Total	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006

TABLE CEU-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	6,509	165,551	2,106,083	6,509	165,551	2,106,083	888	$8,486	29.03	1.54	0.005
Residential	623	5,051,331	96,967,647	518	4,701,896	94,931,376	32,883	$345,468	29.03	0.59	0.006
Energy Efficiency	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006
EE, Low Income and Electrification	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006
C&S and T&D								$0			
Utility Total	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006

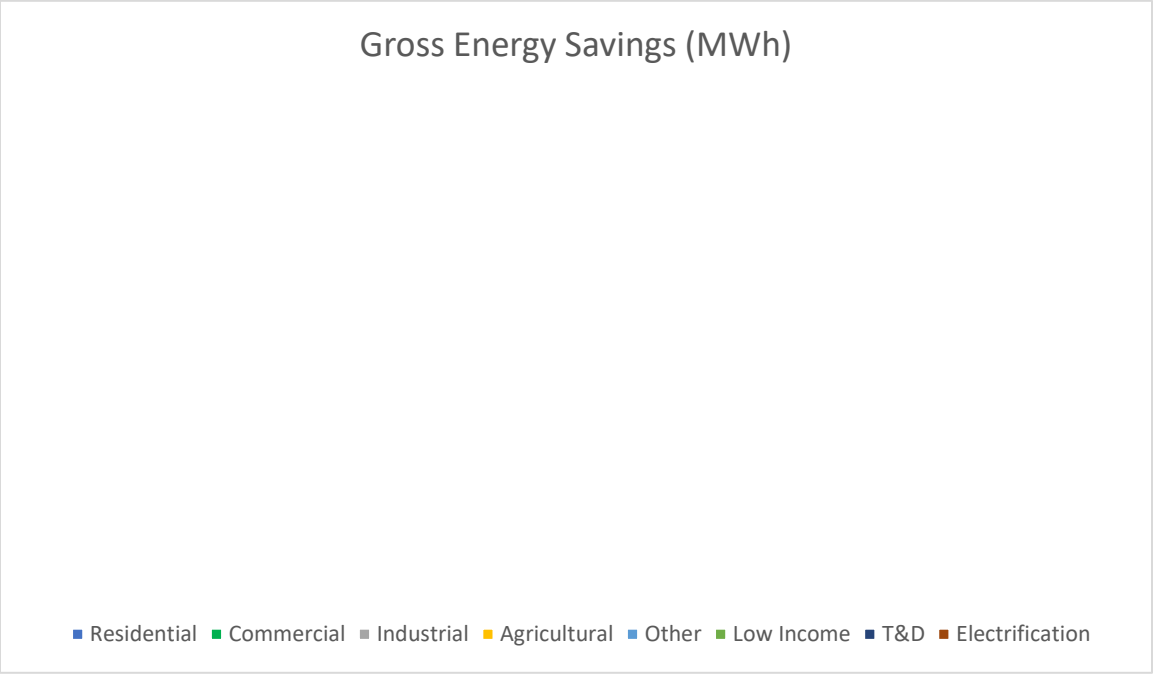
TABLE CEU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	74	681,700	3,419,117	40	368,685	1,851,165	739	$7,553	29.03	0.60	0.004
Lodging - Hotel	10	74,688	746,880	10	74,688	746,880	256	$3,185	29.03	29.03	0.005
Office - Large	0	423	10,571	0	423	10,571	4	$36	29.03	0.20	0.006
Other Commercial	6,498	89,301	1,339,516	6,498	89,301	1,339,516	625	$5,229	29.03	1.00	0.005
Residential	3	16,387	302,222	1	5,031	90,965	21	$118	29.03	0.42	0.002
Residential - Single-Family	547	4,354,384	93,255,425	477	4,329,320	92,998,363	32,125	$337,834	29.03	0.59	0.006
Energy Efficiency	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006
EE, Low Income and Electrification	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006
C&S and T&D								$0			
Utility Total	7,132	5,216,883	99,073,731	7,027	4,867,448	97,037,460	33,771	$353,954	29.03	0.60	0.006

CORONA DEPARTMENT OF WATER & POWER

Corona Department of Water & Power at a Glance

- Climate Zone: 10
- Customers: 1,839
- Total annual retail sales: 79,760 MWh
- Annual Retail Revenue: $10,790,000
- Annual energy efficiency expenditures for reporting year: $0
- Gross annual savings from reporting year portfolio (MWh): 0



Corona Department of Water & Power Overview

- Customers reside in climate zone 10.
- Established in 2001 with unbundled generation services to existing investor-owned utility customers and bundled service to customers that continue to build new facilities located in the designated service territory.
- Peak demand for bundled electric customers was 17.7 MWs (3.8% less than last year).
- Sales for bundled electric customers was 79,760 MWhs (2.6% less than last year).
- Ninety percent of bundled energy sales were to non-residential customers.
- All bundled customers' facilities meet or exceed the applicable Title 24 requirements. The recent age of these facilities provides less energy efficiency upgrade opportunities.

CUD is in the process of revamping its energy efficiency rebate program with plans to advertise new rebates by late 2024/early 2025.

Major Program and Portfolio Changes

The energy efficiency rebate program is in the process of being revamped, and new rebates will be available to customers beginning in late 2024. The new program includes rebates for energy efficient items such as air conditioners, heat pumps, appliances, and smart thermostats.

Program and Portfolio Highlights

- Corona serves municipal facilities that can be interrupted as scheduled.
- No energy efficiency incentive payments were disbursed to customers.

Commercial, Industrial & Agricultural Programs

- HVAC – Commercial – Non-Res Cooling: Financial incentives for the replacement of cost-effective energy-savings HVAC units that reduce annual energy usage or load requirements by a specified amount.
- Process – Industrial – Non-Res Process: Financial incentives for the replacement of cost-effective energy-savings motors, pumps, and equipment that reduce annual energy usage by a specified amount.
- Other – Industrial – Non-Res Other: Direct funding for projects on the utility-side of the meter that provide benefits to customers in terms of improved safety, system integrity, energy efficiency, conservation, or research and development

Residential Programs

- Appliances – Residential – Rebates will be provided to customers who purchase and install Energy Star® refrigerators, freezers, clothes washers, electric clothes dryers, dishwashers, induction stoves, and fans.
- HVAC – Residential – Res Cooling: Financial incentives for the replacement of cost-effective energy-savings HVAC units that reduce annual energy usage or load requirements by a specified amount.

Complementary Programs

- 21 customers (combined capacity of 537 kW) billed on Corona's net metering tariff schedule.
- Installed 350 kW of photovoltaic systems.
- Installed eight electric charging vehicle stations.
- Achieved commercial operation for a long-term photovoltaic generating facility power purchase agreement coupled with an 8 MW battery energy storage system.

Evaluation, Measurement & Verification Studies

The Energy Efficiency Technical Reference Manual provides energy savings estimates for Corona's programs.

TABLE Corona-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	0	0	0	0	0	0	$0			0.000
Building Envelope	0	0	0	0	0	0	0	$0			0.000
HVAC - Cooling	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

TABLE Corona-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	0	0	0	0	0	0	0	$0			0.000
Residential	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

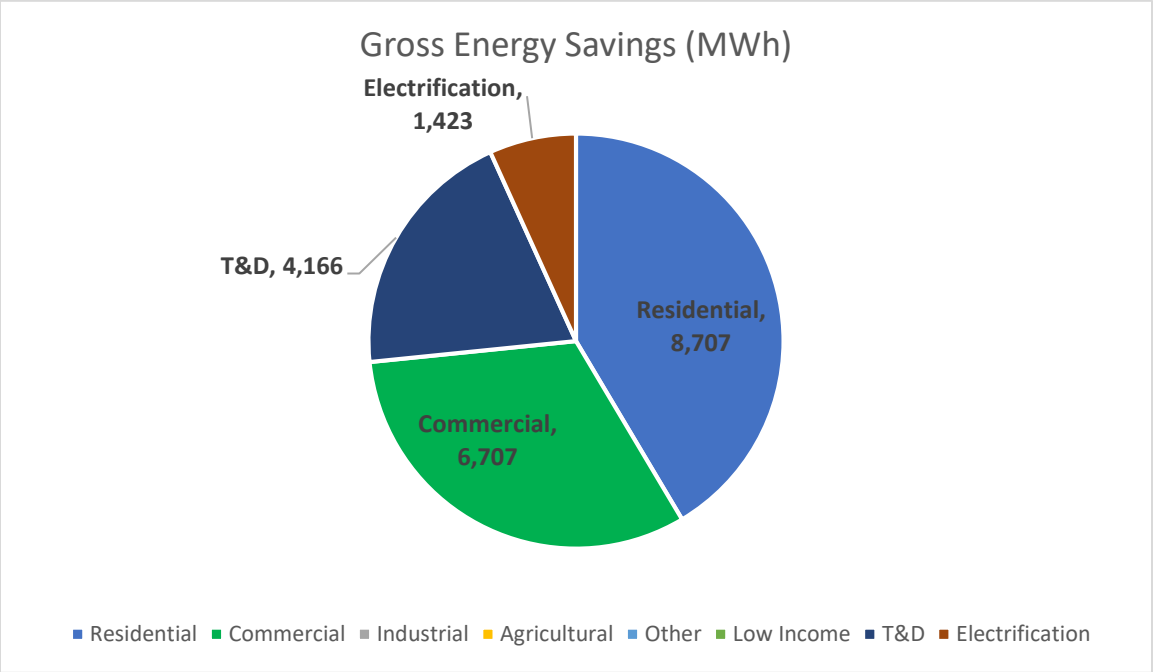
TABLE Corona-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	0	0	0	0	0	0	0	$0			0.000
Residential	0	0	0	0	0	0	0	$0			0.000
Residential - Multi-Family	0	0	0	0	0	0	0	$0			0.000
Residential - Single-Family	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

GLENDALE WATER & POWER

Glendale Water & Power at a Glance

- Climate Zone: 9
- Customers: 90,988
- Total annual retail sales: 974,195 MWh
- Annual Retail Revenue: $241,201,000
- Annual energy efficiency expenditures for reporting year: $5,696,310
- Gross annual savings from reporting year portfolio: 21,002 MWh



Glendale Water & Power Overview

Glendale Water & Power (GWP) is a municipal utility that provides essential electric and water services to nearly 91,000 electric customers and over 34,000 water customers. Located in Climate Zone 9, the City of Glendale spans 31 square miles and has a population of 187,000. GWP is dedicated to helping both residents and businesses reduce their energy and water costs through a variety of residential and commercial programs focused on promoting conservation and improving energy-water use efficiency.

In FY 2023-2024, GWP's energy efficiency programs achieved a total net annual energy savings of 20,932 MWh and reduced peak demand by 1.2 MW. GWP remains committed to investing in

conservation and energy-water use efficiency programs for residential, commercial, and industrial customers.

Glendale is also committed to ensuring a clean energy future for its citizens and developing policies and programs that help achieve a low-carbon future. Through reliable, affordable, and sustainable clean energy projects, Glendale continues to establish itself as a leader in clean energy, with a focus on transitioning to a more sustainable future.

Major Program and Portfolio Changes

In FY 2023-2024, all GWP programs were up and running with no significant portfolio changes. Our Business Energy Upgrade Program, which offers direct installation of energy-saving measures, achieved substantial savings. Additionally, the Home Energy Reports continued to provide energy usage insights, resulting in energy savings for program participants. Although there were no participants in our Business Energy Solutions Program, this can be attributed to the success and popularity of the Business Energy Upgrade Program.

Program and Portfolio Highlights

GWP's Business Energy Upgrade Program, Home Energy Reports, and the In-School Energy and Water Conservation Education Program produced the most energy savings. The Home Energy Reports program reached the majority of residential customers and provided constant communication, engagement, and insights. The Business Energy Upgrade Program offered a no cost energy audit and direct installation of energy efficiency measures for Glendale businesses, consistently meeting and exceeding the program's annual goals. The In-School Energy and Water Conservation Education Program, in collaboration with Glendale Unified School District and private schools, educated 6th-grade science students about energy and water conservation through a "hands on" curriculum. The program also provided energy-water conservation devices for installation in students' homes.

Commercial, Industrial & Agricultural Programs

Building energy efficiency partnerships with our commercial, industrial, and institutional customers has always been a priority for Glendale.

- Business Energy Upgrade Program: This seven-year commercial direct-install energy efficiency program is designed to deliver up to 8.3 MW and 36,500 MWh of energy savings in commercial buildings by the end of the program term. By the end of FY 2023-2024, the program had achieved a cumulative total of 18,000 MWh energy savings, representing about 50% of the 7-year program goal.

Residential Programs

- Home Energy Reports: The program provides print and email energy reports to residential customers on their energy use. Reports also include action steps for each

household to help them reduce their electricity consumption. Currently, the program is integrating the existing two-month billing data and a wealth of external data sources to educate customers on how they can save energy. The program provides access to the website where residential customers can review their energy usage in monthly, weekly, daily or hourly intervals.

- High Bill Alerts: These alerts are designed to analyze AMI data to help customers save energy and money when they are likely to consume more energy than usual for a billing period. Before the end of a billing period, High Bill Alerts inform customers that they are likely to have high energy use, and they provide insights to help customers reduce their consumption before the billing period ends.
- Weekly Energy Updates: A weekly email report sent to customers to inform them of their energy usage patterns, trends, and projected energy usage or costs.
- Home Energy Savings Rebates: The program offers incentives to encourage the purchase of high-efficiency measures and appliances, including rebates for all-electric home appliances, helping customers electrify their homes and reduce their carbon footprint.
- Tree Power: The program provides up to three no-cost shade trees along with arborist services to ensure proper planting. When correctly sited and cared for, healthy, mature shade trees provide cooling shade for homes, helping reduce air conditioning usage.
- Home Energy and Water Saving Upgrade Program: The Home Energy and Water Saving Upgrade Program provides no-cost home assessments and the installation of energy and water saving devices, including LED lights, low flow shower heads, faucet aerators, toilet displacement devices and toilet flappers.
- Energy Efficiency Marketplace: The online Energy Efficiency Marketplace allows Glendale residents to easily access program eligible energy and water saving products online, without the need to visit a retail store or complete incentive or rebate applications.

Complementary Programs

Low-Income Programs - In FY 2023-2024, 58% of the annual Public Benefit Charge (PBC) expenditure went towards funding the below low-income programs.

- Glendale Care: In FY 2023-2024 the program offered all eligible low-income customers a discount of $23.50 on their electric bills.
- Helping Hand: This program assists eligible low-income customers facing a temporary financial emergency by providing $150 towards a bill payment.
- Guardian: This program provides monthly bill discounts to households using doctor-prescribed electrical medical equipment.

Transportation Electrification - GWP continues to meet the growing demand for electric vehicles (EV) by investing in EV infrastructure and customer programs.

- EV Infrastructure: GWP is committed to expanding its public charging network to make EV charging more accessible and support the growing number of electric vehicles on the road.
- Residential EV Charging Station Rebate Program: This program offers rebates of up to $599 for residential customers, who install a new Level 2 EV charging station and an additional $800 for required electric panel upgrades. Customers enrolled in the Glendale Care bill assistance program are eligible for higher rebates.
- Commercial EV Charging Station Rebate Program: This program provides rebates to commercial and multi-family building customers who install EV charging stations at their properties. The base rebate is the lesser of $50,000 or 50% of the total project cost. Eligible customers who meet additional criteria may receive up to $75,000 or 75% of the total project cost.
- Electric Bicycle Rebates: This program provides a rebate of up to $300 to residential customers who purchase a new electric bicycle. The rebate is higher for customers enrolled in the Glendale Care bill assistance program.
- Off-Peak EV Charging Rebate Program: The program provides a monthly incentive of $12 to EV drivers who set their vehicles to charge during off-peak hours, helping to reduce peak load. This program uses AMI data to verify charging times, making the program available to any electric vehicle and any EV charger. Over 800 customers are currently enrolled in this program.
- EV Customer Awareness Website: This educational website offers customers with information on new and used EVs, available incentives, home charging options, EV dealers, and a map of public charging stations.

Research, Development, and Demonstration:

- Conservation Voltage Reduction (CVR): This program conserves electricity by operating electric customer voltages in the lower half of the ten percent (10%) voltage band required by ANSI equipment standards. The CVR program builds on GWP's investment in Automated Metering Infrastructure (AMI) by using meter data to reduce power costs by increasing the efficiency of GWP's distribution system. During FY 2023-2024, the program produced energy savings of 4,165 MWh.

Evaluation, Measurement & Verification Studies

GWP plans to initiate Evaluation, Measurement & Verification (EM&V) analysis of energy efficiency programs in support of AB 2021. For FY 2024-2025, Glendale has budgeted $50,000 to conduct EM&V studies, which will be conducted by a third-party contractor. GWP also plans to assess all energy efficiency programs in terms of cost-effectiveness, customer participation, and efficient administration.

Major Differences or Diversions from CA POU TRM for Energy Savings

The sources of energy savings used to calculate program performance were a combination of the POU TRM, work papers, and third-party energy efficiency verification.

TABLE GWP-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	3,233	38,799	0	3,233	38,799	-4	$3,960	-1.31	-0.31	0.129
Miscellaneous		1,391,049	16,692,588		1,391,049	16,692,588	4,627	$611,627	2.84	2.84	0.046
Service & Domestic Hot Water	0	28,738	287,385	0	28,738	287,385	44	$3,193	-0.18	-0.08	0.013
Electrification	0	1,423,021	17,018,771	0	1,423,021	17,018,771	4,667	$618,780	2.79	2.72	0.046
Appliance & Plug Loads	1	69,343	782,459	1	69,343	782,459	270	$38,078	2.13	1.87	0.061
Building Envelope	2	2,940	38,420	2	2,940	38,420	15	$1,224	8.69	49.19	0.042
HVAC - Cooling	51	98,890	1,760,354	51	98,890	1,760,354	603	$98,095	5.28	6.28	0.085
Lighting - Indoor	1,034	7,122,740	84,640,650	1,034	7,122,740	84,640,650	24,210	$4,086,502	2.92	2.92	0.061
Miscellaneous	59	8,119,267	17,524,533	59	8,119,267	17,524,533	6,267	$716,725	2.42	2.42	0.042
Energy Efficiency	1,148	15,413,180	104,746,416	1,148	15,413,180	104,746,416	31,364	$4,940,625	2.89	2.89	0.057
EE, Low Income and Electrification	1,148	16,836,201	121,765,187	1,148	16,836,201	121,765,187	36,031	$5,559,405	2.88	2.87	0.056
Any	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
T&D	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
C&S and T&D	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
Utility Total	1,148	21,001,871	125,930,857	1,148	21,001,871	125,930,857	37,783	$5,696,310	2.88	2.87	0.055

TABLE GWP-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial		1,391,049	16,692,588		1,391,049	16,692,588	4,627	$611,627	2.84	2.84	0.046
Residential	0	31,972	326,183	0	31,972	326,183	40	$7,153	-0.80	-0.24	0.027
Electrification	0	1,423,021	17,018,771	0	1,423,021	17,018,771	4,667	$618,780	2.79	2.72	0.046
Commercial	1,034	6,706,625	80,479,500	1,034	6,706,625	80,479,500	22,638	$4,025,153	2.84	2.84	0.063
Residential	114	8,706,555	24,266,916	114	8,706,555	24,266,916	8,726	$915,472	3.11	3.15	0.041
Energy Efficiency	1,148	15,413,180	104,746,416	1,148	15,413,180	104,746,416	31,364	$4,940,625	2.89	2.89	0.057
EE, Low Income and Electrification	1,148	16,836,201	121,765,187	1,148	16,836,201	121,765,187	36,031	$5,559,405	2.88	2.87	0.056
Any	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
T&D	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
C&S and T&D	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
Utility Total	1,148	21,001,871	125,930,857	1,148	21,001,871	125,930,857	37,783	$5,696,310	2.88	2.87	0.055

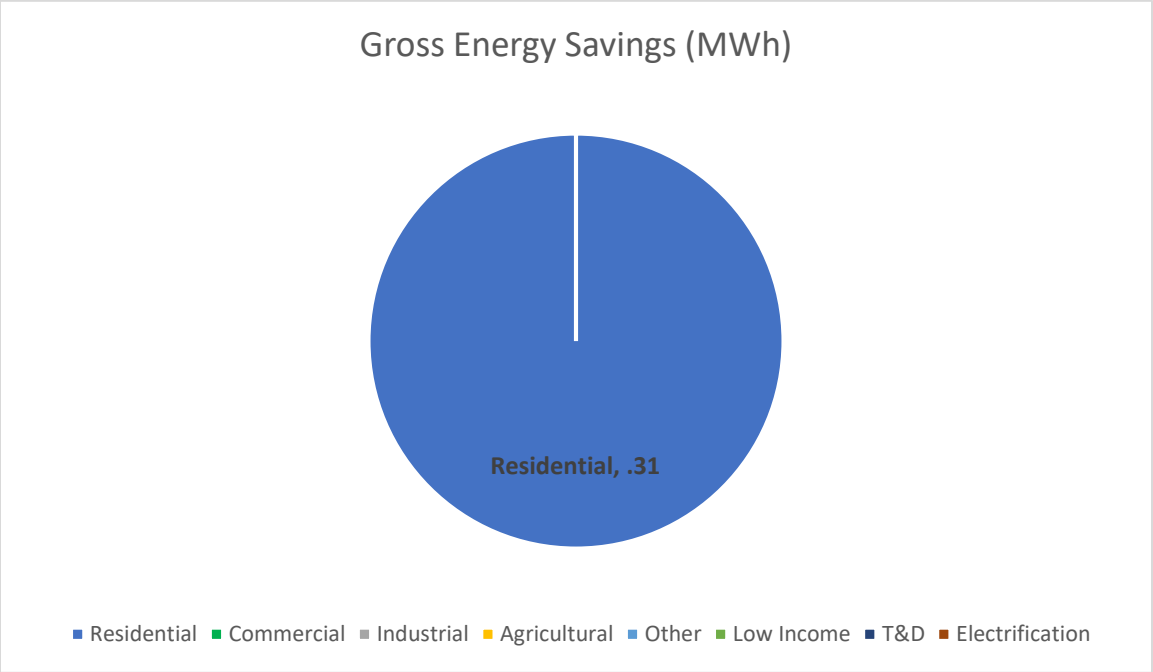
TABLE GWP-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	0	1,423,021	17,018,771	0	1,423,021	17,018,771	4,667	$618,780	2.79	2.72	0.046
Electrification	0	1,423,021	17,018,771	0	1,423,021	17,018,771	4,667	$618,780	2.79	2.72	0.046
Any	0	5,504	55,042	0	5,504	55,042	16	$2,609	1.59	4.73	0.057
Multiple	1,093	7,326,911	86,666,903	1,093	7,326,911	86,666,903	24,860	$4,189,985	2.93	2.92	0.061
Residential	8	8,002,860	16,449,059	8	8,002,860	16,449,059	5,902	$671,919	2.21	2.19	0.042
Residential - Single-Family	47	77,906	1,575,413	47	77,906	1,575,413	586	$76,112	6.62	9.29	0.076
Energy Efficiency	1,148	15,413,180	104,746,416	1,148	15,413,180	104,746,416	31,364	$4,940,625	2.89	2.89	0.057
EE, Low Income and Electrification	1,148	16,836,201	121,765,187	1,148	16,836,201	121,765,187	36,031	$5,559,405	2.88	2.87	0.056
Multiple	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
T&D	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
C&S and T&D	0	4,165,670	4,165,670	0	4,165,670	4,165,670	1,752	$136,905	2.86	2.86	0.033
Utility Total	1,148	21,001,871	125,930,857	1,148	21,001,871	125,930,857	37,783	$5,696,310	2.88	2.87	0.055

GRIDLEY MUNICIPAL UTILITY

Gridley Municipal Utility at a Glance

- Climate Zone: 11
- Customers: 3,180
- Total annual retail sales: 33,183 MWh
- Annual Retail Revenue: $7,245,031
- Annual energy efficiency expenditures for reporting year: $43,257
- Gross annual savings from reporting year portfolio: 0.31 MWh



Gridley Municipal Utility Overview

Gridley is a neighborhood community with agricultural roots and a historic downtown. Gridley is located in Butte County, California, United States, 29 miles south of Chico, California, and 56 miles north of Sacramento, California.

Gridley Municipal Utility (GMU) feels a significant responsibility to its community to invest its Public Benefits funds in such a way as to impact both energy savings and financial savings/positive economics in Gridley. GMU offers a comprehensive menu of rebates to all residential, commercial, and industrial customers. GMU's customer demographic has historically resulted in lower customer participation in programs that require capital investment by the customer.

Major Program and Portfolio Changes

There were no major program changes implemented in FY24. GMU has offered a comprehensive menu of energy efficiency rebate programs for many years. Both customers and local contractors find value in maintaining a consistent program.

Program and Portfolio Highlights

Program participation was down this year with only two rebates processed.

Commercial, Industrial & Agricultural Programs

GMU manages a comprehensive energy efficiency incentive program for commercial customers focusing on energy efficiency and peak load reduction. Rebates are available for upgraded lighting, HVAC, appliances, refrigeration equipment, and electronics, and in cases where an analysis is performed, rebates can be offered for additional equipment that reduces energy use and/or demand. On-site energy audits are provided by energy specialists. Energy efficiency measures are recommended, and additional visits are completed upon request.

- Commercial Lighting Program: GMU offers rebates to business owners who invest in the installation of energy-efficient lighting upgrades. There is a prevalence of inefficient lighting throughout the city and most high bay lighting uses high-intensity discharge fixtures instead of more efficient fluorescent or LED fixtures.
- Commercial HVAC: The City offers rebates to commercial customers for energy-efficient HVAC upgrades.
- Commercial Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems.
- Commercial Appliances: Rebates are available for energy-efficient cooking equipment such as ovens, dishwashers, fryers, griddles, etc.
- Commercial Electronics: The City offers rebates for uninterrupted power supplies, plug-load occupancy sensors, and smart power strips.
- Commercial Custom Program: GMU offers rebates to business owners based on site-specific consumption. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the customer project.

Residential Programs

Rebates are offered to residential customers for the installation of various energy efficiency measures, such as lighting, HVAC, appliances, and weatherization. On-site energy audits are provided by energy specialists. Energy efficiency measures are recommended, and additional visits are completed upon request.

- Residential Lighting Program: GMU offers rebates to homeowners who install ENERGY STAR® qualified LED lamps/bulbs, ceiling fans, and LED holiday lights.

- Residential HVAC Program: GMU offers rebates to homeowners who install high-performance heat pumps, central air-conditioners, room air-conditioners, or whole house fans that exceed current state requirements. GMU also offers a rebate for duct sealing when not required by code.
- Residential Equipment Program: GMU offers rebates to homeowners who purchase new ENERGY STAR-qualified products, including clothes washers, room air conditioners, dishwashers, pool pumps, and refrigerators.
- Residential Weatherization Program: GMU offers rebates to homeowners who invest in weatherizing their homes, including attic and wall insulation, window treatments, window replacement, or air/duct sealing.
- Residential Water Heater Rebate Program: GMU offers rebates to homeowners who purchase a new, energy-efficient electric water heater.

Complementary Programs

When applicable, GMU refers customers to the state-funded Community Action Agency HEAP Program for low-income Butte County residents.

Evaluation, Measurement & Verification Studies

Information on GMU's EM&V studies is available at https://www.cmua.org/.

Major Differences or Diversions from CA POU TRM for Energy Savings

GMU has relied heavily on the savings listed in the CMUA Technical Resource Manual and eTRM Unit Energy Savings. Non-residential lighting and custom projects rely on custom savings calculations.

TABLE Gridley-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	229	2,516	0	71	780	0	$19,259	0.00	0.00	30.479
HVAC - Cooling	0	77	693	0	28	249	0	$23,998	0.00	0.00	113.976
Energy Efficiency	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
EE, Low Income and Electrification	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
C&S and T&D								$0			
Utility Total	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348

TABLE Gridley-2. Energy Efficiency Program Results by Sector

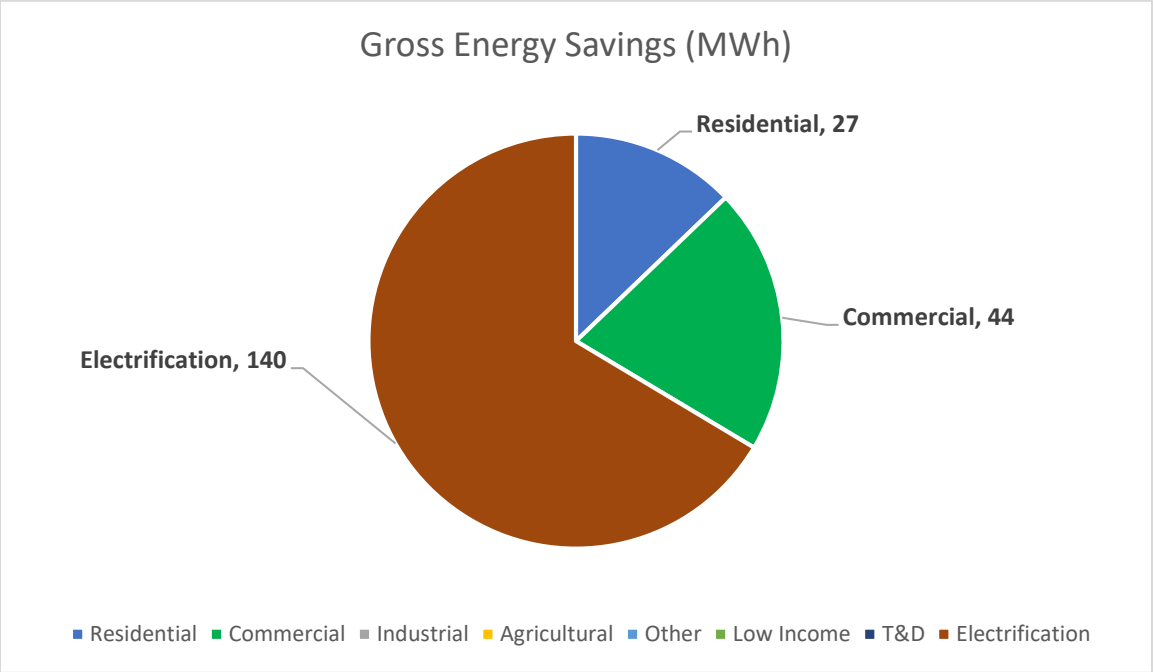
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
Energy Efficiency	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
EE, Low Income and Electrification	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
C&S and T&D								$0			
Utility Total	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348

TABLE Gridley-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
Energy Efficiency	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
EE, Low Income and Electrification	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348
C&S and T&D								$0			
Utility Total	0	306	3,209	0	99	1,029	0	$43,257	0.00	0.00	51.348

City of Healdsburg at a Glance

- Climate Zone: 2
- Customers: 6,157
- Total annual retail sales: 82,201 MWh
- Annual Retail Revenue: $16,076,672
- Annual energy efficiency expenditures for reporting year: $229,639
- Gross annual savings from reporting year portfolio: 210 MWh



City of Healdsburg Overview

The City of Healdsburg's Electric Department manages a comprehensive energy efficiency and greenhouse gas reduction program for residential and commercial customers by incentivizing energy conservation as well as peak load reduction. For residential customers, rebates help drive installations of a variety of energy efficiency and efficient electrification measures. Residential rebates are offered in the following areas: appliances, heating and cooling, and weatherization. Commercial rebates are predominately for heat pump projects or site-specific lighting upgrades. For commercial customers, rebates can also include custom programs when analysis demonstrates savings. This custom rebate approach allows greater flexibility and variety of incentives to the end users. These energy rebates and other greenhouse gas

reduction programs are predominately supported by proceeds from the Cap-and-Trade Program allocations.

Major Program and Portfolio Changes

During 2024, Healdsburg Electric continued implementing a new multi-family program for appliance replacements in income-qualified multi-family properties. Healdsburg Electric has also continued the promotion and implementation of existing rebate programs, making minor modifications as needed to improve the programs. New in 2024, Healdsburg Electric also updated electric vehicle (EV) programs and launched a Home Energy Load Management program for managed EV charging and smart thermostat control. Additionally, Healdsburg Electric is supporting an in-depth energy audit of the Wastewater Reclamation Facility, one of the highest electricity consumers in the City, to identify energy efficiency opportunities for the treatment facility.

Program and Portfolio Highlights

The City of Healdsburg continued implementation of the strategies and actions outlined in its citywide Climate Mobilization Strategy to help reduce greenhouse gas (GHG) emissions in Healdsburg. One of these programs is the Appliance Replacement Program for income-qualified multi-family properties, which completed 5 pre-assessment audits to determine equipment eligibility in the identified properties and collaborated with a local non-profit organization to receive a grant award for the non-profit group's support with outreach and on-the-ground implementation of the program moving forward.

Commercial, Industrial & Agricultural Programs

The City offers the following commercial programs:

- Commercial Lighting Rebates: This program engages local lighting and electrical contractors to promote and install energy-efficient lighting upgrades through technical assistance and financial incentives available from the Electric Department. Adjustments limiting the rebate eligibility will likely be made to this program in 2025 due to new building codes and health and safety regulations regarding the sale of mercury light fixtures.
- Commercial HVAC Rebates: The Electric Department offers commercial customers a variety of HVAC rebates. There are rebate offerings for heat pump HVAC systems and heat pump water heaters to promote efficient electric space heating and cooling and water heating.
- Electric Kitchen Equipment: The Electric Department offers rebates for efficient electric commercial kitchen equipment, based on the California Energy Wise program. A one-time additional electrification rebate is also available to support switching from natural gas appliances to efficient electric appliances.

- Custom EE Programs: The Electric Department will consider custom energy efficiency programs for site-specific consumption. The Electric Department requires that its contractor review and endorse all custom programs. This review may result in a small cost adder to the proposed project, but confirms the estimated savings and allows greater flexibility for the program. The Electric Department retains the sole right to approve or deny custom projects. The in-depth energy audit of the Wastewater Reclamation Facility is expected to result in one or more custom program rebates. The audit is being supported by Public Benefits Funds to identify innovative and cost-effective energy efficiency opportunities for the treatment facility, which had $25,459.56 in consultant and program staff costs in 2024.

Residential Programs

The City offers the following residential programs:

- Residential Heat Pump Rebates: The Electric Department offers rebates for residential and small business customers who install high performance heat pump HVAC systems and/or heat pump water heaters. Higher rebate amounts are available for replacing an existing natural gas appliance with an efficient electric heat pump.
- Weatherization and Building Envelope Rebates: The Electric Department provides financial incentives for property owners who invest in home weatherization such as ceiling insulation, wall insulation, and efficient window replacement projects.
- Laundry Rebates: The Electric Department offers incentives for high performance clothes washers to encourage energy efficiency and water conservation. Clothes dryer rebates are also offered to further encourage energy efficiency and electric clothes drying.
- Device Rebates: The Electric Department also provided rebates for variable speed pool pumps and smart thermostats. The smart thermostat rebate ended in late 2024 with the launch of the Home Energy Load Management program. However, smart thermostat rebates are still available for low-income customers who enroll their new thermostat in the load management program. The pool pump rebate will likely be discontinued in 2025 as well.
- Electric Stove: The Electric Department offers an electric stove/cooktop rebate to promote electric cooking in place of cooking with natural gas. To inform customers regarding electric cooktops, specifically induction cooktops, Healdsburg Electric also offers a free induction cooktop loaner for electric customers interested in cooking with electricity rather than natural gas. The loaner program includes pans compatible with induction cooktops.
- Multi-Family Income-Restricted Properties: The Electric Department continued development and implementation of an appliance replacement program for multi-family income-restricted properties. The program includes replacing old inefficient appliances with efficient electric appliances, starting with dishwashers and refrigerators.

Of the 8 identified properties, 5 have completed a pre-assessment to verify equipment eligibility. It is the responsibility of the property manager to solicit appliance quotes and coordinate the installation, which has stalled program progress at the properties given the property managers' multiple priorities and day-to-day property management demands. Healdsburg Electric collaborated with a local non-profit focused on Spanish-speaking outreach and support to apply for the Community Climate Implementation Fund grant. The non-profit, Corazon Healdsburg, was selected in early 2025 and will provide additional on-the-ground support to property managers to assist them in coordinating the appliance replacements and also support multi-family residents that may need help swapping their food and belongings during the appliance replacements. During the program, the non-profit will also promote additional programs in which the property management or residents could participate.

Complementary Programs

The City offers the following complementary programs:

- Low-Income Programs: The City actively supports a low-income discount for income-qualified customers. This program was expanded during COVID to include customers with income at 80% or below area median income. Currently, this discount supports approximately 565 families, or about 11% of the City's residential customers. Income-qualified customers receive 25% off their electric bill through this program. In 2024, electric bill discounts totaled $100,524.44 with staff administration and overhead costs of $68,998.36, totaling $169,522.80 for the program. The low-income bill discount is the primary program supported by Public Benefits Funds.
- Electric Vehicles: The City offers an EV Discount for residents who drive a battery electric vehicle and switch to the Time of Use rate. This program is no longer accepting new applications as of late 2024 and will officially end in June 2025. The new Home Energy Load Management program is replacing the EV Discount Program and provides better management of peak energy demands caused by EV charging.
- Public EV Charging: Additionally, the City maintains 12 public charging stations with discounted charging rates located at City Hall. The user fee structure was updated in 2024 to better recover electric costs and discourage charging during evening peak hours. A 50% discount on the user fees is available for low-income customers. Healdsburg Electric took ownership of 2 additional charging stations in a new development area in 2024 and is actively working to expand public charging opportunities. Healdsburg Electric also offers a commercial level 2 EV charger rebate to encourage workplace charging and charging during the day when abundant solar is available.
- Home Energy Load Management: Healdsburg Electric launched its Home Energy Load Management Program in late 2024 for managed EV charging and smart thermostat

control. Low-income EV owners that do not have a home charger can also qualify for an EV charger rebate, if they enroll the charger and EV in the load management program.

- E-bikes: Healdsburg Electric offers an e-bike rebate for residents who purchase an e-bike to replace driving trips. This program provides various levels of rebates relative to customer income and purchase location to help offset the cost of purchasing an e-bike. In 2023 and 2024, Healdsburg Electric also had coupons available for low-income customers to try the e-bike share program.
- Technical Consulting on all-electric construction: The City implemented a Reach Code in 2019, which was updated in 2022, that required electric space and water heating. Although the Reach Code is no longer being enforced, the City still offers free technical consulting through a consultant engineering firm to support builders and contractors interested in all-electric construction.
- Green Rate: The Electric Department offers a voluntary opt-in 100% renewable electricity rate for an approximately $0.2 additional charge per kWh. Roughly 8% of the City's electricity usage is attributed to customers enrolled in the Green Rate. All municipal accounts are on the Green Rate and make up the majority of this usage.
- Renewable Energy Programs: The City continues to see PV solar array installations in both residential and commercial sectors. At the end of 2024, the City had interconnected a total of 6.87 MWac of solar capacity and 0.79 MW of battery capacity. This includes the City's 3 MWac floating photovoltaic (FPV) system at the City's Water Reclamation Facility. The system provides about 8% of community-wide annual electric needs. In 2024, the system generated 5,950 MWh directly into the City's distribution system and offset roughly .6 MW of the City's peak coincident demand.
- Water Conservation: The City offers multiple water conservation programs, such as lawn conversion, low-flow toilets, irrigation controllers, and more. During the multi-year drought significantly impacting Healdsburg, the City had increased promotion of these rebates. Customers continued their water conservation in 2024 with an approximately 11% reduction in water consumption, compared to before the drought. Water conservation can help reduce the amount of electricity needed for treating and conveying water. Funding for water conservation programs is primarily funded by the City's water department and regional conservation grants.

Evaluation, Measurement & Verification Studies

EM&V previously completed by the City is available at www.cmua.org.

Major Differences or Diversions from CA POU TRM for Energy Savings

In 2024, Healdsburg Electric predominately relied on the California eTRM streamlined values for savings calculations. Fuel substitution calculations provide the negative kWh savings and positive therm savings, which are converted to claim the total equivalent energy savings in kWh.

For measures not included in the eTRM (such as windows, LEDs, and pool pumps), Healdsburg Electric relied on the 2017 CMUA TRM. For measures without an offering option in the eTRM (such as electric resistance clothes dryer fuel substitution), Healdsburg Electric relied on actual equipment model information. Savings for the Commercial Lighting Program are calculated based on the actual equipment replaced and installed.

TABLE Healdsburg-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	1,393	24,296	0	1,393	24,296	-3	$4,937	-0.31	-0.16	0.283
HVAC - Heat Pump	0	113,200	1,698,007	0	113,200	1,698,007	220	$104,702	0.63	0.32	0.082
Service & Domestic Hot Water	0	25,085	250,853	0	25,085	250,853	38	$18,096	0.65	0.80	0.087
Electrification	0	139,678	1,973,156	0	139,678	1,973,156	255	$127,735	0.60	0.33	0.085
Appliance & Plug Loads	0	3,721	40,025	0	1,598	16,959	5	$2,122	0.78	0.50	0.153
Building Envelope	2	17,003	340,065	1	7,754	155,083	34	$15,048	0.83	0.35	0.143
HVAC - Cooling	0	3,781	34,327	0	2,004	18,193	5	$2,006	0.88	0.87	0.131
HVAC - Heat Pump	2	7,139	107,079	1	3,579	53,680	17	$12,826	0.47	0.51	0.319
Lighting - Indoor	10	38,971	474,855	9	32,382	392,467	133	$32,315	1.24	1.31	0.104
Energy Efficiency	14	70,615	996,351	11	47,316	636,382	194	$64,318	0.96	0.75	0.132
Appliance & Plug Loads	0	0	0	0	0	0	0	$37,585			0.000
Low-Income	0	0	0	0	0	0	0	$37,585			0.000
EE, Low Income and Electrification	14	210,294	2,969,507	11	186,995	2,609,538	449	$229,639	0.60	0.39	0.116
C&S and T&D								$0			
Utility Total	14	210,294	2,969,507	11	186,995	2,609,538	449	$229,639	0.60	0.39	0.116

TABLE Healdsburg-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	0	13,099	196,478	0	13,099	196,478	40	$12,744	1.06	0.89	0.087
Residential	0	126,580	1,776,677	0	126,580	1,776,677	216	$114,991	0.55	0.29	0.085
Electrification	0	139,678	1,973,156	0	139,678	1,973,156	255	$127,735	0.60	0.33	0.085
Commercial	12	43,632	544,767	10	34,616	425,983	142	$41,797	1.05	1.12	0.124
Residential	2	26,983	451,584	1	12,700	210,399	51	$22,522	0.81	0.42	0.150
Energy Efficiency	14	70,615	996,351	11	47,316	636,382	194	$64,318	0.96	0.75	0.132
Residential	0	0	0	0	0	0	0	$37,585			0.000
Low-Income	0	0	0	0	0	0	0	$37,585			0.000
EE, Low Income and Electrification	14	210,294	2,969,507	11	186,995	2,609,538	449	$229,639	0.60	0.39	0.116
C&S and T&D								$0			
Utility Total	14	210,294	2,969,507	11	186,995	2,609,538	449	$229,639	0.60	0.39	0.116

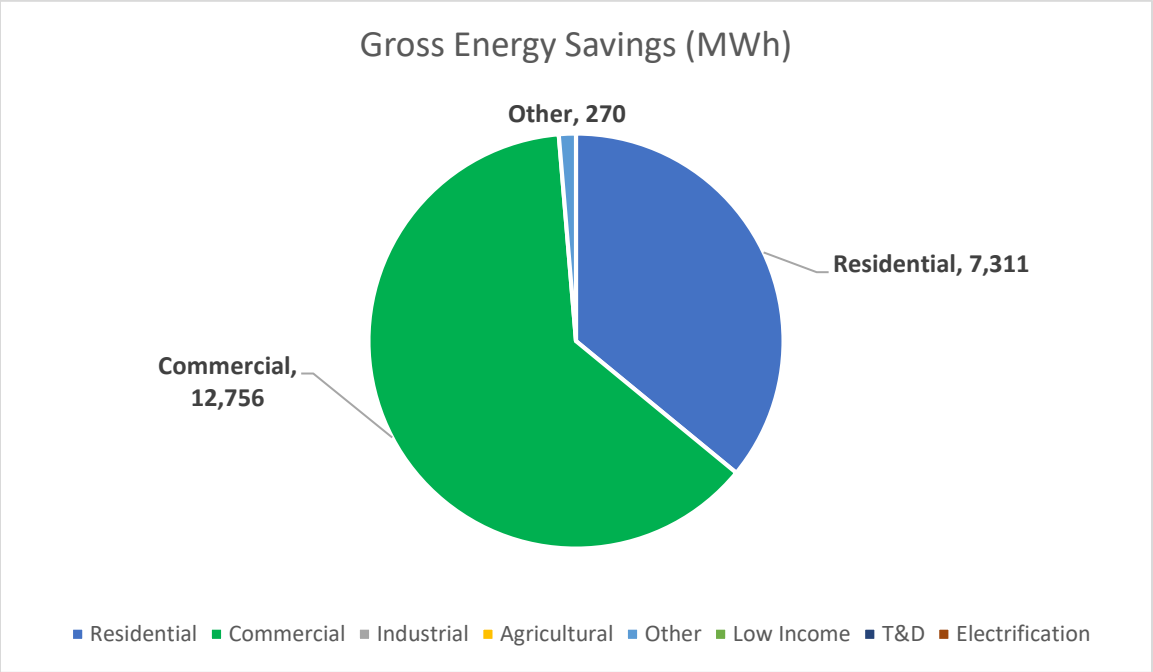
TABLE Healdsburg-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	0	139,678	1,973,156	0	139,678	1,973,156	255	$127,735	0.60	0.33	0.085
Electrification	0	139,678	1,973,156	0	139,678	1,973,156	255	$127,735	0.60	0.33	0.085
Multiple	3	28,425	474,160	1	12,723	209,299	51	$28,979	0.63	0.52	0.194
Other Commercial	10	36,571	438,855	8	31,086	373,027	126	$30,534	1.24	1.32	0.103
Residential	1	4,271	69,856	1	2,699	45,968	15	$4,118	1.24	0.29	0.125
Residential - Single-Family	0	1,348	13,480	0	809	8,088	2	$687	1.17	0.74	0.103
Energy Efficiency	14	70,615	996,351	11	47,316	636,382	194	$64,318	0.96	0.75	0.132
Residential - Multi-Family	0	0	0	0	0	0	0	$37,585			0.000
Low-Income	0	0	0	0	0	0	0	$37,585			0.000
EE, Low Income and Electrification	14	210,294	2,969,507	11	186,995	2,609,538	449	$229,639	0.60	0.39	0.116
C&S and T&D								$0			
Utility Total	14	210,294	2,969,507	11	186,995	2,609,538	449	$229,639	0.60	0.39	0.116

IMPERIAL IRRIGATION DISTRICT

Imperial Irrigation District at a Glance

- Climate Zone: 15
- Customers: 165,674
- Total annual retail sales: 3,663,158 MWh
- Annual Retail Revenue: $679,792,131
- Annual energy efficiency expenditures for reporting year: $7,878,864
- Gross annual savings from reporting year portfolio: 20,337 MWh



Imperial Irrigation Overview

As the seventh largest utility in California, IID controls more than 1,200 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. IID's Energy Department provides electric power to more than 165,000 customers in the Imperial Valley and parts of Riverside and San Diego counties.

As a consumer-owned utility, IID works to efficiently and effectively meet our customers' demands at the best possible rates, tying our area's low-cost of living directly with low-cost utilities. Our diverse resource portfolio provides our customers with some of the lowest cost rates in southern California, which is critical given unemployment rates within the service territory are one of the highest in the nation.

IID's energy efficiency programs are a key factor in the utility's overall goal. These programs provide a positive impact on utility cost by stabilizing energy consumption and reducing purchases of expensive peak power. Additionally, customers are provided with an opportunity to take charge of their energy utilization and by doing so, reducing their electricity consumption and cost.

Major Program and Portfolio Changes

The program portfolio and rebate levels remained consistent for the most part from the previous year. The addition of a new Public Green Space program provided major interest as it funded tree-planting projects for non-residential agencies for cities, counties, special districts, non-profit organizations, and community organizations.

IID's refrigerator recycling program was launched in the fall due to the late acquisition of a new recycling contractor. This resulted in lower program participation and impacted reportable energy savings. That said, the overall savings impact was more than made up by the heavy participation in other portfolio programs.

Furthermore, the state of California's expected doubling of utilities' energy efficiency savings over the next few years has proven to be an interesting, yet demanding task. Some of the challenges at hand are 1) Most cost-effective programs have been in place for years and this leads us closer to market saturation, and 2) budgets for programs are reduced to fund other utility projects or matters.

Program and Portfolio Highlights

IID reached 90% of its established kWh savings goal, a feat of which we are proud of. IID strives to provide an energy efficiency portfolio tailored toward the unique needs of the ratepayers that generates long-term energy savings while maintaining low-cost, reliable power. The district's portfolio offers residential customers with staple programs such as energy assessments and prescriptive rebates and non-residential customers with a customized program that allows flexibility necessary to encourage investments in efficient technologies. The newest rebate for the Energy Rewards program, Gas to Electric HVAC conversion, has also received consistent activity. The Custom Energy Solutions Program (CESP) experienced major projects that provided millions in kWh savings. And lastly, the Weatherization program received such a high volume of interest from customers that even with additional funding allocated to it than originally planned, it was fully subscribed prior to year's end.

Commercial, Industrial & Agricultural Programs

Commercial Customer Programs

- Custom Energy Solutions Program (CESP): This program is designed to promote energy efficiency by offering financial incentives to commercial customers who install energy-efficiency equipment. The larger commercial customers that participate generally have their own energy efficiency specialists they've consulted with for their upgrades and have identified the details of their project prior to applying for the rebate. However, for all other commercial customers that may not have access to an energy efficiency specialist, IID offers technical expertise to assist them in identifying the energy efficiency measures and cost saving opportunities. Measures incentivized include interior and exterior lighting, process loads and HVAC/refrigeration.
- Weatherization: IID is pleased to announce its Residential Weatherization Program for 2024 where participating IID electric customers receive energy saving services and equipment that can help reduce heating and cooling costs while boosting their home's comfort level. IID customers currently enrolled in the district's income qualified Residential Energy Assistance Program (REAP) also receive an additional allotment towards installed products and services through the weatherization program. The no-cost services may include: Smart programmable thermostat, Air conditioner tune-up, High efficiency air conditioning motor, Duct leak sealing, Efficient fan control, Ceiling fan, Smart power strip, LED lighting, Door shoes, Door thresholds, Door weatherstripping.
- Energy Rewards Rebate Program: This program offers commercial customers prescriptive rebates for qualified energy efficient measures. Qualifying measures must retrofit, replace or upgrade old equipment with new, energy-efficient technologies that meet and/or exceed the Title 24 standards in effect at the time of installation.
- Public Green Space Program: This program offers funding for public tree-planting projects for non-residential agencies for cities, counties, special districts, non-profit organizations, and community organizations.

Residential Programs

Residential Customer Programs:

- Energy Rewards Rebate Program: This program offers residential customers prescriptive rebates for qualified energy efficient measures. Qualifying residential measures must retrofit, replace or upgrade old equipment with new, energy-efficient technologies that meet and/or exceed the Title 24 standards in effect at the time of installation.
- Refrigerator Recycling: This program is designed to encourage customers to recycle their old refrigerators or freezers rather than using them as a secondary, usually located either in uninsulated garages or outdoors. Through this program, a customer's refrigerator or freezer will be picked-up and recycled, in addition to providing them receiving a $50 incentive per unit.

- EV Charger Rebate program (ReCharge): For those who have chosen to go electric, IID offers rebates of up to $500 to customers who purchase and install a Level 2 (240-volt) plug-in electric vehicle charger.

Complementary Programs

Low-Income Programs – As a large number of IID's residential customers participate in its income-qualified programs, a significant portion of revenue generated through the public benefits charge is allocated towards these programs. Back in 2019, IID modified its rate assistance eligibility criteria to allow for greater participation by reducing the age for qualifying seniors and increasing the maximum income level.

- Residential Energy Assistance Program (REAP) – This program provides customers with a discounted rate on their electric bill. Qualification is based on the number of residents per household and the total gross income of all the income sources in the home. Qualifying customers may receive a 20 percent discount on their monthly bill. Qualifying seniors 60 or older may apply to receive a 30 percent discount.
- Emergency Energy Assistance Program (EEAP) – This program provides financial assistance to customers in a financial crisis, facing disconnection for nonpayment.
- Medical Equipment Energy Assistance Program (MEEUAP) – This is an assistance program that reduces the electric rate for a defined quantity of electricity used to operate medical equipment by a household that has a full-time resident who requires specific medically necessary electric equipment to sustain life or prevent deterioration of a person's medical condition.

Renewable Energy Programs:

- Net Billing – The Net Billing Program is NEMs successor program and also compensates net-surplus customers in accordance with the Distributive Self-Generation Service Rate
- E-Green Solar Program – In 2019, IID finalized its e-Green Community Solar Program that benefits all of IID's qualified, low-income customers. The program utilizes a 23-year term power purchase agreement with Citizens Energy Corporation for 30 megawatts of solar energy, of which 10 MW has been allocated specifically for the e-Green program. The program allows low-income customers to benefit from renewable clean solar energy without the concern and financial means needed to purchase and install rooftop solar. IID's REAP customers will receive an additional discount on their electric bills under the e-Green program. No enrollment is required and REAP customers will be automatically enrolled onto the program.
- Green Energy Rate Program – Under the green energy rate, customers can designate how much renewable energy they wish to be served with. Customers can elect to be served up 100% of their energy needs with renewables through renewable energy or renewable energy credits.

Evaluation, Measurement & Verification Studies

No Evaluation, Measurement & Verification Studies were required this calendar year.

Major Differences or Diversions from CA POU TRM for Energy Savings

IID utilized a combination of savings from the TRM, KEMA 2009 report, utility work papers and custom savings when applicable. Prescriptive rebate programs such as Energy Rewards and Refrigerator Recycling used deemed savings values from credited documents for measures such as HVACs, refrigerators, pool pumps, etc., since the individual efficiency measure's performance characteristics and use conditions were well known and consistent. For the CESP program, on the other hand, custom savings were calculated (for categories such as lighting, refrigeration, process loads, and HVAC) taking into account the properties of existing equipment, replacement equipment and future use.

TABLE IID-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	0	0	0	0	0	0	$69,614			0.000
Appliance & Plug Loads	5	25,872	129,360	4	18,110	90,552	34	$47,803	0.26	0.28	0.581
Building Envelope	30	270,342	10,813,700	30	270,342	10,813,700	1,838	$1,024,761	0.67	1.33	0.256
Commercial Refrigeration	258	1,383,176	27,663,520	219	1,175,700	23,513,992	8,208	$379,979	6.03	21.12	0.025
Lighting - Outdoor	311	9,922,797	198,455,934	258	8,235,921	164,718,425	56,991	$585,421	28.55	35.88	0.005
Miscellaneous	5,306	7,285,463	64,041,428	5,306	7,285,463	64,041,428	26,004	$5,489,267	1.50	2.30	0.116
Process	166	1,449,814	21,747,210	141	1,232,342	18,485,129	6,598	$205,325	10.20	26.92	0.015
Energy Efficiency	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	99,673	$7,802,170	3.85	6.19	0.042
Appliance & Plug Loads	0	0	0	0	0	0	0	$2,703			0.000
Low-Income	0	0	0	0	0	0	0	$2,703			0.000
EE, Low Income and Electrification	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	99,673	$7,804,873	3.85	6.18	0.042
Codes & Standards	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
Codes & Standards	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
C&S and T&D	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
Utility Total	6,076	46,089,464	348,603,151	5,958	43,969,878	307,415,225	109,926	$7,878,864	4.28	6.85	0.037

TABLE IID-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	30	270,342	10,813,700	30	270,342	10,813,700	1,838	$1,024,761	0.67	1.33	0.256
Commercial	735	12,755,787	247,866,664	619	10,643,963	206,717,546	71,796	$1,199,437	17.59	32.30	0.009
Other	0	0	0	0	0	0	0	$69,614			0.000
Residential	5,311	7,311,335	64,170,788	5,309	7,303,573	64,131,980	26,038	$5,508,358	1.49	2.28	0.116
Energy Efficiency	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	99,673	$7,802,170	3.85	6.19	0.042
Residential	0	0	0	0	0	0	0	$2,703			0.000
Low-Income	0	0	0	0	0	0	0	$2,703			0.000
EE, Low Income and Electrification	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	99,673	$7,804,873	3.85	6.18	0.042
Residential	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
Codes & Standards	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
C&S and T&D	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
Utility Total	6,076	46,089,464	348,603,151	5,958	43,969,878	307,415,225	109,926	$7,878,864	4.28	6.85	0.037

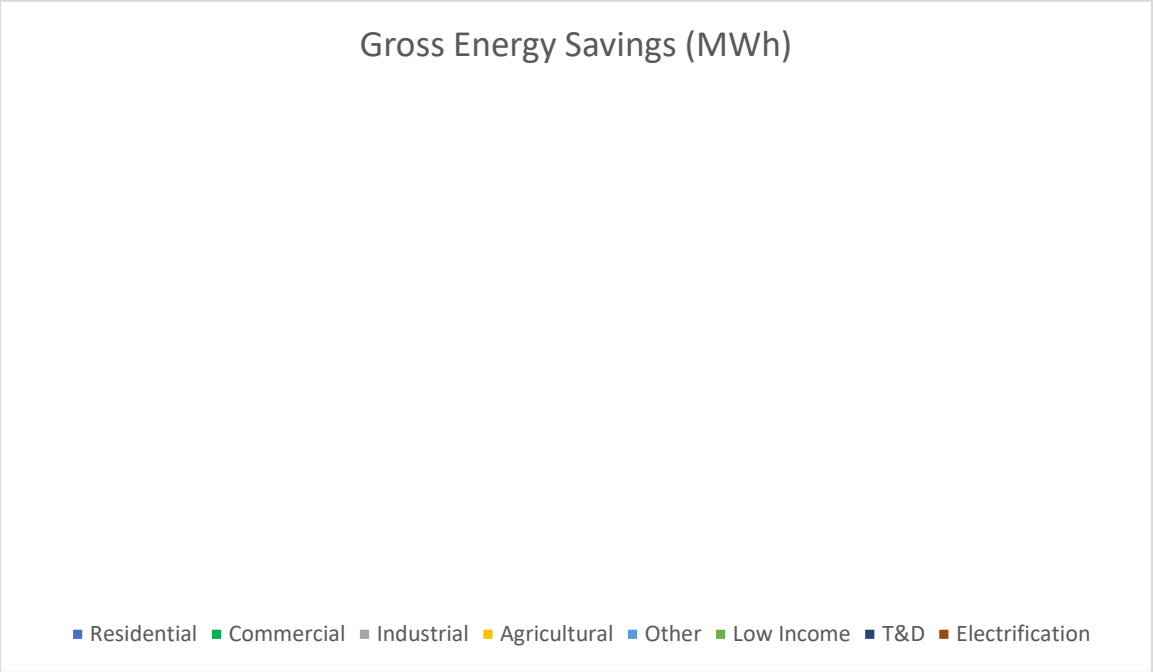
TABLE IID-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	765	13,026,129	258,680,364	648	10,914,305	217,531,246	73,635	$2,293,812	9.50	17.56	0.016
Residential - Single-Family	5,311	7,311,335	64,170,788	5,309	7,303,573	64,131,980	26,038	$5,508,358	1.49	2.28	0.116
Energy Efficiency	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	99,673	$7,802,170	3.85	6.19	0.042
Residential	0	0	0	0	0	0	0	$2,703			0.000
Low-Income	0	0	0	0	0	0	0	$2,703			0.000
EE, Low Income and Electrification	6,076	20,337,464	322,851,151	5,958	18,217,878	281,663,225	99,673	$7,804,873	3.85	6.18	0.042
Any	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
Codes & Standards	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
C&S and T&D	0	25,752,000	25,752,000	0	25,752,000	25,752,000	10,253	$73,991	50.25	50.25	0.003
Utility Total	6,076	46,089,464	348,603,151	5,958	43,969,878	307,415,225	109,926	$7,878,864	4.28	6.85	0.037

INDUSTRY PUBLIC UTILITIES

Industry Public Utilities at a Glance

- Climate Zone: 9
- Customers: 135
- Total annual retail sales: 35,800 MWh
- Annual Retail Revenue: $5,200,000
- Annual energy efficiency expenditures for reporting year: $0
- Gross annual savings from reporting year portfolio: 0 MWh



Industry Public Utilities Overview

- Industry Public Utilities (IPU) was established in 2002 to provide electric service to retail customers that continue to build new facilities located in the designated service territory.
- The annual budget for energy efficiency programs is $155,000.
- Peak demand was 7.9 MWs (4.5% less than last year).
- Sales were 35,800 MWhs (4.5% less than last year).
- 99.6% of energy sales were to non-residential customers.
- All customers' facilities meet or exceed the applicable Title 24 requirements. The recent age of these facilities provides less energy efficiency upgrade opportunities.

Program and Portfolio Highlights

No energy efficiency rebates were issued in the current year.

The IPU Energy Efficiency Program provides incentives in four program categories: Large General Service Program; General Service Program; Domestic Service Program; and IPU energy efficiency measures.

Commercial, Industrial & Agricultural Programs

- Survey – Non-Residential – General Service Customers - Rebates: On-site energy survey, at no cost to the customer, that analyze customer usage and demand to develop recommendations designed to improve operating energy efficiency and reduce load requirements. Rebates are available for the installation of specified energy measures, up to $1,000 every two years.
- Audits – Large General Service Customers – Non-Res Audits: On-site energy audits, at no cost to the customer once every two years, that analyze customer usage and demand to develop recommendations designed to improve energy operating efficiency and reduce load requirements. Rebates are available for energy efficiency upgrades identified in these audits. Verification services to ensure appropriate installation of recommended measures are also provided.
- Lighting – Large General Service Customers – Non-Res Lighting: Provides incentives to improve energy efficiency for lighting applications, which reduce energy usage by a specified amount. Rebates are available based on a rate of $0.059/kWh for one year of energy savings and shall not exceed $50,000 over a two-year budget cycle or 50% of the lighting material costs.
- Customize Projects – Large General Service Customers – Non-Res Customize Projects: Financial incentives for the replacement of equipment/technology that conserves energy and permanently reduces coincident summer/winter peak demand and exceeds state-mandated codes, federal mandated codes, industry accepted standards or other baseline performance standards. The rebate is based on a rate of $0.059/kWh for one year of energy savings and $150/kW for each on-peak kW that has been reduced and shall not exceed or 50% of the total cost associated with the equipment/material.
- New Construction Projects – Large General Service Customers – Non-Res Construction Projects: Financial incentives for new equipment components that exceed state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards by more than 10%. The rebate is based upon the lessor of 25% of the cost difference between standard and upgraded new equipment and/or materials or $50,000 over a two-year budget cycle.
- IPU Energy Efficiency Measures: Payment for eligible projects must be authorized by the IPU Commission and shall not exceed $10,000 per year.

Residential Programs

Survey – Residential – Rebates: On-site energy survey, at no cost to the customer, that analyze customer usage and demand to develop recommendations designed to improve energy operating efficiency and reduce load requirements. Rebates are available for approved Energy Star® appliances up to $250 per residence; and program allowance for the installation of specified energy measures, up to $500 every two years.

Complementary Programs

- Renewable Energy Programs: IPU Solar Installations: Industry Metrolink 1,600 kW Photovoltaic-1 Solar project.
- Energy Storage: Achieved commercial operation for a long-term photovoltaic generating facility power purchase agreement coupled with a 4 MW battery energy storage system.

Evaluation, Measurement & Verification Studies

The Engineering analysis programs are the basis for energy savings and incentive calculations. The CMUA POU TRM provides energy savings estimates for IPU programs.

TABLE IPU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

TABLE IPU-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Industrial	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

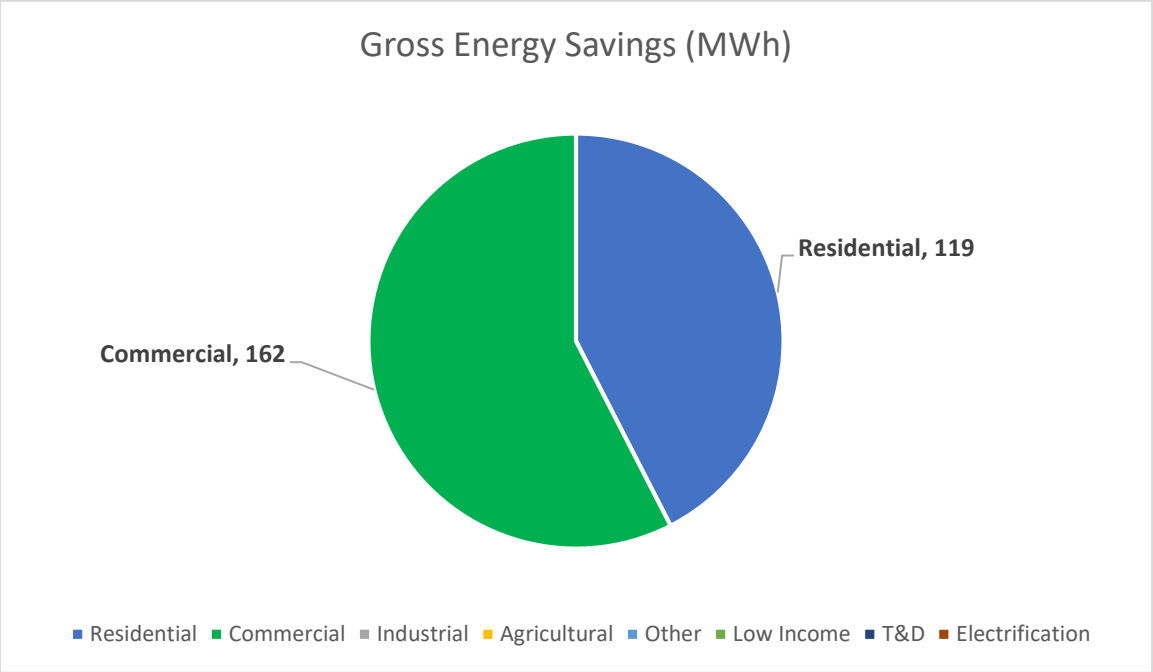
TABLE IPU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

LASSEN MUNICIPAL UTILITY DISTRICT

Lassen Municipal Utility District at a Glance

- Climate Zone: 16
- Customers: 10,500
- Total annual retail sales: 145,285 MWh
- Annual Retail Revenue: $28,283,797
- Annual energy efficiency expenditures for reporting year: $151,831
- Gross annual savings from reporting year portfolio: 281 MWh



Lassen Municipal Utility District Overview

Lassen Municipal Utility District (LMUD) remains committed to helping customers manage their energy use through energy education and a comprehensive offering of energy efficiency incentives. For residential customers, rebates are offered for the installation of various energy efficiency measures. For commercial customers, rebates are available for upgraded lighting, refrigeration equipment, and HVAC equipment, and in cases where an analysis is performed rebates can be offered for additional equipment that reduces energy use and/or demand. Many customers are not able to participate in standard rebate programs that require significant capital investment of their own. To compensate for this, LMUD periodically offers direct

installation programs at no cost to commercial and residential customers that provide energy savings and other benefits.

Major Program and Portfolio Changes

LMUD offers a comprehensive menu of energy efficiency rebate programs to our residential, commercial and agricultural customers. There were no major changes to the program in FY24. We find that the customers and local contractors value consistency in program offerings.

Program and Portfolio Highlights

LMUD continued the Residential Direct Install Program in FY24. This provided 35% of the gross annual energy savings for the program. Meanwhile, the Prescriptive Commercial DIY Lighting Program, which offers fixtures at no cost to customers, delivered 17% of the gross annual energy savings in FY24. LMUD achieved 134% of the target net annual kWh savings for the last five years.

Commercial, Industrial & Agricultural Programs

LMUD manages a comprehensive energy efficiency incentive program for commercial, industrial and agricultural customers:

- Non-Res Lighting Program: LMUD offers rebates to business owners who invest in the installation of energy efficiency lighting upgrades.
- Non-Res HVAC: LMUD offers rebates to commercial customers for energy efficient HVAC upgrades.
- Non-Res Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems.
- Non-Res Appliances: Rebates are available for energy efficient cooking equipment such as ovens, dishwashers, fryers, griddles, etc.
- Non-Res Electronics: LMUD offers rebates for uninterrupted power supplies, plug-load occupancy sensors and smart power strips.
- Non-Res Custom Program: LMUD offers rebates to business owners based on site-specific consumption. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the customer project.
- Agricultural Custom Program: LMUD offers rebates to agricultural customers to make energy efficiency improvements at their sites.

Residential Programs

LMUD manages a comprehensive energy efficiency incentive program for residential customers:

- Residential Lighting Program: LMUD offers rebates to homeowners who install ENERGY STAR-certified LED lamps/bulbs, ceiling fans and LED holiday lights.
- Residential HVAC Program: LMUD offers rebates to homeowners who install high performance heat pumps, central air-conditioners, whole house fans and ground source heat pumps that exceed current state requirements.
- Residential Equipment Program: LMUD offers rebates to homeowners who purchase new ENERGY STAR-certified products, including clothes washers, room air conditioners, dishwashers, refrigerators, freezers and advanced power strips.
- Residential Water Heater Rebate Program: LMUD offers rebates to customers who purchase new, energy efficient electric water heaters and heat pump water heaters.

Complementary Programs

- Low-Income Programs: LMUD offers two low-income programs. Winter Energy Assistance Rate (WEAR) offers rate assistance from November through April. EEAP provides a one-time assistance payment to help avoid disconnection in the case of a financial emergency. This program is funded by LMUD's Public Benefits Program and administered by the local Salvation Army Office. LMUD also works with Lassen Economic Development Corporation to identify customers who qualify for state and federal LIHEAP.
- Renewable Energy Programs: LMUD offers customers a customer generation rate that pays customers for excess generation. LMUD's NEM limit of 5% total peak load of 25MW was met in 2018. LMUD no longer offers NEM for solar or other distributed generation systems. LMUD now offers a Customer Distributed Generation rate of 0.10 per exported kilowatt hour.
- Electric Vehicles: LMUD offers customers rebates on EV charging stations. Publicly accessible and residential are based on a first-come, first-served basis.

Evaluation, Measurement & Verification Studies

Previous EM&V reports are available on the CMUA's website: https://www.cmua.org/.

Major Differences or Diversions from CA POU TRM for Energy Savings

LMUD has relied heavily on the savings listed in the CMUA TRM, streamlined eTRM measures, and savings assumptions from the Bonneville Power Administration. Non-residential lighting, custom projects and non-deemed refrigeration measures use custom savings calculations.

TABLE LMUD-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	3	21,902	231,439	3	17,920	186,195	65	$55,878	0.45	0.43	0.367
Commercial Refrigeration	11	102,107	816,856	7	61,264	490,114	170	$12,646	4.10	4.10	0.030
HVAC - Cooling	1	3,039	28,455	1	1,782	16,806	6	$3,192	0.69	0.65	0.228
HVAC - Heat Pump	2	11,689	175,329	1	7,247	108,704	45	$15,439	1.22	0.81	0.190
Lighting - Indoor	15	88,635	913,289	14	82,183	843,380	311	$37,920	2.83	2.83	0.055
Lighting - Outdoor	2	49,710	589,228	1	40,315	476,850	216	$24,727	2.68	2.68	0.065
Service & Domestic Hot Water	1	3,854	38,542	1	3,604	36,037	15	$2,029	2.69	2.80	0.068
Energy Efficiency	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086
EE, Low Income and Electrification	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086
C&S and T&D								$0			
Utility Total	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086

TABLE LMUD-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	14	161,641	1,531,267	9	108,892	1,061,642	417	$39,011	3.27	3.27	0.045
Residential	21	119,294	1,261,872	19	105,423	1,096,442	411	$112,820	1.32	1.20	0.126
Energy Efficiency	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086
EE, Low Income and Electrification	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086
C&S and T&D								$0			
Utility Total	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086

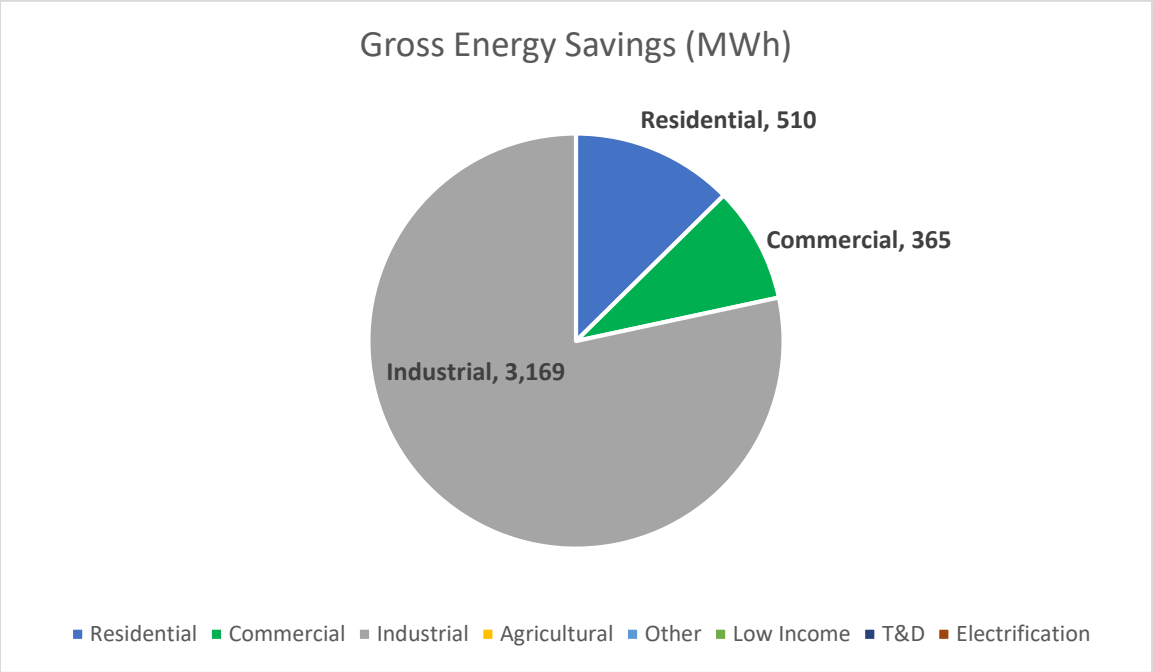
TABLE LMUD-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	232	2,320	0	139	1,392	0	$1,276	0.15	0.16	1.108
Grocery	12	115,576	978,484	8	72,039	619,416	213	$15,355	4.26	4.26	0.029
Multiple	22	160,355	1,754,628	20	139,473	1,504,583	602	$110,279	1.87	1.71	0.090
Residential	1	2,361	26,920	1	915	10,606	4	$9,021	0.16	0.15	1.065
Residential - Single-Family	0	2,412	30,787	0	1,748	22,087	8	$15,900	0.20	0.21	0.924
Energy Efficiency	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086
EE, Low Income and Electrification	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086
C&S and T&D								$0			
Utility Total	35	280,936	2,793,139	28	214,314	2,158,085	828	$151,831	1.82	1.70	0.086

LODI ELECTRIC UTILITY

Lodi Electric Utility at a Glance

- Climate Zone: 12
- Customers: 28,215
- Total annual retail sales: 442,427 MWh
- Annual Retail Revenue: $85,780,477
- Annual energy efficiency expenditures for reporting year: $521,761
- Gross annual savings from reporting year portfolio: 4,043 MWh



Lodi Electric Utility Overview

Lodi Electric Utility (LEU) utilizes the energy efficiency program to engage with residential customers, bring value to local businesses, and through its commercial energy efficiency programming, expand the business relationship with key accounts. The energy efficiency program is designed to benefit all customer segments and offers a wide variety of opportunities for participation. Residential programs allow households to not only receive rebates by purchasing energy-efficient appliances, but also encouraging a new way of looking at household energy use, and how making a few simple changes can make a difference in their carbon footprint. In 2024, the median household income in Lodi is $85,178. In addition, there are 7 seven percent more households who own their homes than there are renters in the same year.

Owners versus renters are 53.47 percent to 46.54 percent. LEU customers, whether owners or renters, are able to make energy efficient improvements by taking advantage of the many incentives available for households ranging from appliances to home weatherization, and from HVAC units to pool pumps. Business accounts, from small commercial to large industrial, can generate significant operational efficiencies by upgrading lighting, production systems, and equipment with energy-efficient improvements made affordable through rebates offered by Lodi Electric.

Major Program and Portfolio Changes

In FY24, LEU continued to offer a comprehensive selection of programs for commercial, industrial, and residential customers. There were no significant program changes from the previous program year. Reportable energy savings have decreased from last year due to a decrease in commercial and industrial projects. In FY 24, Lodi achieved 229% of net annual energy savings targets.

In FY 24, LEU began its third year of successfully partnering with Tree Lodi, a non-profit community-based organization, to preserve, protect and enhance Lodi's urban forest. This all volunteer organization procures trees from local and regional nurseries, schedules and delivers trees, determines the most appropriate species for planting, evaluates site conditions for homeowners and teaches homeowners how to care for trees. Since the inception of this partnership in FY 21, Tree Lodi has provided homeowners with 2,200 shade trees.

Program and Portfolio Highlights

LEU continued to offer the Residential Direct Install and Snapshot Audit program that it started in FY 16. This program offers installation of LEDs (Light Emitting Diode), advanced power strips, thermostatic shower valves, shower heads, and aerators in customer homes at no cost. The intent is to provide a program for residential customers who do not traditionally participate in energy efficiency rebate programs. While open to all residential customers, the program specifically targets multi-family and low-income properties, as they are not likely to benefit from traditional energy efficiency programs.

The Non-Residential Rebate Program continues to provide a substantial portion of energy savings achieved, accounting for 92% of annual net savings for FY 24. Through key accounts management, the utility maintains a proactive and positive relationship with Lodi's largest energy consumers. These relationships are essential to the stability of Lodi Electric Utility and vital to the overall economic development strategy for the City of Lodi.

Commercial, Industrial & Agricultural Programs

LEU manages a comprehensive energy efficiency incentive program for commercial and industrial customers focusing on energy efficiency and peak load reduction. Rebates are available for small and large-scale upgraded lighting, HVAC, commercial kitchen appliances, retail refrigeration equipment, warehouse refrigeration and motorized equipment. In cases

where an energy efficiency analysis is performed, rebates can be offered for additional equipment not mentioned above that reduces energy use and/or demand. These on-site energy efficiency audits, provided by energy efficiency advisors, enable recommendations for improvements to achieve energy efficiency savings.

LEU offers standard rebates for commercial appliances for Energy Star-rated appliances based upon industry standards. Other rebates for LED lighting, HVAC improvements, refrigeration, and motorized equipment are based on energy savings as measured in kilowatt hours compared to the baseline measurement or old equipment being replaced. These upgrades are essential to businesses aiming to reduce costs, conserve energy and contribute to environmental sustainability.

The Keep Your Cool program provides direct install energy savings measures for restaurants, convenience stores, and any other commercial application requiring refrigeration. Examples include door closers, anti-sweat heater controls, insulating materials and case lighting.

Over half of all electrical energy consumed in the United States, is used by electric motors. Businesses investing in improved design, materials, and manufacturing techniques enable energy-efficient motors to accomplish more work per unit of electricity consumed. LEU offers rebates on energy-efficient motors based upon number of kilowatt hours saved.

One size does not fit all. LEU encourages businesses to design their own energy efficiency upgrades and facility improvements to match business energy needs and importantly, budget.

Lodi Electric provides custom-designed rebates based upon energy savings equal to $0.15 cents per kilowatt hour saved capped at 50 percent of the project's total cost, and up to a maximum of $75,000. In addition, LEU offers a zero percent energy financing program that allows commercial customers to install energy-efficient improvements up to $150,000. The loan requirements are easy. Customers in good standing are able to install improvements and pay back the loan over 24 months on their monthly utility bill.

Standard and custom rebate information and applications are available on line at Lodi Electric Utility.

Residential Programs

Lodi Electric offers energy efficiency incentives or rebates to all residential customers for the purchase of upgraded lighting, home weatherization, and Energy Star-rated HVAC and other appliances. While rebates vary by appliance or measure purchased, rebates are evaluated on a regular basis to conform to the latest industry standard. Examples of appliances and measures include, but are not limited to LED lamps/bulbs, ceiling fans, holiday lights, and high-performance HVAC equipment that exceed current state requirements. Household appliances ranging from clothes washers to dishwashers, and from refrigerators to energy efficient water heaters account for the majority of rebates. Residential weatherization materials including attic and wall insulation are also rebated.

The residential Direct Install Program offered by LEU is a no cost energy efficient measure installation program to homeowners and renters who without incentives would likely not make household energy efficient improvements. In many ways, this program begins to unlock the potential of home energy efficiency for rate payers, and empowers residents to make future decisions to achieve greater conservation and savings. Lodi Electric deploys home energy advisors to assess the home and install smart power strips, LED lighting, faucet aerators, thermostatic shower values, basic pipe insulation and weather-stripping.

Complementary Programs

Payment Assistance for Low-income Households:

- Lodi C.A.R.E. Package Program: Provides payment assistance grants to very low-income customers in need of assistance paying their electric utility account. In 2022, CARE Package assistance payments were increased from $110 to $150. Eligible participants may apply for up to $150 in a six-month period. In FY 24, 271 Lodi Electric Utility account holders applied for assistance, and received $28,714 in benefits.
- Lodi SHARE Discount Rate: LEU provides a rate discount of 30% for qualifying residential customers on their electric utility monthly billing statement; $442,200 was budgeted in FY 24 for this rate discount from the Lodi Public Benefits Program fund.

Sustainability:

- Renewable Energy Programs: LEU offers an Energy Purchase rate tariff for customers interested in installing solar. In addition, LEU funds a portion of its eligible power supply costs from the Public Benefits Program fund each year. For FY 24, this totaled a little over $128,000.
- Electrification: LEU offers rebates for replacing gas ranges and electric resistance cooktops with new induction Ranges and Cooktops.
- Electric Vehicles: In FY 24, LEU continued to offer rebates for residential and commercial EV chargers, and rebates for the purchase of new and used zero-emission vehicles including both standard and income-qualifying rebates. Lodi Electric Utility provides Level 2 EV public charging at multiple City-owned sites.

Energy Efficiency and Conservation Curriculum:

In FY 24, Lodi Electric Utility implemented another successful energy efficiency education program within the Lodi middle school educational curriculum designed to teach students about how to use energy responsibly. Energy education efforts include a science-based energy efficiency curriculum designed to demonstrate how minor changes in energy use can make a significant impact on overall energy consumption. Beginning in August 2023 to June 2024, educational program highlights included lessons delivered through an in-person and online platform to 538 students across 10 Lodi middle schools. This content was followed with hands-on activities to enhance learning retention. During the implementation period, teachers,

students, and parents were given access to the online Web App. During the final lesson, students completed exercises that required measuring current home energy use and retrofitting home energy use devices with high-efficiency devices from take-home kits. In FY 23, an educational component was incorporated into the curriculum to educate young students about the benefits of electric vehicles. This effort continued into the FY 24 program.

Evaluation, Measurement & Verification Studies

Previously completed EM&V reports are available for review at https://www.cmua.org/emv-reports

The next EM&V studies will be performed after July 1, 2025.

Major Differences or Diversions from CA POU TRM for Energy Savings

LEU relies heavily on the unit energy savings listed in the POU TRM and the eTRM. The Commercial Lighting and Commercial Custom programs use custom savings calculations based on actual pre- and post-equipment specifications.

TABLE LEU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	9	76,091	558,342	8	59,189	383,324	135	$134,081	0.32	0.29	0.403
Building Envelope	44	246,447	4,932,533	16	76,155	1,524,099	355	$64,308	1.44	0.64	0.062
HVAC - Cooling	373	2,885,388	43,140,419	358	2,841,511	42,544,470	14,726	$124,633	35.51	26.55	0.004
HVAC - Heat Pump	5	20,251	303,772	3	12,556	188,339	84	$24,403	2.79	2.18	0.173
Lighting - Indoor	56	256,937	2,831,404	53	243,958	2,687,853	1,134	$85,082	3.65	3.93	0.039
Lighting - Outdoor	0	549,878	7,726,211	0	522,384	7,339,900	3,145	$85,095	9.87	117.85	0.015
Service & Domestic Hot Water	2	8,251	82,511	2	7,559	75,585	27	$4,160	2.43	2.20	0.067
Energy Efficiency	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013
EE, Low Income and Electrification	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013
C&S and T&D								$0			
Utility Total	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013

TABLE LEU-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	59	364,729	4,572,086	44	317,192	3,903,972	1,493	$60,703	7.01	6.21	0.020
Industrial	338	3,168,518	47,527,770	338	3,149,632	47,244,477	16,982	$132,174	37.49	63.25	0.004
Residential	90	509,996	7,475,335	57	296,488	3,595,121	1,131	$328,884	1.24	0.94	0.120
Energy Efficiency	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013
EE, Low Income and Electrification	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013
C&S and T&D								$0			
Utility Total	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013

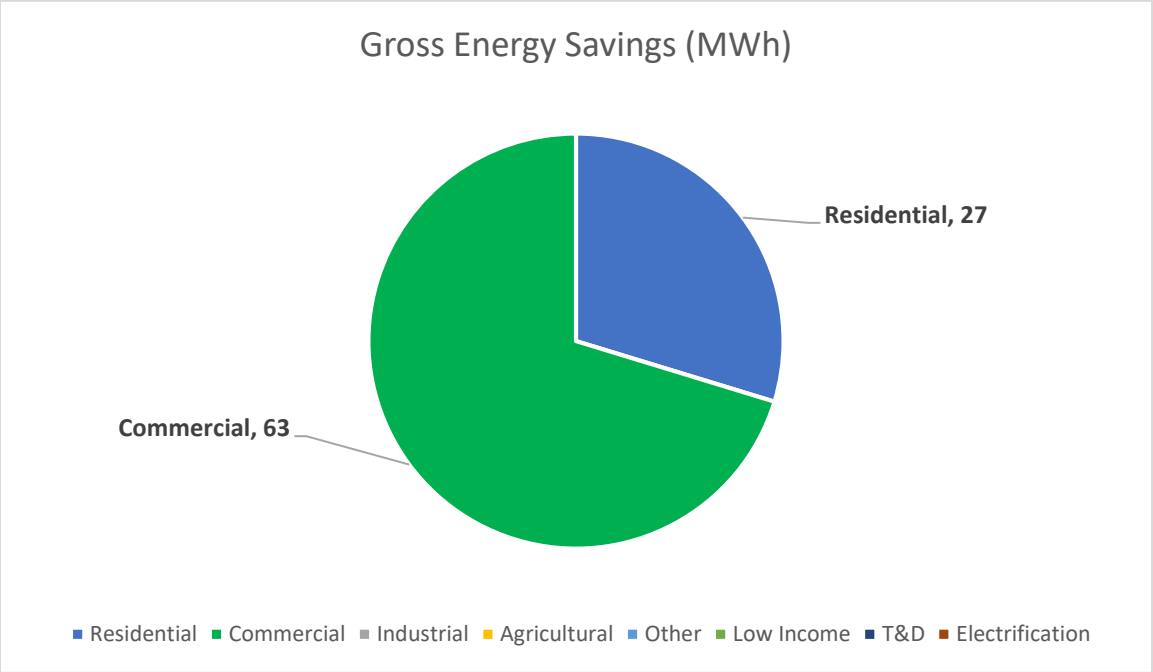
TABLE LEU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	32	300,081	3,600,038	30	284,914	3,418,412	1,335	$37,509	10.07	54.84	0.014
Multiple	69	314,307	3,491,811	50	241,132	2,474,832	880	$227,371	1.40	1.08	0.114
Other Industrial	338	3,168,518	47,527,770	338	3,149,632	47,244,477	16,982	$132,174	37.49	63.25	0.004
Residential	45	245,809	4,780,252	18	77,803	1,481,829	361	$85,396	1.32	0.69	0.084
Residential - Single-Family	4	14,528	175,320	4	9,831	124,019	48	$39,311	0.65	0.66	0.411
Energy Efficiency	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013
EE, Low Income and Electrification	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013
C&S and T&D								$0			
Utility Total	488	4,043,243	59,575,191	439	3,763,312	54,743,570	19,606	$521,761	11.10	9.92	0.013

LOMPOC ELECTRIC UTILITY

Lompoc Electric Utility at a Glance

- Climate Zone: 5
- Customers: 15,301
- Total annual retail sales: 121,729 MWh
- Annual Retail Revenue: $25,721,326
- Annual energy efficiency expenditures for reporting year: $190,653
- Gross annual savings from reporting year portfolio: 90 MWh



Lompoc Electric Utility Overview

Established in 1923, the City of Lompoc's Electric Utility (Lompoc) serves electricity to over 15,000 customers in the Central Coast region of California. Lompoc offers a variety of programs to assist all customer classes by economizing their monthly electricity costs through energy efficiency and conservation practices. The local climate, customer base and community demographics largely influence Lompoc's strategy to offer effective energy-saving programs to its customers.

In FY 2024, most of Lompoc's energy savings were achieved through its commercial lighting retrofit program and lighting retrofit projects completed at City-owned facilities, since there is little need for air conditioning in Lompoc's coastal climate and most buildings are heated by

gas. Residential customers accounted for 90% of Lompoc's customer base in FY 2024, with an average residential electricity use of 332 kWh per month. Only 11% of retail customer connections are commercial and demand customers; however, these customer classes hold the majority of energy savings opportunities within Lompoc's electricity service territory.

The demographics of the Lompoc community also have an impact on the participation rate of energy efficiency programs. The average median household income in Lompoc is $66,947 with 17.2% of the population living in poverty (2023 US Census Quick Facts). Many residential customers have limited funds or incentive to make energy efficiency improvements to their homes. During FY 2024, numerous small, local businesses within Lompoc's service territory were continuing to recover and resume normal business after the COVID-19 pandemic, leaving little room for owner-led investment in EE upgrades during this time. To assist its customers, Lompoc continued to offer generous rebate and income-qualifying programs for customers.

Major Program and Portfolio Changes

In FY 2024, Lompoc continued seeking new and innovative ways to help its customers reduce energy use while continuing to offer its usual energy efficiency and conservation programs. Utilizing its AMR-enabled metering system, high energy-using customers were provided customized energy reduction tips and technical assistance to reduce energy demand and costs. Lompoc also continued offering its LED Lightbulb Replacement and LED Holiday Light Exchange programs, which began in FY 2022. Customers of all classes were able to bring their old, inefficient lightbulbs or holiday light strings into City Hall and replace them with new, efficient light bulbs or holiday lights. Lompoc offered the new equipment, as well as the disposal of hazardous and electronic waste, at no cost to utility customers as both programs were funded with public benefit resources. These programs assisted customers with old, inefficient lighting equipment to replace it without having to incur an upfront purchase cost and lessened the increase in electric utility bills during the holiday season.

Program and Portfolio Highlights

Lompoc realized increased savings in its Commercial Lighting Rebate Program from commercial, industrial, and institutional customers this year and hopes to continue increasing participation in the program in future years. This program is designed to support commercial, industrial, and institutional customers to optimize their energy usage by incentivizing the removal and replacement of old, inefficient light fixtures with more efficient LED fixtures. This program provided 79% of Lompoc's annual energy savings in FY 2024.

Commercial, Industrial & Agricultural Programs

Lompoc offers a number of rebate programs for commercial, industrial and agricultural customers, including rebates for lighting, HVAC, and other energy-efficient equipment upgrades. These customer classes may also apply for rebates on custom energy-saving projects.

Lompoc currently classifies industrial and agricultural customers as commercial customers; therefore, there are no specific programs for these sectors.

Residential Programs

Lompoc offers several rebate opportunities for residential customers such as the Energy Star Appliance Rebate Program, the LED Lighting Replacement Program, and the Holiday Light Replacement Program. While each residential rebate program provided a small percentage of the City's overall energy savings, these programs provide all customers a chance to participate in the City's energy efficiency program. It should be noted that clothes washer rebates administered through the Energy Star Appliance Rebate Program is partly funded from Public Benefit charges, sharing program costs with the City of Lompoc's Water Conservation Fund. Lompoc provides both water and electricity services to its customers, among other services.

To help encourage low-income residential customer participation in energy efficiency upgrades, Lompoc continued to offer its Income-Qualified Energy Star Refrigerator Replacement and Recycle Program in FY 2024. Success of this program can be attributed to an established pre-approval process for participating customers, as well as City staff working with one small, locally owned appliance dealer who handles the delivery and installation of new energy-efficient refrigerators. The appliance dealer also handles refrigerator-recycling processes for participating customers. This program expedites the process for low-income customers to participate in the energy efficiency program and assists Lompoc to ensure that old, inefficient appliances are recycled properly at the City landfill. Residential customers must meet low-income guidelines established by the Department of Housing and Urban Development (HUD) to participate. Participating customers also pay a portion of the cost back to the City over a year.

Complementary Programs

In addition to the portfolio programs, Lompoc also offers rate assistance, customer energy use auditing, and has been closely evaluating the feasibility of offering EV charging services. Lompoc provides financial assistance towards electricity charges for customers who have a household income level below the HUD Low Income Limits Calculation for the local area.

The Customer Energy Audit Program continues to be highly successful in meeting customers' needs. Using Lompoc's automatic meter reading capabilities, staff is able to view daily and hourly electric use data. Customers are provided reports of their electric use which can help them better understand their usage and implement staff suggestions to reduce energy use without making investments in energy efficiency upgrades. Audits are also offered over-the-phone and via email to further assist customers who are unable to visit City Hall during business hours. Customers are also offered a watt meter at no cost to measure the energy use of appliances and electronics used at home.

Evaluation, Measurement & Verification Studies

Previously completed EM&V reports are available for review at: https://www.cmua.org/emv-reports.

Major Differences or Diversions from CA POU TRM for Energy Savings

The City of Lompoc used the CMUA POU TRM and eTRM as the primary sources for calculating and reporting annual energy efficiency program performance during FY 2024.

TABLE Lompoc-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	1	24,052	234,123	1	10,994	100,046	29	$84,570	0.10	0.10	1.030
Commercial Refrigeration	0	5,125	76,875	0	3,587	53,813	19	$8,753	0.63	0.55	0.217
HVAC - Cooling	0	153	1,398	0	83	755	0	$299	0.23	0.21	0.471
HVAC - Heat Pump	0	1,179	17,683	0	731	10,963	4	$5,220	0.29	0.24	0.636
Lighting - Indoor	12	58,740	706,073	10	46,888	563,302	181	$87,480	0.62	0.61	0.196
Miscellaneous	0	1,050	10,500	0	578	5,775	2	$4,330	0.13	0.13	0.907
Energy Efficiency	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327
EE, Low Income and Electrification	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327
C&S and T&D								$0			
Utility Total	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327

TABLE Lompoc-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	12	63,466	776,963	10	50,260	613,883	199	$90,963	0.65	0.64	0.188
Residential	2	26,832	269,689	1	12,600	120,771	37	$99,690	0.11	0.11	1.016
Energy Efficiency	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327
EE, Low Income and Electrification	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327
C&S and T&D								$0			
Utility Total	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327

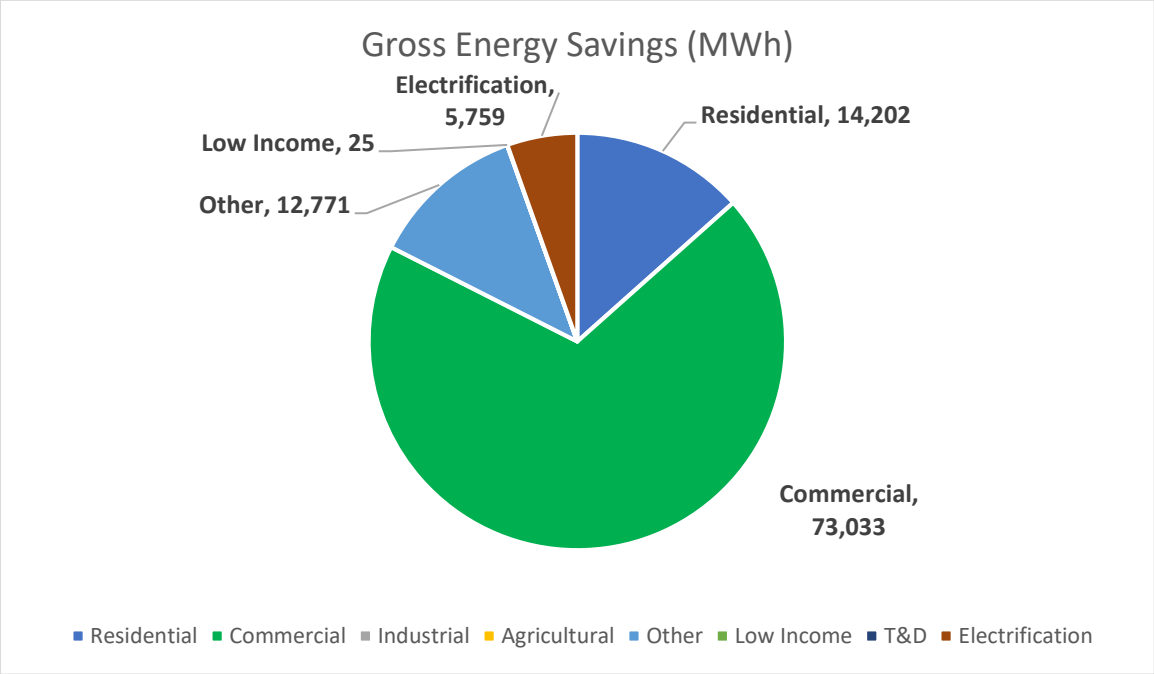
TABLE Lompoc-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	13	69,661	811,201	11	54,532	637,197	207	$114,835	0.54	0.54	0.227
Multiple	1	9,129	106,237	0	3,380	40,543	11	$27,651	0.12	0.09	0.862
Residential	0	7,595	85,144	0	2,446	27,771	8	$23,623	0.08	0.08	1.059
Residential - Single-Family	0	3,913	44,070	0	2,502	29,142	9	$24,544	0.13	0.13	1.081
Energy Efficiency	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327
EE, Low Income and Electrification	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327
C&S and T&D								$0			
Utility Total	14	90,298	1,046,652	11	62,860	734,654	235	$190,653	0.37	0.35	0.327

LOS ANGELES DEPARTMENT OF WATER AND POWER

Los Angeles Department of Water and Power at a Glance

- Climate Zones: 6, 8, 9, 16
- Customers: 1,588,000
- Total annual retail sales: 21,385,000 MWh
- Annual Retail Revenue: $4,825,000,000
- Annual energy efficiency expenditures for reporting year: $125,162,948
- Gross annual savings from reporting year portfolio: 105,791 MWh



Los Angeles Department of Water and Power Overview

The Los Angeles Department of Water and Power (LADWP) was established in 1902 to deliver water to the City of Los Angeles and distribute electricity in 1916. LADWP is the largest municipal utility in the nation, providing reliable energy and water services to 4 million residents and 450,000 businesses (1.6M customer accounts) in four different climate zones: CZ6, CZ8, CZ9, and CZ16. A peak demand of 5,201 MW was registered on August 29, 2023.

Major Program and Portfolio Changes

During various periods of FY 2023-2024, the RETIRE, ACOPT, REP, EPM, CDI, and LAUSD DI programs experienced temporary suspensions as part of the normal process of procuring new

contracts and securing the required approvals to resume operations. These routine procedures impacted program activity throughout the fiscal year; however, all programs are on track to resume full operations in FY 2025-2026.

LADWP has expanded its building electrification offerings to serve all customer segments through a growing portfolio of programs. These initiatives provide tailored solutions to support the transition from gas to electric technologies, helping customers across residential, commercial, and industrial sectors reduce carbon emissions and improve energy efficiency.

Program and Portfolio Highlights

Consumer Rebate Program

The Consumer Rebate Program (CRP) introduced a seasonal incentive bonus of $250 for variable speed pool pump motors to encourage energy-efficient upgrades during peak demand periods. This limited-time bonus provides additional savings for customers who replace inefficient pool equipment, helping to reduce energy use while supporting grid reliability.

Efficient Product Marketplace

The suspension of the Efficient Product Marketplace (EPM) spurred a pivot to an in-house order processing system to restore operations. Although the interim solution was less robust and led to some service limitations, EPM was able to resume activity and continue supporting a portion of customers during the transition.

Refrigerator Turn in & Recycle Program

LADWP continued to offer the increased incentive of $60 per refrigerator/freezer recycled.

Commercial, Industrial & Agricultural Programs

City Plants:

The City Plants (CP) Program provides free shade trees for residents and property owners in Los Angeles to promote tree planting to improve the city's tree canopy, air quality, stormwater retention, and, importantly, building energy efficiency. This program is operated by the City Plants team under the city's Board of Public Works and supported by LADWP.

Through this partnership, City Plants can provide free shade trees for residents and property owners and information on where to plant the trees for maximum energy efficiency benefits. City Plants currently focuses on delivering trees to residential and commercial customers and planting trees on residential parkways, commercial parkways, and other city property (Res Cooling, Res Shell, Commercial Shell).

Codes and Standards (C&S):

The Codes, Standards & Ordinances Program conducts advocacy activities to improve building, appliance, and water use efficiency regulations. These activities include monitoring and active participation in code and standard development, compliance and enforcement support with our sister agency LA Department of Building and Safety, legislative review, sponsorship of local ordinances, and participation in policy efforts with other City departments, state agencies and utilities. The goal of this program is to promote sustainability concerning water and energy use.

The principal audience includes the LA City Department of Building and Safety, LA City Planning, LA City Department of Public Works, and the LA City Council, which develop and adopt codes and standards specific to Los Angeles that go beyond state and federal regulation. Other audiences include state agencies, which conduct periodic rulemakings to update energy efficiency and water conservation regulations and standards, and industry groups that conduct research and develop industry-specific standards. (Non-Res Process)

Commercial Direct Install:

The Commercial Direct Install Program is a free direct-install program that targets small, medium, and large business customers in the LADWP service territory. LADWP partners with Southern California Gas Company (SoCalGas) on this program to offer a tri-resource efficiency program aiming to reduce the use of electricity, water, and natural gas. The CDI program is available to qualifying businesses whose average monthly electrical demand is 250 kilowatts (kW) or less. (Non-Res Lighting)

Commercial Lighting Incentive Program:

The Commercial Lighting Incentive Program (CLIP) offers customers incentives to install newly purchased and installed energy-efficient lighting and controls. CLIP currently provides incentives to customers whose monthly electrical use is greater than 200 kilowatts (kW). CLIP's calculated savings approach allows customers to tailor their lighting efficiency upgrades to meet their lighting needs better, attain greater energy savings, and receive higher incentives. (Non-Res Lighting)

Custom Performance Program (CPP):

The Custom Performance Program (CPP) provides cash incentives for energy savings achieved through the implementation and installation of various energy efficiency measures and equipment that meet or exceed Title 24 or industry standards. Measures may include but are not limited to equipment controls, industrial process, retrocomissioning, chiller efficiency, and/or other innovative energy savings strategies.

CPP's Custom Express fast tracks smaller, less energy-intensive projects with deemed energy savings projections to help expedite application processing and get customers paid faster, while CPP's Custom Calculated conducts an in-depth energy savings analysis to custom calculate

customers' individual efficiency projects' energy savings. By utilizing our customers' existing facility conditions as the baseline, CPP's Custom Calculated maximized our customers' savings potential! (Non-Res Cooling, Non-Res Comprehensive, Non-Res Motors, Non-Res Lighting, Non-Res Refrigeration)

Food Service:

The Food Service Program (FSP) offers incentives to encourage retrofit measures and technologies to reduce energy consumption in supermarkets, liquor stores, convenience stores, restaurants, etc. Rebates are offered for ovens, griddles, steam cookers, holding cabinets, glass and solid door refrigerators/freezers, ice makers, dishwashers and handwrappers. (Non-Res Refrigeration, Non-Res Cooking)

LADWP Facilities:

The LADWP Facilities Upgrade Program strives to improve energy and water efficiency throughout LADWP's facilities with energy efficiency upgrades in HVAC and lighting and water efficiency upgrades in plumbing fixtures, leak correction and landscaping improvements. It identifies and assists those LADWP facilities to reduce energy and water usage, which results in a reduction in energy and water consumption and procurement expense for LADWP that would otherwise be borne by LADWP customers. (Non-Residential Lighting)

LAUSD Direct Install:

The Los Angeles Unified School District Direct Install Program is designed to improve energy and water efficiency throughout LAUSD's facilities through upgrades in electric and water systems. This program provides energy efficiency design assistance, project management experience, and retrofitting installation, utilizing LADWP's Power Construction Maintenance (PCM) and Commercial Direct Install (CDI) program to assist LAUSD facilities reducing energy usage and corresponding utility expenses. (Non-Res Lighting)

Savings by Design (SBD) / Zero by Design (ZBD):

The Savings By Design (SBD) Program was a California statewide non-residential new construction program, in which LADWP partnered with Southern California Gas Company (SoCalGas) to offer a uniform, multi-faceted program designed to consistently serve the needs of the commercial building community. SBD encouraged energy-efficient building design and construction practices, promoting the efficient use of energy by offering up-front design assistance, owner incentives, design team incentives, and energy design resources. On January 1, 2021, SBD transitioned to Zero By Design (ZBD) without the SoCalGas partnership.

Zero By Design (LADWP ZBD) is LADWP's non-residential new construction incentive program. Launched on January 1, 2021, LADWP ZBD replaces the California-statewide Savings By Design program that was held in partnership with Southern California Gas Company. LADWP ZBD encourages energy-efficient building design and construction practices by promoting the

efficient use of energy by offering up-front design assistance, owner incentives, design team incentives, and energy design resources. (Non-Res Comprehensive)

Upstream HVAC:

The nonresidential Upstream Heating, Ventilation, and Air Conditioning (HVAC) Program is a market transformation-oriented program. This program offers incentives to upstream market actors who sell qualifying high-efficiency HVAC equipment. The logic that underscores this program's design is that a small number of upstream market actors can impact thousands of customers and influence their choice of equipment by increasing the stocking and promotion of high-efficiency HVAC equipment.

The upstream model cost-effectively leverages this market structure and existing relationships. The program added additional upstream market actors to expand its coverage of the Los Angeles market. The upstream program is designed to adapt to market changes. Therefore, LADWP will continue working with relevant industry players to enhance the program to include new beyond-code upstream incentives continually. (Commercial Cooling)

Residential Programs

California Advanced Homes:

The California Advanced Home Program (CAHP) is a statewide residential construction incentive program in which LADWP participated through a partnership with the Southern California Gas Company. CAHP incentivized builders and designers to create environmentally-friendly, energy-efficient communities for potential home buyers. CAHP was available to single and multi-family residential new construction projects and helped builders prepare for future code changes by encouraging them to build homes that exceed code, ultimately driving new homes to Zero Net Energy (ZNE). The program partnership ended in December 2019. (Res Comprehensive)

Consumer Rebate Program (CRP):

The Consumer Rebate Program offers incentives to its residential customers to promote and advance comprehensive energy efficiency measures, including whole-house solutions, plug load efficiency, performance standards, and integration opportunities. CRP is designed to offer and promote specific and comprehensive energy solutions within the residential market sector. (Res Cooling, Res Shell, Res Refrigeration, Res Pool Pump)

Efficient Product Marketplace:

The Efficient Product Marketplace (EPM) offers customers the opportunity to research, locate, and purchase energy efficient products online. Residential customers can also apply for rebates on qualifying ENERGY STAR® products, including refrigerators, room air conditioners, LED lighting, and televisions. Rebates are also available for Wi-Fi enabled thermostats and advanced power strips. Customers have the option of purchasing qualified products from a third-party

retailer and submitting a rebate application, or purchasing select products directly through the online marketplace and having the rebate applied as an instant discount at the time of purchase. (Res Cooling, Res Lighting, Res Refrigeration)

Home Energy Improvement Program:

The Home Energy Improvement Program (HEIP) is a comprehensive direct install whole-house retrofit program that offers residential customers a full suite of free products and services to improve the home's energy and water efficiency by upgrading/retrofitting the home's envelope and core systems. While not limited to low-income customers, in FY 2020-2021, HEIP expanded to serve disadvantaged communities and residential customers by including the multi-family segment. (Res Shell, Res Lighting)

HVAC Optimization Program:

The AC Optimization Program provides services by certified, professional heating, ventilation, and air conditioning (HVAC) technicians to analyze cooling systems and provide basic maintenance to maximize system efficiency. This service is offered to eligible residential and commercial LADWP customers at no cost. This program also offers a programmable, Wi-Fi enabled thermostat free of charge to residential customers. (Res Cooling)

Refrigerator Exchange (REP) / Window AC:

The Refrigerator Exchange Program (REP) is a free refrigerator replacement program designed to target customers that qualify on either LADWP's Low-Income or its Senior Citizen/Disability Lifeline Rates as well as Multi-Residential or Non-Profit customers. The program was expanded to include the following entities, multi-family or mobile home communities, civic, community, faith-based organizations, and educational institutions. This Program leverages a 3rd Party Contractor, ARCA (Appliance Recycling Centers of America), to administer the program's delivery and provide new, energy-saving ENERGY STAR® rated refrigerators for this customer segment to replace qualifying older, inefficient, but operational models. Additionally, customers can pair the REP with the Window Air Conditioner Recycling Program, which offers a $25 rebate to residential customers to turn-in their old window air conditioners. Eligible units must be fully operational and satisfy certain age and size requirements. (Res Refrigeration)

Refrigerator Turn-In & Recycle:

The Refrigerator Turn-in and Recycle Program offers a $60 rebate, along with free pick-up, to residential customers to turn-in old refrigerators and freezers for recycling. Eligible units must be fully operational and satisfy certain age and size requirements. LADWP leverages a 3rd Party Contractor, ARCA (Appliance Recycling Centers of America), to administer the program's delivery. (Res Refrigeration)

Residential Lighting Efficiency Program:

The Residential Lighting Efficiency Program (RLEP) provides light-emitting diode (LED) lamps to customers to reduce their home electrical use. The primary channel for distributing the LED lamps is by way of Direct-to-Door to residential customers within LADWP's service territory. Lamps are also distributed at community events and by community-based organizations. Alternative and additional distribution campaigns continue to be evaluated. (Res Lighting)

Complementary Programs

Low-Income Programs:

Refrigerator Exchange Program, Home Energy Improvement Program and Commercial Direct Install Program are key programs offered to the community, small business customers, hard to reach customers, low-income customers, and multi-unit dwellings.

Emerging Technologies Program:

The LADWP Emerging Technologies Program (ETP) is designed to accelerate the introduction of innovative energy and water-efficient technologies, applications, and analytical tools that are not yet widely adopted in California. By reducing both the performance uncertainties associated with new products and institutional barriers, this program's ultimate goal is to increase the probability that promising energy and water efficiency technologies will be commercialized and adopted throughout Los Angeles.

As a non-resource program for LADWP and focused on promoting the development and implementation of new technologies in the LADWP community, ETP provides energy and water savings that are ultimately captured in LADWP's resource programs. In this way, ETP plays a vital role in positioning LADWP as a state and national leader in energy and water efficiency.

Green Power for a Green L.A. Program:

The Green Power for a Green L.A. program gives Los Angeles residents, businesses, and governmental agencies a stake in preserving and protecting our environment through their voluntary contribution to support additional renewable energy. Customers who sign up for Green Power choose to have all, or a portion, of their electricity needs generated from renewable energy sources.

Program Outreach & Community Partnerships Program

The Program Outreach & Community Partnerships Program (Program) is an advocacy program that strives to improve customer awareness among LADWP's "hard-to-reach" customers of electric efficiency and water conservation programs through community-based activities organizations. This program offers grants to local non-profit organizations that are awarded through a competitive selection process to work in one of the fifteen Los Angeles City Council Districts, or, on an at-large basis, to improve community and customer awareness of LADWP's

core energy efficiency and water conservation programs and free services customers can take to reduce energy and water use. The program has expanded to focus on other topics such as financial assistance, community solar, water quality, and electric vehicles.

Research, Development, and Demonstration:

LADWP is involved in various internal energy storage studies and projects using various technologies and use cases, including lithium-ion, flow batteries, compressed air, thermal energy storage at levels of the power system, including generation, transmission, distribution, and behind the meter. Some of these studies are in collaboration with EPRI.

Electric Vehicle Charger Rebate Program:

LADWP introduced the Electric Vehicle Charger Rebate Program, "Charge Up L.A.!" to encourage the installation of convenient electric vehicle (EV) charging stations at residential and commercial locations to support the purchase and use of EVs. This program benefits the environment and helps EV users save on fuel costs at the same time. The rebate is offered to qualifying commercial customers who purchase and install Level 2 (240-volt) chargers at their business place. Customers who choose to install an optional dedicated time-of-use (TOU) meter will qualify for the LADWP's EV discount of 2.5 cents per kilowatt-hour (kWh). This dedicated service will add additional cost to the installation process but will yield lower electricity costs for off-peak charging.

Evaluation, Measurement & Verification Studies

The next round of EM&V services are in RFP phase and will go through administrative processing and review. Thus, this year's reporting figures are purely Ex-Ante or claimed savings.

The total NTE budget for the previous round of EM&V over the 3-year contract period is $4,895,135, which is equivalent to approximately 1% of the total portfolio budget annually.

This evaluation will review past (retrospective) impact savings from FY15/16 thru 19/20 while simultaneously reviewing impact savings as it occurs (concurrently), from FY20/21 thru FY22/23. The process evaluation portion of the scope will only review the concurrent period. The new round of LADWP EM&V activities started Q3 of 2020 to capture impact evaluation for retrospective years. Both impact and process evaluation will be evaluated for concurrent years.

Like prior years, the current round of EM&V contract will also have a contract term duration of 3 years, with comparable budgets as proportioned to the portfolio savings.

LADWP has opted to evaluate its programs and activities from a holistic standpoint, emphasizing the effects of energy efficiency programs. Beyond the core impact and process evaluation findings, the new EM&V efforts will build upon the preliminary Market Transformation (MT) evaluation plan reported in prior years. One of the MT evaluation results will be to quantify the incremental energy savings potential due to market intervention

introduced by the City of Los Angeles and a plan to track market indicators to re-calibrate early projections moving forward.

Retrospective (2015-2020) Impact Evaluation Scope results and reports were delivered by June of 2021. With comprehensive concurrent (2020-2023) final results and report provided by Dec of 2023.

LADWP will publish all past and future reports on the LADWP Website: www.ladwp.com/reports

Major Differences or Diversions from CA POU TRM for Energy Savings

Sources of energy savings include custom engineering calculations using building simulation modeling software such as EnergyPro and eQuest, Openstudio/Energyplus, and simple engineering calculations in spreadsheet format. LADWP's Custom Performance Program and Commercial Lighting incentive Programs apply these methods, respectively. For direct install and residential programs, deemed savings supported by a combination of the latest Technical Reference Manual and utility workpapers are used. Examples of programs using this approach include the Commercial Direct Install, Consumer Rebate Program, the Food Service Program, Refrigerator Exchange, and Refrigerator Recycling Programs.

LADWP is currently transitioning towards leveraging the eTRM for its deemed savings references. Moving forward, all new additions and updates will be referring to the eTRM as the primary source.

For the current FY23-24 SB1037 portfolio submission, all gross savings claims are not EM&V verified or Ex-Post adjusted. Future EM&V evaluation RFP/Contract is in procurement phase, thus FY23-25 Ex-Post savings will need to be updated when EM&V contract and retrospectively review the FY23-24 of the EE portfolio.

TABLE LADWP-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	227	415,932	5,594,267	227	415,932	5,594,267	262	$643,305	0.78	0.26	0.162
Building Envelope	11,730	8,977,011	178,032,517	11,730	8,977,011	178,032,517	7,166	$12,463,007	2.37	2.37	0.115
Commercial Refrigeration	612	4,896,606	56,042,604	612	4,896,606	56,042,604	2,211	$4,744,130	0.74	0.58	0.115
Food Service	2	11,501	138,016	2	11,501	138,016	5	$21,291	0.50	0.33	0.208
HVAC - Cooling	4,447	9,468,481	98,099,012	4,447	9,468,481	98,099,012	3,836	$35,434,945	0.25	0.16	0.517
HVAC - Heat Pump	153	279,493	585,439	153	279,493	585,439	26	$752,960	0.11	0.11	1.517
Lighting - Indoor	7,836	51,039,741	608,320,057	7,836	51,039,741	608,320,057	21,557	$51,296,511	0.82	0.78	0.114
Lighting - Outdoor	738	9,289,093	111,279,450	738	9,289,093	111,279,450	5,775	$7,566,952	0.67	0.45	0.092
Miscellaneous	0	0	0	0	0	0	0	$3,484,441			0.000
Service & Domestic Hot Water	22	121,295	1,857,925	22	121,295	1,857,925	60	$1,008,055	0.13	0.13	0.812
Water Pumping / Irrigation	2,186	13,817,019	202,026,805	2,186	13,817,019	202,026,805	6,712	$1,332,130	10.80	10.80	0.010
Whole Building	307	1,690,714	16,907,136	307	1,690,714	16,907,136	678	$1,906,593	0.65	0.71	0.145
Energy Efficiency	28,261	100,006,886	1,278,883,227	28,261	100,006,886	1,278,883,227	48,288	$120,654,321	0.88	0.71	0.132
HVAC - Heat Pump	-1,120	5,688,562	92,609,607	-1,120	5,688,562	92,609,607	23,300	($16,242,938)	0.13	0.16	-0.282
Service & Domestic Hot Water	-4	70,462	704,618	-4	70,462	704,618	178	$28,396	0.21	0.21	0.052
Electrification	-1,124	5,759,024	93,314,225	-1,124	5,759,024	93,314,225	23,479	($16,214,542)	0.13	0.16	-0.279
Appliance & Plug Loads	4	7,398	103,572	4	7,398	103,572	5	$207,427	0.05	0.05	2.846
Building Envelope	9	6,650	181,028	9	6,650	181,028	7	$41,295	0.59	0.59	0.446
HVAC - Cooling	1	736	11,040	1	736	11,040	0	$1,780	1.07	1.07	0.235
HVAC - Heat Pump	-1	3,036	45,540	-1	3,036	45,540	10	$123	-1.26	-1.26	0.004
Lighting - Indoor	1	5,516	88,256	1	5,516	88,256	4	$15,165	0.33	0.33	0.257
Miscellaneous	0	0	0	0	0	0	0	$168,523			0.000
Water Pumping / Irrigation	0	1,686	16,860	0	1,686	16,860	1	$1,640	0.79	0.79	0.125
Low-Income	14	25,022	446,296	14	25,022	446,296	27	$435,954	0.10	0.10	1.577
EE, Low Income and Electrification	27,151	105,790,932	1,372,643,747	27,151	105,790,932	1,372,643,747	71,794	$104,875,733	0.99	0.76	0.108
Any	1,724	1,319,760	16,914,182	1,724	1,319,760	16,914,182	702	$8,842	339.54	339.54	0.001
Appliance & Plug Loads	12,724	30,180,534	452,708,006	12,724	30,180,534	452,708,006	19,041	$109,319	339.54	339.54	0.000
Building Envelope	3,130	6,601,205	99,018,080	3,130	6,601,205	99,018,080	3,165	$32,847	339.54	339.54	0.000
Commercial Refrigeration	569	4,914,202	73,713,028	569	4,914,202	73,713,028	2,721	$12,856	339.54	339.54	0.000
Food Service	2	13,585	203,779	2	13,585	203,779	7	$37	339.54	339.54	0.000
HVAC - Cooling	7,321	27,254,828	408,822,425	7,321	27,254,828	408,822,425	14,004	$98,325	339.54	339.54	0.000
Lighting - Indoor	9,259	61,692,073	925,381,101	9,259	61,692,073	925,381,101	32,076	$182,632	339.54	339.54	0.000
Miscellaneous	142	1,077,133	16,156,993	142	1,077,133	16,156,993	555	$19,666,677	0.05	0.05	1.774

Process	6	42,027	630,404	6	42,027	630,404	22	$116	339.54	339.54	0.000
Service & Domestic Hot Water	444	3,855,580	57,833,703	444	3,855,580	57,833,703	2,141	$10,048	339.54	339.54	0.000
Whole Building	9,732	52,959,372	794,390,578	9,732	52,959,372	794,390,578	28,770	$165,515	339.54	339.54	0.000
Codes & Standards	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$20,287,215	10.44	10.44	0.010
C&S and T&D	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$20,287,215	10.44	10.44	0.010
Utility Total	72,204	295,701,232	4,218,416,026	72,204	295,701,232	4,218,416,026	174,997	$125,162,948	2.52	2.02	0.043

TABLE LADWP-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	1,915	12,771,323	191,569,845	1,915	12,771,323	191,569,845	6,259	$5,543	2,451.11	2,451.11	0.000
Commercial	10,454	73,033,364	865,774,756	10,454	73,033,364	865,774,756	32,882	$72,564,436	0.79	0.58	0.114
Residential	15,892	14,202,199	221,538,626	15,892	14,202,199	221,538,626	9,147	$48,084,342	0.72	0.68	0.338
Energy Efficiency	28,261	100,006,886	1,278,883,227	28,261	100,006,886	1,278,883,227	48,288	$120,654,321	0.88	0.71	0.132
Commercial	31	120,481	887,420	31	120,481	887,420	102	$1,087,714	0.08	0.08	1.666
Residential	-1,155	5,638,542	92,426,805	-1,155	5,638,542	92,426,805	23,377	($17,302,255)	0.13	0.15	-0.301
Electrification	-1,124	5,759,024	93,314,225	-1,124	5,759,024	93,314,225	23,479	($16,214,542)	0.13	0.16	-0.279
Residential	14	25,022	446,296	14	25,022	446,296	27	$435,954	0.10	0.10	1.577
Low-Income	14	25,022	446,296	14	25,022	446,296	27	$435,954	0.10	0.10	1.577
EE, Low Income and Electrification	27,151	105,790,932	1,372,643,747	27,151	105,790,932	1,372,643,747	71,794	$104,875,733	0.99	0.76	0.108
Any	1,724	1,319,760	16,914,182	1,724	1,319,760	16,914,182	702	$8,842	339.54	339.54	0.001
Commercial	21,754	137,798,899	2,066,983,487	21,754	137,798,899	2,066,983,487	70,328	$8,248,380	17.53	17.53	0.006
Industrial	135	989,995	14,849,922	135	989,995	14,849,922	507	$2,791	339.54	339.54	0.000
Residential	21,440	49,801,646	747,024,688	21,440	49,801,646	747,024,688	31,666	$12,027,202	5.25	5.25	0.023
Codes & Standards	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$20,287,215	10.44	10.44	0.010
C&S and T&D	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$20,287,215	10.44	10.44	0.010
Utility Total	72,204	295,701,232	4,218,416,026	72,204	295,701,232	4,218,416,026	174,997	$125,162,948	2.52	2.02	0.043

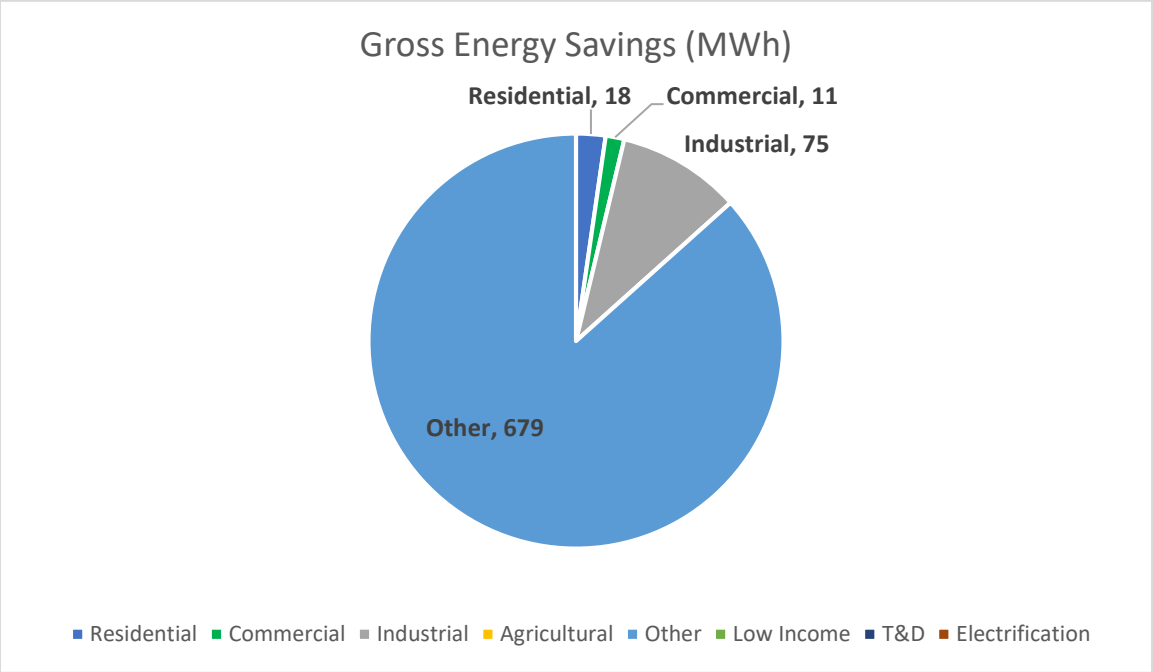
TABLE LADWP-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	11,970	20,466,417	345,471,725	11,970	20,466,417	345,471,725	12,461	$3,742,473	10.45	10.45	0.017
Assembly	103	1,276,028	15,641,725	103	1,276,028	15,641,725	746	$564,472	1.43	0.23	0.049
Education - Community College	52	308,842	3,706,106	52	308,842	3,706,106	150	$447,044	0.55	0.55	0.163
Education - Primary School	1,050	6,158,574	71,242,039	1,050	6,158,574	71,242,039	2,321	$15,271,297	0.34	0.34	0.287
Education - Secondary School	296	1,692,872	19,066,554	296	1,692,872	19,066,554	633	$3,794,315	0.37	0.37	0.265
Education - University	695	3,978,647	48,079,605	695	3,978,647	48,079,605	1,905	$1,720,832	1.90	1.22	0.049
Grocery	46	347,072	4,164,869	46	347,072	4,164,869	158	$229,520	1.18	0.46	0.074
Health/Medical - Hospital	449	3,683,672	47,960,729	449	3,683,672	47,960,729	1,839	$3,044,186	0.96	0.56	0.089
Health/Medical - Nursing Home	395	3,244,870	34,486,362	395	3,244,870	34,486,362	1,334	$1,501,821	1.41	0.53	0.060
Lodging - Hotel	137	883,600	9,692,214	137	883,600	9,692,214	381	$593,656	1.16	1.16	0.081
Lodging - Motel	575	3,679,025	44,110,952	575	3,679,025	44,110,952	1,728	$3,843,238	0.77	0.76	0.118
Manufacturing Light Industrial	47	377,308	4,527,698	47	377,308	4,527,698	174	$150,382	1.88	1.66	0.045
Office - Large	3,183	21,457,166	259,133,118	3,183	21,457,166	259,133,118	9,349	$11,181,746	1.62	0.95	0.059
Office - Small	344	2,537,230	30,802,094	344	2,537,230	30,802,094	1,193	$3,570,357	0.56	0.55	0.157
Other Commercial	1,143	8,253,939	95,436,837	1,143	8,253,939	95,436,837	3,610	$12,210,345	0.52	0.32	0.173
Other Industrial	329	3,534,170	41,959,057	329	3,534,170	41,959,057	2,179	$1,665,620	1.15	0.87	0.054
Residential - Mobile Home	5	4,121	22,573	5	4,121	22,573	1	$52,026	0.08	0.08	2.749
Residential - Multi-Family	1,995	2,637,701	20,967,752	1,995	2,637,701	20,967,752	868	$17,542,522	0.13	0.13	1.087
Residential - Single-Family	3,994	4,873,534	58,374,258	3,994	4,873,534	58,374,258	2,494	$27,276,784	0.28	0.26	0.661
Restaurant - Fast-Food	11	72,485	895,298	11	72,485	895,298	33	$88,272	0.72	0.72	0.135
Restaurant - Sit-Down	279	1,924,420	21,177,520	279	1,924,420	21,177,520	831	$2,032,025	0.72	0.72	0.128
Retail - Large	26	211,361	2,212,062	26	211,361	2,212,062	85	$103,540	1.32	0.50	0.065
Retail - Small	1,102	8,092,704	96,011,393	1,102	8,092,704	96,011,393	3,681	$9,832,621	0.64	0.64	0.139
Storage - Conditioned	2	13,478	168,870	2	13,478	168,870	6	$8,780	1.14	0.16	0.074
Storage - Unconditioned	34	297,651	3,571,816	34	297,651	3,571,816	128	$186,447	1.20	1.03	0.070
Energy Efficiency	28,261	100,006,886	1,278,883,227	28,261	100,006,886	1,278,883,227	48,288	$120,654,321	0.88	0.71	0.132
Assembly	1	29,186	437,786	1	29,186	437,786	78	$223,845	0.08	0.07	0.745
Other Commercial	30	91,296	449,633	30	91,296	449,633	24	$863,869	0.08	0.08	2.450
Residential - Mobile Home	0	401	1,202	0	401	1,202	0	$2,717	0.08	0.08	2.393
Residential - Multi-Family	756	1,769,953	15,752,669	756	1,769,953	15,752,669	2,336	$10,980,153	0.07	0.07	0.960
Residential - Single-Family	-1,912	3,868,189	76,672,933	-1,912	3,868,189	76,672,933	21,040	($28,285,125)	0.10	0.11	-0.613
Electrification	-1,124	5,759,024	93,314,225	-1,124	5,759,024	93,314,225	23,479	($16,214,542)	0.13	0.16	-0.279
Any	1	5,516	88,256	1	5,516	88,256	4	$15,165	0.33	0.33	0.257
Residential	0	0	0	0	0	0	0	$168,523			0.000

Residential - Multi-Family	2	1,929	44,732	2	1,929	44,732	2	$31,189	0.17	0.17	1.286
Residential - Single-Family	12	17,577	313,308	12	17,577	313,308	21	$221,077	0.14	0.14	1.145
Low-Income	14	25,022	446,296	14	25,022	446,296	27	$435,954	0.10	0.10	1.577
EE, Low Income and Electrification	27,151	105,790,932	1,372,643,747	27,151	105,790,932	1,372,643,747	71,794	$104,875,733	0.99	0.76	0.108
Any	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$623,517	339.54	339.54	0.000
Other Commercial	0	0	0	0	0	0	0	$7,822,514			0.000
Residential	0	0	0	0	0	0	0	$11,841,183			0.000
Codes & Standards	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$20,287,215	10.44	10.44	0.010
C&S and T&D	45,053	189,910,300	2,845,772,279	45,053	189,910,300	2,845,772,279	103,203	$20,287,215	10.44	10.44	0.010
Utility Total	72,204	295,701,232	4,218,416,026	72,204	295,701,232	4,218,416,026	174,997	$125,162,948	2.52	2.02	0.043

Merced Irrigation District at a Glance

- Climate Zone: 13
- Customers: 13,329
- Total annual retail sales: 517,304 MWh
- Annual Retail Revenue: $101,487,219
- Annual energy efficiency expenditures for reporting year: $345,813
- Gross annual savings from reporting year portfolio: 784 MWh



Merced Overview

For more than 75 years, the Merced Irrigation District (MeID) has been in the business of generating wholesale electrical power. The District provides electric services to thousands of customers in Eastern Merced County including the cities of Livingston, Winton, Atwater and Merced.

A large percentage of MeID's energy efficiency savings have traditionally come from large industrial customers. Those customers only make up approximately 15% of the customer base. MeID differs from other utilities in that almost all of the residential customer base is made up of relatively new construction.

Major Program and Portfolio Changes

Over the preceding year, our team has made considerable advancements in the augmentation of both residential and custom rebates. In the area of residential rebates, we have identified and implemented a variety of measures, ensuring an alignment of incentives with the energy savings potential inherent in appliances and equipment. This effort involved an adjustment of incentive values to reflect the impact of energy-efficient choices more accurately. A residential shade tree program was introduced to our customers in 2024.

Transitioning to custom commercial and industrial rebates, MeID initially instituted a rate of $0.07 per kWh reduced in 2022, devoid of any incentives for demand reduction. Subsequently, in 2023, we underwent a substantial transformation in the methodology for calculating incentives related to energy and demand reduction. The incentives now exhibit a range from $0.10 per kWh to $500 per KW, contingent upon the end-use framework.

In the current year, we introduced rebates tailored specifically for our commercial and industrial clienteles. Recognizing that the modification of these programs is merely one facet of the overall strategy, we are actively engaged in communicating these initiatives to our customers. Our emphasis extends beyond mere awareness; we are committed to fostering active participation in our energy savings programs.

Program and Portfolio Highlights

Turning our attention to the highlights of our programs and portfolio, after an extended period without new additions, MeID has more than doubled the number of residential rebates, expanding from six to an impressive total of fourteen energy efficiency rebates in 2024. This year, we built upon those additions by incorporating specific reporting categories to align with the eTRM.

Concurrently, we have undertaken a comprehensive overhaul of the program's visual identity, introducing a fresh and user-friendly application format for the first time in over a decade. These changes emphasize our dedication not only to staying abreast of industry standards but also to ensuring a more robust and accessible energy efficiency experience for our valued customers.

Commercial, Industrial & Agricultural Programs

In the domain of commercial, industrial, and agricultural programs, the Customized/Industrial Retrofit Program allows qualifying customers to seek financial incentives for more specialized and comprehensive energy-saving measures that fall outside the scope of the Commercial Lighting Program. Each application for this program is evaluated and approved on an individual basis. Financial incentives for qualifying customer projects are disbursed based on annual kilowatt-hour savings within a one-year period or demand savings on completed and approved

projects—whichever is greater, be it kWh reduced, or kW reduced if a demand component applies.

Residential Programs

Within the residential programs, in addition to the substantial increase in the number of rebates, we have offered various measures aligned with the eTRM for our residential customers. Furthermore, we are planning the inclusion of additional incentives specifically tailored for our low-income customers and tailoring specific rebates for electrification.

Complementary Programs

Complementing these initiatives, Merced Irrigation District's Residential Energy Assistance Program (CARE) has been providing discounts on energy bills for income-qualifying low-income families since the year 2000. The Medical Baseline Program, an integral part of this assistance framework, offers additional 500 kilowatt-hours to a customer's base energy quantity on their monthly bill, if they have a qualifying medical condition. These programs stand as pillars of our commitment to the well-being and energy affordability of our diverse customer base.

To improve accessibility, we have redesigned program materials, expanded language options, and partnered with community-based organizations to bring applications directly to places like local doctor’s offices. These efforts have played a significant role in increasing participation, helping more eligible customers connect with available assistance and reinforcing our commitment to energy affordability.

Evaluation, Measurement & Verification Studies

Merced Irrigation District partnered with Modesto and Turlock into one evaluation effort for EM&V that was conducted by Anchor Blue. The three Irrigation Districts of Modesto, Turlock, and Merced (MTM) are all located in California’s Central Valley near one another.

TABLE MeID-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	61	754,399	11,316,438	37	421,874	6,328,113	2,277	$323,740	2.28	2.82	0.068
Appliance & Plug Loads	2	15,912	181,171	1	8,435	92,254	34	$13,701	0.82	1.34	0.184
HVAC - Cooling	1	1,909	45,824	0	1,312	34,558	13	$3,418	2.20	2.67	0.169
HVAC - Heat Pump	0	76	1,137	0	47	705	0	$353	0.49	1.02	0.670
Lighting - Outdoor	0	11,398	170,970	0	6,269	94,034	43	$4,600	2.41	2.79	0.065
Energy Efficiency	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071
EE, Low Income and Electrification	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071
C&S and T&D								$0			
Utility Total	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071

TABLE MeID-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	57	678,857	10,182,831	35	380,374	5,705,594	2,065	$296,489	2.26	2.82	0.069
Commercial	0	11,398	170,970	0	6,269	94,034	43	$4,600	2.41	2.79	0.065
Industrial	4	75,473	1,132,095	2	41,510	622,652	212	$26,961	2.49	2.84	0.058
Residential	2	17,965	229,644	1	9,785	127,384	47	$17,763	1.07	1.67	0.187
Energy Efficiency	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071
EE, Low Income and Electrification	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071
C&S and T&D								$0			
Utility Total	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071

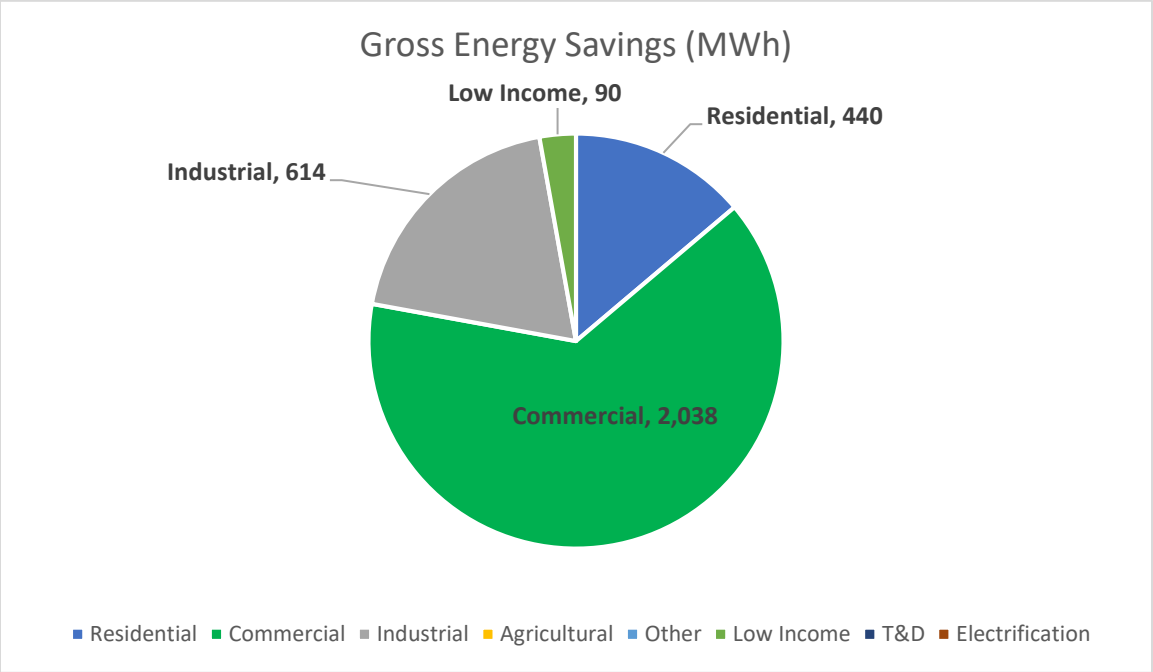
TABLE MeID-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	59	751,919	11,278,179	37	422,458	6,332,287	2,296	$324,604	2.26	2.82	0.069
Multiple	0	2,798	38,279	0	1,195	16,401	10	$2,860	1.41	1.87	0.228
Residential - Single-Family	2	10,260	118,341	1	3,990	46,569	14	$9,580	0.46	0.78	0.259
Retail - Large	2	18,716	280,740	1	10,294	154,407	48	$8,768	2.66	2.93	0.076
Energy Efficiency	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071
EE, Low Income and Electrification	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071
C&S and T&D								$0			
Utility Total	63	783,693	11,715,540	39	437,937	6,549,664	2,367	$345,813	2.22	2.77	0.071

MODESTO IRRIGATION DISTRICT

Modesto Irrigation District at a Glance

- Climate Zone: 12
- Customers: 133,517
- Total annual retail sales: 2,669,292 MWh
- Annual Retail Revenue: $464,879,622
- Annual energy efficiency expenditures for reporting year: $1,428,309
- Gross annual savings from reporting year portfolio: 3,183 MWh



Modesto Irrigation District Overview

The Modesto Irrigation District (MID) was formed in 1887 to provide irrigation water within a service area of over 100,000 acres. MID began providing electric service in 1923 within an original service area of 160 square miles, which was expanded by 7.5 square miles in 2001. Since 1996, MID has also provided non-exclusive electric service in an adjacent 400 square mile area. In 1994, MID began providing treated domestic water to the City of Modesto on a wholesale basis.

MID's 2024 annual retail electric sales by customer class are: 37.6% residential, 26.7% commercial, 30.3% industrial, 4.4% agricultural and pumping, 0.4% other. Load growth in 2024 was 2.7% (based on Total System Input GWH).

MID has robust energy efficiency program offerings, but savings can fluctuate year to year independent of changes to the programs or to the economic outlook. A key contributor is multi-year construction cycles for energy efficiency projects of large industrial customers. Typically, when lower energy savings are reported in the current year, we anticipate a surge in the following year as projects complete.

Major Program and Portfolio Changes

MID did not have any changes for 2024.

Program and Portfolio Highlights

MID continued to promote low to moderate income energy efficiency programs by providing staff presentations on energy efficiency to non-profit agencies and low-income advocacy groups in our area in 2024. Social media promotions have improved customer awareness of MID programs.

Commercial, Industrial & Agricultural Programs

Programs offered are Business, Business Custom and Business New Construction. See MID website (www.mid.org) for program details.

Residential Programs

MID offers a variety of residential rebates. See MID website (www.mid.org) for program details.

Complementary Programs

- Energy Audits – MID energy specialists provide free virtual and on-site energy audits that include usage analysis, identification, and recommendation of energy conservation measures to reduce load and improve energy efficiency.
- CARES Program – Income qualifying households will receive a 60 percent reduction on their fixed monthly charge and a 23.1 percent discount on the first 850 kilowatt-hours each billing cycle. The MID CARES discount is also applicable to group residences where low-income persons are accommodated without a rental charge by a non-profit agency.
- Medical Life Support Rate – Customers who need electricity for life-sustaining devices or who have a condition that requires special heating or air conditioning may qualify for 50 percent off the first 500 kilowatt-hours used during each residential billing cycle.
- Weatherization – Our Weatherization program provides energy efficient measures to income qualified households to help reduce their energy consumption. Energy savings from the weatherization program are included in the results for the SB1037 report. However, MID continues to facilitate new partnerships with other organizations and agencies to increase its outreach and provide additional weatherization services to low-income customers.

- Good Neighbor Program – Each month, many MID customers seek emergency assistance to help pay their electric bills. With MID's Good Neighbor Program, customers can donate money to a designated fund for MID customers that seek assistance. MID works with the Salvation Army to ensure that 100% of the donations go only to those MID customers who are experiencing hardships.

Evaluation, Measurement & Verification Studies

MID continued its ongoing efforts to obtain independent, third-party review of its EE programs, which is employed as part of the review and approval process for selected projects as well as after the fact for the overall portfolio.

Anchor Blue Consulting conducted M&V on the 2023 EE portfolio. Review of the 2024 portfolio will be done in 2025.

MID's 2024 budget for EM&V work was $65,845 and completed studies can be found at: https://www.cmua.org/emv-reports.

TABLE MID-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	70	352,212	5,281,754	35	176,106	2,640,877	890	$129,455	3.01	1.30	0.066
Appliance & Plug Loads	1	87,868	884,313	1	54,198	546,874	163	$35,816	1.82	0.95	0.080
Building Envelope	61	47,774	851,701	37	27,014	487,353	221	$65,066	2.56	0.92	0.195
Commercial Refrigeration	116	221,711	1,550,711	58	110,856	775,356	280	$90,676	1.48	0.96	0.135
HVAC - Cooling	60	305,682	3,864,892	36	175,395	2,247,775	907	$193,204	2.09	1.31	0.112
HVAC - Heat Pump	5	10,925	163,534	3	5,462	81,767	29	$4,895	2.93	1.99	0.080
Lighting - Indoor	122	1,850,269	27,746,083	67	1,017,648	15,260,346	5,132	$641,206	3.19	1.73	0.057
Lighting - Outdoor	4	212,059	3,179,763	2	116,632	1,748,870	622	$73,107	3.17	1.61	0.056
Service & Domestic Hot Water	1	4,665	46,652	1	4,665	46,652	16	$3,096	2.13	1.40	0.081
Energy Efficiency	440	3,093,165	43,569,402	240	1,687,977	23,835,868	8,260	$1,236,520	2.80	1.48	0.069
Appliance & Plug Loads	2	18,240	273,365	2	18,240	273,365	96	$56,362	0.71	0.76	0.277
Building Envelope	4	3,054	29,901	4	3,054	29,901	14	$27,246	0.35	0.66	1.110
HVAC - Cooling	2	13,292	67,395	2	13,292	67,395	33	$23,090	0.64	0.63	0.383
Lighting - Indoor	5	52,119	820,471	5	52,119	820,471	301	$76,632	1.66	1.67	0.128
Miscellaneous	0	585	3,928	0	585	3,928	1	$6,671	0.07	0.04	2.013
Service & Domestic Hot Water	1	2,770	27,679	1	2,770	27,679	10	$1,787	2.26	2.16	0.079
Low-Income	14	90,061	1,222,739	14	90,061	1,222,739	456	$191,789	1.02	1.08	0.210
EE, Low Income and Electrification	454	3,183,226	44,792,141	253	1,778,038	25,058,607	8,716	$1,428,309	2.56	1.45	0.076
C&S and T&D								$0			
Utility Total	454	3,183,226	44,792,141	253	1,778,038	25,058,607	8,716	$1,428,309	2.56	1.45	0.076

TABLE MID-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	163	2,038,378	30,545,092	86	1,102,676	16,524,509	5,564	$709,293	3.15	1.55	0.058
Industrial	155	614,304	7,437,290	79	326,782	4,012,974	1,395	$230,739	2.53	1.76	0.075
Residential	123	440,482	5,587,020	75	258,520	3,298,385	1,301	$296,487	2.17	1.14	0.118
Energy Efficiency	440	3,093,165	43,569,402	240	1,687,977	23,835,868	8,260	$1,236,520	2.80	1.48	0.069
Residential	14	90,061	1,222,739	14	90,061	1,222,739	456	$191,789	1.02	1.08	0.210
Low-Income	14	90,061	1,222,739	14	90,061	1,222,739	456	$191,789	1.02	1.08	0.210
EE, Low Income and Electrification	454	3,183,226	44,792,141	253	1,778,038	25,058,607	8,716	$1,428,309	2.56	1.45	0.076
C&S and T&D								$0			
Utility Total	454	3,183,226	44,792,141	253	1,778,038	25,058,607	8,716	$1,428,309	2.56	1.45	0.076

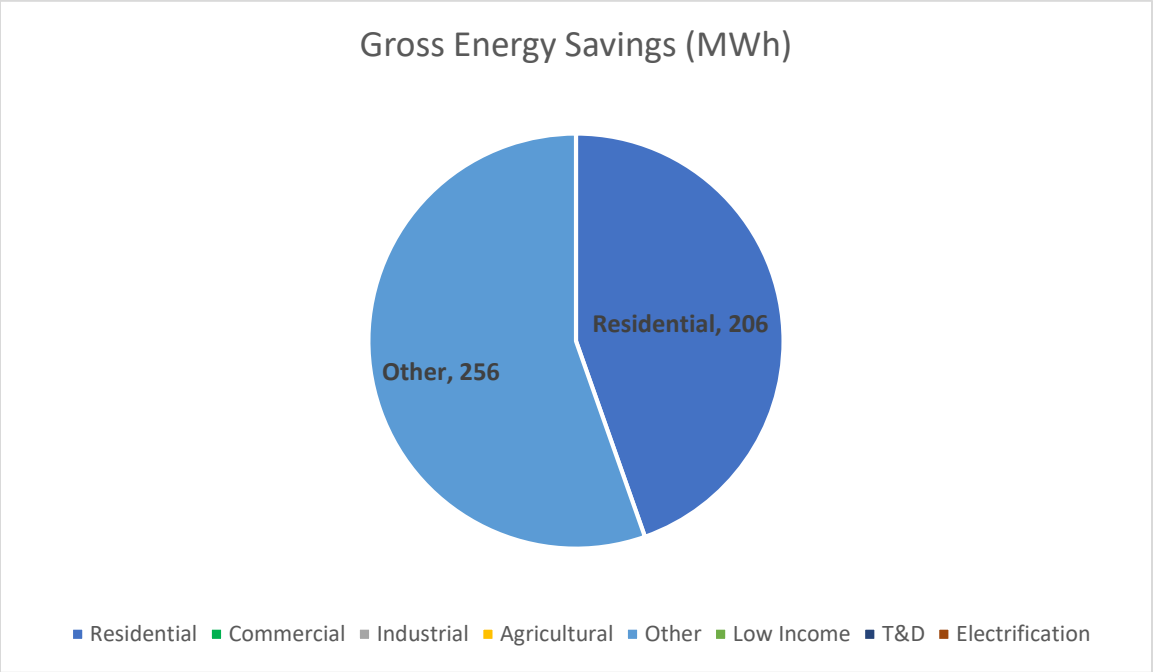
TABLE MID-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	242	2,289,545	32,537,094	127	1,247,889	17,814,839	6,041	$805,683	3.00	1.64	0.060
Manufacturing Light Industrial	70	352,212	5,281,754	35	176,106	2,640,877	890	$129,455	3.01	1.30	0.066
Multiple	5	127,347	1,222,379	3	67,166	642,955	151	$23,227	1.73	1.39	0.044
Residential	61	189,721	2,811,583	37	115,997	1,712,249	798	$180,736	2.14	1.23	0.142
Residential - Mobile Home	0	251	5,001	0	251	5,001	2	$511	2.89	4.13	0.151
Residential - Multi-Family	0	134	4,027	0	134	4,027	1	$415	2.50	0.46	0.184
Residential - Single-Family	61	133,954	1,707,563	37	80,434	1,015,920	378	$96,494	2.35	1.02	0.126
Energy Efficiency	440	3,093,165	43,569,402	240	1,687,977	23,835,868	8,260	$1,236,520	2.80	1.48	0.069
Multiple	0	105	1,052	0	105	1,052	0	$423	0.31	0.41	0.505
Residential	13	86,618	1,190,698	13	86,618	1,190,698	444	$188,941	1.01	1.07	0.213
Residential - Mobile Home	0	7	149	0	7	149	0	$223	0.19	0.90	2.208
Residential - Multi-Family	0	1,230	12,291	0	1,230	12,291	4	$782	2.29	2.20	0.078
Residential - Single-Family	0	2,100	18,549	0	2,100	18,549	7	$1,420	1.85	1.88	0.092
Low-Income	14	90,061	1,222,739	14	90,061	1,222,739	456	$191,789	1.02	1.08	0.210
EE, Low Income and Electrification	454	3,183,226	44,792,141	253	1,778,038	25,058,607	8,716	$1,428,309	2.56	1.45	0.076
C&S and T&D								$0			
Utility Total	454	3,183,226	44,792,141	253	1,778,038	25,058,607	8,716	$1,428,309	2.56	1.45	0.076

MORENO VALLEY UTILITY

Moreno Valley Utility at a Glance

- Climate Zone: 10
- Customers: 8,943
- Total annual retail sales: 225,498 MWh
- Annual Retail Revenue: $68,709,106
- Annual energy efficiency expenditures for reporting year: $841,735
- Gross annual savings from reporting year portfolio: 463 MWh



Moreno Valley Utility Overview

Moreno Valley Utility (MVU), municipally owned, was founded in 2001 and has been providing services to customers since 2004. MVU has experienced notable load growth, reaching a peak of just over 225,000 MWs. MVU saw a decline in EE projects during the pandemic years from its largest customers, but is now showing a promising increase. Our energy savings goals are primarily driven by the energy audit and direct install programs from our residential customers, which have enabled us to pursue energy efficiency measures across our service territory.

Major Program and Portfolio Changes

MVU has increased its EE programs annual funding and overall customer participation for the residential energy audits and direct install program to ensure that all statutory requirements are met. The whole house fan and the smart programmable thermostat has increased participation greatly.

Program and Portfolio Highlights

MVU's residential direct installation program has demonstrated to be successful in achieving our energy savings goals during this review period. With increased funding, we have expanded our offerings of energy-efficient items. There has been a lot interest in lighting retrofits and solar projects from our commercial customers.

Commercial, Industrial & Agricultural Programs

- Lighting Retrofits – rebates are available to commercial customers for LED lighting retrofits, other energy efficient lighting replacements, and for LED or photo-luminescent exit signs.
- Commercial EE Program – this Direct Install program provides small to medium-sized customers with an onsite energy audit and energy saving measures at no cost to the customer.
- Commercial HVAC Retrofits – customers that install new high SEER HVAC units or replace older inefficient units can participate in this rebate program. The installation of new chillers that exceed Title 24 requirements or load-shifting Thermal Energy Storage (TES) systems may also qualify for rebates.
- Motor Replacements – commercial customers that install premium efficiency motors are eligible for rebates under this program. Motors covered under this program must be new, three1phase induction motors (1hp to 200hp in size) and operate for at least 2,000 hours per year.
- New Construction and Major Tenant Renovation – this program offers incentives for projects exceeding Title 24 by at least ten percent. Eligible customers are responsible for providing documentation of energy savings using energy modeling software and all calculations must be signed by a licensed mechanical engineer.
- Outreach Programs – the utility works closely with the City's Economic Development department to provide the largest commercial customers with detailed energy usage information to help efficiently manage their energy consumption and evaluate potential EE projects.

Residential Programs

- Residential Energy Audit & Direct Install – this program targets very high energy use customers and participants in our Low-Income Program. The program provides eligible residential customers with a full in-home energy audit and specific recommendations

for their home plus a fixed set of EE upgrades, including the Nest thermostat, at no cost to the customer.

- EnergyStar® Appliance Rebates – customers who purchase EnergyStar® Qualified appliances can apply for a fixed rebate amount under this program.
- Weatherization – rebates are available for energy efficient windows, doors, attic insulation, and high SEER AC and heat pumps.
- Building Electrification - MVU offers rebates for electric heat pump water heaters for those customers who want to remove their natural gas appliances.

Complementary Programs

- Low-Income Programs: MVU's Energy Bill Assistance Program provides income qualified residents with a 23% or 35% discount on monthly energy charges; this year's expenditure was approximately $245K.
- Research Design & Development (RD&D): Small scale projects have been initiated by our interns in hopes of promoting efficient renewable energy. The Solar Canopy Project construction began in 2024 in the hopes of educating customers on the MVU's renewable energy. This project includes a modified canopy that utilizes solar panels and batteries to create and store energy from the sun, then power three daily loads found in most households. Items, like fans, refrigerators, and lights.
- Electric Vehicles (EVs): MVU launched two new programs aimed at the encouragement of adopting EVs and related infrastructure in the community. Both programs offer rebates for commercial and residential participation. The residential EV program offers a monthly bill credit. These incentives help reduce the upfront costs of purchasing and installation, thus making it more accessible to adopt an eco-friendlier lifestyle.
- Energy Storage: MVU has seen a significant increase in battery storage devices with residential solar installations. As the electric rate for new solar installation is on Time-of-Use (TOU) rate, we expected that battery storage installation will increase.

Evaluation, Measurement & Verification Studies

Engineering analysis programs such as Department of Energy -2 (DOE-2) are the basis for calculated energy savings and incentive calculations. MVU requires both pre-inspections and post inspections for all projects that result in a commercial rebate of over $5,000.

Sources of Energy Savings -MVU relied primarily on the values from the POU TRM and eTRM, but also used reported energy savings from trusted engineering contractors to calculate program performance.

Commercial Codes & Standards – this reporting year MVU will not record its share of the energy savings that are attributable to the State's Building Codes and Appliance Standards (Title-24) to the Energy Commission.

TABLE MVU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	2	16,467	247,720	2	15,651	235,477	85	$30,609	0.86	0.86	0.174
Appliance & Plug Loads	1	3,614	44,238	0	2,084	26,161	9	$1,747	1.93	1.78	0.085
HVAC - Cooling	84	389,042	3,298,005	50	233,480	1,949,734	774	$795,381	0.59	0.59	0.483
Lighting - Indoor	7	53,750	762,500	7	53,750	762,500	278	$13,998	6.13	6.13	0.024
Energy Efficiency	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348
EE, Low Income and Electrification	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348
C&S and T&D								$0			
Utility Total	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348

TABLE MVU-2. Energy Efficiency Program Results by Sector

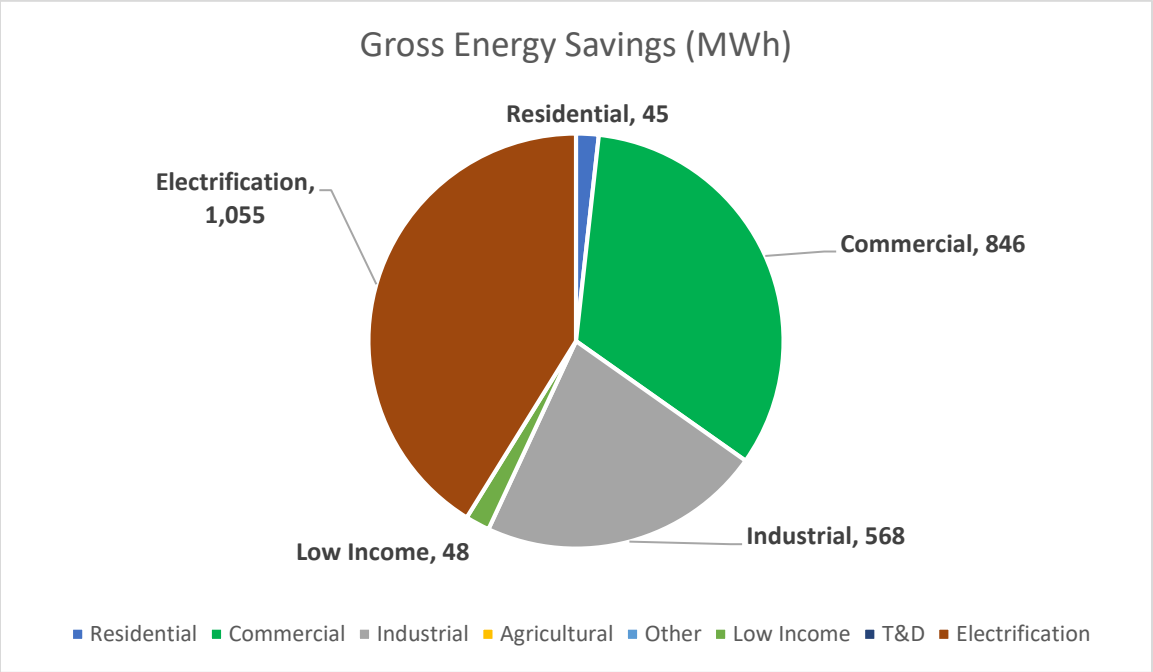
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	54	256,390	2,646,950	31	147,608	1,555,054	603	$669,365	0.49	0.49	0.528
Residential	40	206,482	1,705,513	30	157,357	1,418,819	543	$172,371	1.47	1.47	0.149
Energy Efficiency	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348
EE, Low Income and Electrification	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348
C&S and T&D								$0			
Utility Total	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348

TABLE MVU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	232	2,320	0	139	1,392	1	$147	1.26	2.12	0.128
Residential	87	429,532	4,011,864	55	278,654	2,705,723	1,040	$807,075	0.63	0.63	0.367
Residential - Single-Family	7	33,108	338,279	5	26,172	266,757	106	$34,513	2.11	2.12	0.157
Energy Efficiency	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348
EE, Low Income and Electrification	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348
C&S and T&D								$0			
Utility Total	94	462,872	4,352,463	60	304,966	2,973,872	1,146	$841,735	0.69	0.69	0.348

City of Palo Alto Utilities at a Glance

- Climate Zone: 4
- Customers: 30,063
- Total annual retail sales: 865,782 MWh
- Annual Retail Revenue: $175,155,897
- Annual energy efficiency expenditures for reporting year: $1,559,361
- Gross annual savings from reporting year portfolio: 2,563 MWh



Palo Alto Overview

The City of Palo Alto Utilities (CPAU) has implemented a variety of EE programs since the 1970s. In 1998, in response to California's landmark energy legislation (AB 1890), CPAU established the Electric Public Benefits (PB) Program and increased the Electric PB program budget to 2.85 percent of projected annual revenue to fund EE programs. CPAU's electric efficiency program budget can be supplemented with supply funds to meet state requirements that publicly owned electric utilities, in procuring energy, first acquire all available EE and demand reduction resources that are cost effective, reliable and feasible.

CPAU is committed to supporting environmental sustainability through promoting efficiency programs, promoting distributed renewable generation, and influencing consumer demand

through incentives and education. In March 2013, Palo Alto City Council approved a Carbon Neutral Electric Resource Plan, committing CPAU to a carbon-neutral electric portfolio beginning in 2013. Since July 2017, CPAU has also maintained a carbon neutral natural gas portfolio by purchasing carbon offsets; this serves as a bridge strategy to meeting the City's greenhouse gas reduction goal. Palo Alto is committed to reducing fossil fuel use and helping residents and businesses pursue electrification opportunities in the building and transportation sectors.

In May 2021, Palo Alto City Council approved a set of annual electric energy efficiency (EE) goals for 2022-2031. The EE goal for FY 2024 is set at 0.55% of forecast electric load, increasing to 0.8% in FY 2031. The gradual ramp-up of these goals reflect staff's anticipation that EE savings levels will take time to recover following the economic downturn. These EE goals are based on the results of an EE potential model that considers planned program offerings, expenditures, market saturation of energy efficient technologies, load forecast, and a planned conservation voltage reduction program following the city-wide deployment of Advanced Metering Infrastructure (AMI). To meet the state's legislative requirements, new annual electric EE goals for 2026-2035 will be adopted in 2025.

For FY 2024, CPAU fell short of its electricity savings targets, achieving 0.16% versus its goal of 0.55%. Various factors contributed to below-target achievements. CPAU relies heavily on commercial efficiency projects for the majority of the electric efficiency savings achieved in Palo Alto each year. The rate and size of large commercial EE project completion increased from FY 2023 but was still low compared to pre-pandemic highs. The next couple years will be key in determining whether the FY 2024 increase is indicative of a trend or if electric efficiency savings are likely to continue falling short of annual targets. Additionally, as CPAU continues to focus on developing and promoting electrification programs, this report now reflects the positive impact these efficient electrification measures have on energy use. The FY 2024 report is the second year that CPAU has included efficiency savings from electrification projects by converting avoided therms to kWh equivalent and subtracting the new kWh usage of the electric appliance.

Major Program and Portfolio Changes

In FY 2024, CPAU continued efforts on building-electrification activities and supporting installation of EV charging equipment while ramping up the Advanced Heat Pump Water Heater Pilot Program to make it easy and affordable for residential customers to electrify their water heating equipment. The Business Energy Advisor (BEA) program launched near the end of FY 2022, but FY 2024 was the first year with completed projects with energy efficiency savings to report. The Home Efficiency Genie program is still ongoing but did not have any efficiency savings to report in FY 2024. The PV Partners Program has also been removed from this report as the last rooftop solar rebates from the program were paid out in 2023.

Program and Portfolio Highlights

The highlight of CPAU's FY 2024 portfolio is the Advanced Heat Pump Water Heater Pilot Program that launched in early 2023. The program ramped up dramatically in FY 2024, installing over 300 water heaters and saving an equivalent of over 1,000 MWh. The Commercial and Industrial EE Program also had an impressive jump in reported savings compared to FY 2023, from 179 MWh to over 1,200 MWh.

Commercial, Industrial & Agricultural Programs

- Business Customer Rebates (BCR): Incentives are offered to commercial customers for investments in efficiency, lighting, motors, HVAC and custom projects that target gas, peak demand and energy reductions. In FY 2024, the BCR program resulted in annual electric savings of 44,779 kWh.
- Commercial and Industrial EE Program (CIEEP): This program provides Key Account customers with access to an engineering consulting firm to evaluate and implement EE projects. In FY 2024, the CIEEP program delivered annual electric savings of 1,217,641 kWh.
- Business Energy Advisor (BEA) program: This program dispatches trained energy professionals to evaluate energy equipment such as lighting, heating, ventilation, and AC (HVAC) systems, hot water systems, refrigeration and more at small to medium business customers. Their customized assessments pinpoint exactly where businesses can benefit from efficiency by identifying cost-effective upgrades to electric, gas and water use equipment . Energy Advisors review assessment reports with customers and explain where they can reduce energy or water use. In FY 2024, the BEA program resulted in annual electric savings of 74,579 kWh.

Residential Programs

- MultiFamily Plus: This program provides no-cost, direct installation of EE measures to multifamily residences with four or more units including hospices, care centers, and rehab facilities. These properties are typically very difficult to engage in and unlikely to implement EE measures on their own. In FY 2024, the MultiFamily Plus program vendor was undergoing staff turnover in addition to the general difficulty engaging the multifamily sector, leading to the program delivering low annual electric savings of 48 kWh.
- Home Efficiency Genie: The Home Efficiency Genie was launched in June 2015 to provide residents with professional advice and information to improve their home's efficiency and comfort, lower their energy and water usage, and more recently, offer guidance on home electrification options. In addition to in-home efficiency assessments of energy equipment and the building envelope (attic, windows, walls), the program also offers a Home Electrification Readiness Assessment (HERA) to plan for electrification upgrades; both the efficiency assessment and HERA are offered in a

virtual option. The Home Efficiency Genie program did not yield any reportable electric efficiency savings in FY 2024.

- Residential Energy Assistance Program (REAP): This program provides weatherization and equipment replacement services to low-income residents and those with certain medical conditions, at no cost to the residents. This program has an equal focus on efficiency and comfort. As a program serving income and medically qualified residents, it is not meant to be cost-effective, and neither costs nor savings are included in CPAU's calculation of EE portfolio cost effectiveness. In FY 2024, REAP resulted in annual electric savings of 23,252 kWh.
- Advanced Heat Pump Water Heater (HPWH) Pilot Program: This program offers an end-to-end advisory and installation service to homeowners to replace their gas water heater with an efficient electric heat pump water heater; this includes a prescreened contractor, zero-interest financing, attractive pricing with CPAU subsidies, and more. In addition to the full-service option, customers can also choose their own contractor for their project and apply for a rebate after the HPWH is installed. In FY 2024, the HPWH program installed 316 new water heaters and produced annual energy savings equivalent to 1,033,415 kWh.

Complementary Programs

- C&S: Green Building Ordinance: Since 2008, as part of the Green Building Ordinance the City of Palo Alto has enforced energy reach codes that are more stringent than the state's Title 24 building energy standards. The energy reach code requirements apply to both new residential and commercial buildings. In FY 2024, 24,052 kWh of savings were attributable to the city's Green Building Ordinance.
- Community Resource Education Programs: CPAU offers free EE advice and energy education programs to the community. Activities include residential energy workshops on topics such as the SunShares solar group-buy program and tabling at neighborhood association events, local fairs and various special events throughout the city.
- Low-Income Program: Rate Assistance Program (RAP): CPAU offers a 25% discount on gas and/or electricity charges for residents with qualifying financial or medical needs. All households receiving Supplemental Security Income, Temporary Assistance to Needy Families or Food Stamps automatically qualify for this rate discount which began in FY 1993.
- Public School Program: CPAU provides an annual grant of up to $50,000 to the Palo Alto Unified School District (17 schools with 12,000 students total) to support teacher training programs and the development of curriculums and education projects promoting renewable energy and energy and water efficiency. CPAU participates in quarterly sustainable schools committee meetings and gives educational presentations to classes on EE, renewable energy, and safety.

- SunShares Solar Discount Program: Palo Alto has participated in this regional solar group-buy program since 2015. This program is administered by a non-profit agency and offer discounted prices for residential solar PV and battery storage systems from a few pre-qualified contractors.

Evaluation, Measurement & Verification Studies

In FY 2024, CPAU did not undertake evaluation, measurement, and verification by any third parties for any of its programs.

Major Differences or Diversions from CA POU TRM for Energy Savings

The energy savings data used for most of CPAU's programs were taken from the 2017 CMUA POU TRM or the eTRM. All savings data claimed by CPAU was vetted by staff and relies on conservative assumptions.

TABLE CPAU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	355	3,550	0	302	3,017	1	$531	0.53	0.09	0.211
BROs	10	172,387	861,934	8	146,529	732,644	189	$202,476	0.20	0.49	0.300
Building Envelope	0	2,466	49,330	0	2,097	41,930	8	$4,761	0.19	0.19	0.164
Codes & Standards	3	43,667	873,346	3	37,117	742,344	205	$2,674	15.58	15.58	0.005
HVAC - Cooling	70	395,400	7,908,000	60	336,090	6,721,800	1,919	$224,769	2.43	0.48	0.048
HVAC - Heat Pump	3	26,418	528,360	3	22,455	449,106	148	$57,147	0.61	0.21	0.184
Lighting - Indoor	97	818,629	8,186,290	82	695,835	6,958,347	2,273	$208,502	3.08	1.55	0.036
Miscellaneous	0	0	0	0	0	0	0	$1,100			0.000
Energy Efficiency	183	1,459,323	18,410,810	156	1,240,424	15,649,188	4,744	$701,960	1.86	0.73	0.058
HVAC - Heat Pump	4	21,993	439,862	3	18,694	373,883	109	$37,118	0.76	0.16	0.143
Service & Domestic Hot Water	72	1,033,415	12,400,978	61	878,403	10,540,831	3,742	$713,823	1.39	0.51	0.084
Electrification	76	1,055,408	12,840,840	65	897,097	10,914,714	3,851	$750,941	1.36	0.48	0.086
Appliance & Plug Loads	1	7,208	72,082	1	6,127	61,270	17	$13,895	0.41	0.41	0.272
Building Envelope	0	20,057	401,132	0	17,048	340,962	70	$28,767	0.28	0.28	0.122
HVAC - Heating	0	20	400	0	17	340	0	$285	0.11	0.11	1.212
Lighting - Indoor	2	15,039	150,390	2	12,783	127,831	45	$36,151	0.34	0.34	0.339
Miscellaneous	0	157	1,566	0	133	1,331	0	$19,230	0.00	0.00	17.299
Water Pumping / Irrigation	0	6,014	80,688	0	5,112	68,585	14	$8,131	0.20	0.20	0.154
Low-Income	4	48,494	706,258	3	41,220	600,319	147	$106,460	0.26	0.26	0.237
EE, Low Income and Electrification	263	2,563,225	31,957,908	223	2,178,741	27,164,222	8,741	$1,559,361	1.51	0.59	0.074
C&S and T&D								$0			
Utility Total	263	2,563,225	31,957,908	223	2,178,741	27,164,222	8,741	$1,559,361	1.51	0.59	0.074

TABLE CPAU-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	100	846,372	8,737,608	85	719,417	7,426,967	2,428	$266,379	2.55	1.17	0.043
Industrial	80	567,787	8,769,934	68	482,619	7,454,444	2,108	$427,245	1.37	0.48	0.080
Residential	3	45,163	903,267	3	38,389	767,777	208	$8,335	4.94	4.94	0.016
Energy Efficiency	183	1,459,323	18,410,810	156	1,240,424	15,649,188	4,744	$701,960	1.86	0.73	0.058
Commercial	4	21,993	439,862	3	18,694	373,883	109	$37,118	0.76	0.16	0.143
Residential	72	1,033,415	12,400,978	61	878,403	10,540,831	3,742	$713,823	1.39	0.51	0.084
Electrification	76	1,055,408	12,840,840	65	897,097	10,914,714	3,851	$750,941	1.36	0.48	0.086
Residential	4	48,494	706,258	3	41,220	600,319	147	$106,460	0.26	0.26	0.237
Low-Income	4	48,494	706,258	3	41,220	600,319	147	$106,460	0.26	0.26	0.237
EE, Low Income and Electrification	263	2,563,225	31,957,908	223	2,178,741	27,164,222	8,741	$1,559,361	1.51	0.59	0.074
C&S and T&D								$0			
Utility Total	263	2,563,225	31,957,908	223	2,178,741	27,164,222	8,741	$1,559,361	1.51	0.59	0.074

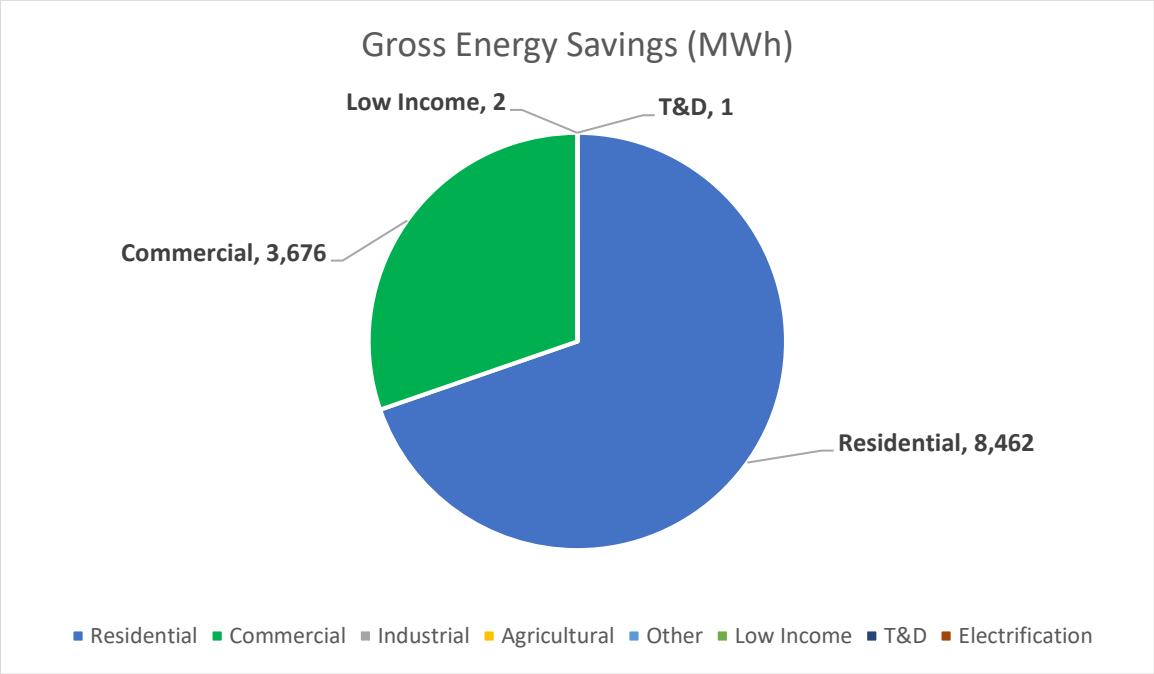
TABLE CPAU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Assembly	7	52,225	522,250	6	44,391	443,913	143	$38,165	1.07	0.74	0.103
Education - University	10	172,387	861,934	8	146,529	732,644	189	$202,476	0.20	0.49	0.300
Health/Medical - Hospital	158	1,143,437	15,388,370	134	971,921	13,080,115	4,000	$382,111	2.96	0.77	0.038
Lodging - Hotel	3	26,418	528,360	3	22,455	449,106	148	$57,147	0.61	0.21	0.184
Office - Small	2	18,722	187,220	2	15,914	159,137	50	$13,526	1.08	1.01	0.102
Other Commercial	0	970	19,408	0	825	16,497	5	$199	6.95	6.95	0.017
Residential	3	42,697	853,937	3	36,292	725,847	200	$2,474	16.28	16.28	0.005
Residential - Multi-Family	0	2,466	49,330	0	2,097	41,930	8	$5,861	0.16	0.16	0.202
Energy Efficiency	183	1,459,323	18,410,810	156	1,240,424	15,649,188	4,744	$701,960	1.86	0.73	0.058
Office - Small	4	21,993	439,862	3	18,694	373,883	109	$37,118	0.76	0.16	0.143
Residential - Single-Family	72	1,033,415	12,400,978	61	878,403	10,540,831	3,742	$713,823	1.39	0.51	0.084
Electrification	76	1,055,408	12,840,840	65	897,097	10,914,714	3,851	$750,941	1.36	0.48	0.086
Residential - Single-Family	4	48,494	706,258	3	41,220	600,319	147	$106,460	0.26	0.26	0.237
Low-Income	4	48,494	706,258	3	41,220	600,319	147	$106,460	0.26	0.26	0.237
EE, Low Income and Electrification	263	2,563,225	31,957,908	223	2,178,741	27,164,222	8,741	$1,559,361	1.51	0.59	0.074
C&S and T&D								$0			
Utility Total	263	2,563,225	31,957,908	223	2,178,741	27,164,222	8,741	$1,559,361	1.51	0.59	0.074

PASADENA WATER & POWER

Pasadena Water & Power at a Glance

- Climate Zone: 9
- Customers: 67,343
- Total annual retail sales: 1,007,444 MWh
- Annual Retail Revenue: $311,988,000
- Annual energy efficiency expenditures for reporting year: $2,682,512
- Gross annual savings from reporting year portfolio: 12,140 MWh



Pasadena Water & Power Overview

The City of Pasadena, located in climate zone (CZ) 9, is home to the iconic Rose Bowl, world-class institutions like the California Institute of Technology and a variety of small businesses, many of which of are restaurants. At the same time, Pasadena has a vibrant residential community, with a diverse mix of single-family homes that ranges from craftsman homes to bungalows and two-story tract homes. In the recent years, there has been an increase in new multifamily properties; a sector that will continue to see growth with infill and higher-density development.

Pasadena Water and Power's (PWP) energy efficiency portfolio has been designed to align with the utility's goals of providing sustainable, affordable and reliable service to all of its residential and commercial customers. At the same time, PWP is also trying to overcome industry wide challenges like negative load growth while consistently meeting aggressive energy efficiency and demand reduction goals set forth by its City Council since 2007.

The energy efficiency and demand reduction goals starting in FY22 called for 11,720 MWh of annual energy savings (about 1.2 % of retail sales/year). PWP's long standing energy efficiency programs, combined with new building codes and standards, independent efficiency improvements and customer investments in clean/local distributed generation have resulted in a steady decline in retail energy sales since FY2008, and are expected to maintain a consistently flat energy load projections in the near future.

In FY24, energy efficiency programs expenditures totaled $2.09 million, which is roughly 0.67% of retail revenue. PWP funds procurement of all energy efficiency programs through its Public Benefits Charge ("PBC") revenues, with current PBC revenue rate at $0.00685 per kWh.

As a whole, energy-efficiency programs and other related expenses represented approximately 64% of Pasadena's PBC expenditures in FY24. The transportation and building electrification incentives represented 15%, and income-qualified rate assistance accounted for 21%.

Major Program and Portfolio Changes

PWP has continued to develop and implement various conservation and sustainability programs for all of its customers, while meeting annual energy efficiency goals adopted by the City Council and supporting GHG emissions reduction goals outlined in the City's Climate Action Plan.

Program and Portfolio Highlights

Energy savings for FY24 are broken down into five separate categories. Commercial energy efficiency programs contributed 3,156 MWh, Residential energy efficiency programs contributed 8,038 MWh, Codes & Standards ("C&S") contributed 1,185 MWh, Water-Energy transfer (embedded energy savings from water conservation efforts) contributed 533 MWh and Transmission and Distribution ("T&D") upgrades contributed roughly 0.9 MWh. In total, PWP's energy efficiency programs produced 12,912 MWh of energy savings for FY24.

Commercial, Industrial & Agricultural Programs

PWP's commercial offerings fall into two distinct categories: rebates and direct-install programs.

1. The Customized Incentive and Business Rebate programs provides incentives to any commercial electric customer to help offset the upfront costs of efficiency upgrades and capital improvement projects that generates above code energy savings.

2. The no-cost Water and Energy direct install program (WeDIP) serves small businesses and includes a free evaluation to go with a customized report. Efficiency measures offered through the WeDIP include LED Lighting, refrigeration upgrades, aerators, efficient kitchen equipment and low-flow toilet replacements.

Residential Programs

PWP has seven residential offerings that fall into three distinct categories: rebates, direct-install, and behavioral programs.

1. The Home Energy Rebate program provides rebates on the purchase of Energy Star certified appliances, qualifying variable speed pool pumps, efficient air conditioning/heat pump equipment and various building shell improvements that include wall and ceiling insulation.

2. The ESAP is a partnership with the SoCalGas that provides no cost direct install services to income qualified customers. As part of the program, eligible residential customers will receive various efficiency upgrades to help improve the comfort of their home while lowering energy/water consumption. Measures include attic insulation, AC Tune-up, LED light bulbs, smart power strips, smart thermostats, smart irrigation controllers, low-flow toilets and much more.

3. The Home Improvement program provides no cost direct install services to all residential electric customers. As part of the program, eligible residential customers will receive various efficiency upgrades to help improve the comfort and efficiency of their home. Measures include attic insulation, duct sealing, AC Tune-up, smart thermostats, smart irrigation controllers and much more.

4. The Home Energy Report is a residential behavioral program that is mailed to approximately 40,000 customers on a quarterly basis, helping residents better understand their energy consumption and how it compares with similar households in the vicinity. The report also has customizable sections that help promote other PWP efficiency programs that may be of interest.

5. The Public Benefits fund also help share the cost of the utility's education programs for school-aged children. In particular, this involves educational field trips for students of the Pasadena Unified School District ("PUSD"), scholarship for high school seniors, the Living wise green curriculum, and the Solar Cup through the Metropolitan Water District. On average, the utility is able to reach about 5,000 students each year. In particular, the green curriculum is available to all 2nd grade PUSD students and emphasizes ways to incorporate sustainability as part of their daily lifestyles.

Complementary Programs

1. Income Qualified Rate Assistance Programs: PWP has offered electric rate assistance programs to eligible low-income customers for several decades. The Electric Utility Assistance Program ("EUAP") became effective in 2006 and provides monthly assistance to customers between the ages of 18-61 that meets the established income guidelines. The CARES and CARES Plus program provides additional assistance for low-income seniors (ages 62 and up), plus customers with a permanent disability that meets the established income guidelines. Project APPLE ("Assisting Pasadena People with Limited Emergencies") provides a one-time utility bill payment assistance program that provides eligible income qualified customers who are at risk of power shut off, up to $200 per year. Project APPLE is primarily funded by PBC revenues, plus donations from PWP customers as well. In addition, PWP also offers added services to eligible low-income customers which includes bonus rebates on qualifying efficiency products offered through the Home Energy Rebates program, no-cost direct installation of energy and water efficiency services, and much more.

2. PWP also offers a Green Power Program, where customers can opt to pay a premium on their electricity bill for clean, renewable power. This program is open to both residential and commercial customers.

3. Research, Development, and Demonstration ("RD&D"): While there were no RD&D projects in FY24, PWP continues to seek out a variety of new opportunities that aligns with current utility objectives.

4. Transportation Electrification: PWP continues to encourage the private sector to build additional charging sites for public and private fleet use through a robust incentive program offering rebates of up to $75,000 per commercial electric account. Commercial customers that install charging infrastructure are eligible to receive $3,000 per unit, which doubles to $6,000 if the chargers are in DAC locations. Incentives are also in place to encourage Pasadena residents to buy or lease an EV and EV charger to enable charging at home. In particular, PWP residential electric customers can receive up to $1,500 for a used EV and up to $600 for a new Wi-Fi enabled L2 EV charger.

Evaluation, Measurement & Verification Studies

PWP used EM&V efforts for various energy efficiency programs to justify program design, expenditures and verify results:

1. Residential Rebate Program: Utility staff requested and verified proof of install documentation on residential energy-efficient equipment purchases and installations that were selected for inspection.

2. Residential Direct Install Program: Program implementer performed quality assurance inspections on a percentage of sub-contract direct installations.

3. Commercial Rebate Programs: For custom projects, utility staff or third-party engineering consultants conducted inspections on all installations. For non-custom projects participating in the deemed rebate program, utility staff conduct a percentage of inspections after installations are complete.

Major Differences or Diversions from CA POU TRM for Energy Savings

PWP relies on the latest version of the CMUA POU TRM or California eTRM data, supplemented by best available technical information from independent engineering analysis or approved CA utility work papers when e-TRM measures are not available. For commercial programs, as discussed above, PWP may rely on independent engineering analysis conducted by PWP's third-party engineering consultant and/or an online rebate estimator with industry accepted models and simulations. Customized commercial efficiency offerings like the "CIP" provide commercial electric customers with the ability to participate with any proven technology that can produce above code energy savings, provided it meets the existing program requirements at the time.

TABLE PWP-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	39	162,650	1,301,200	39	162,650	1,301,200	486	$1,048,116	0.21	1.56	0.950
Appliance & Plug Loads	4	16,704	171,830	2	9,440	93,080	32	$17,034	0.89	0.91	0.230
BROs	1,881	7,782,020	7,782,020	1,881	7,782,020	7,782,020	3,176	$399,885	2.68	2.68	0.051
Building Envelope	291	324,603	6,484,821	82	91,278	1,823,153	675	$25,789	25.15	24.88	0.022
Commercial Refrigeration	4	38,221	382,210	4	38,221	382,210	136	$5,607	8.20	24.43	0.018
HVAC - Cooling	20	47,012	264,375	13	40,870	219,202	79	$243,297	0.21	3.51	1.256
HVAC - Heat Pump	114	697,239	10,458,588	114	696,800	10,451,996	3,234	$133,296	10.15	13.73	0.018
Lighting - Indoor	276	2,376,893	18,755,098	276	2,376,893	18,755,098	6,149	$697,672	3.21	24.25	0.044
Miscellaneous	85	692,326	2,364,949	85	692,326	2,364,949	863	$70,852	4.23	8.56	0.036
Whole Building	0	0	0	0	0	0	0	$22,000			0.000
Energy Efficiency	2,715	12,137,668	47,965,091	2,498	11,890,498	43,172,908	14,830	$2,663,548	2.23	7.00	0.074
Any	0	1,620	17,826	0	1,620	17,826	7	$3,490	0.86	2.30	0.247
Low-Income	0	1,620	17,826	0	1,620	17,826	7	$3,490	0.86	2.30	0.247
Appliance & Plug Loads	0	0	0	0	0	0	0	$6,680			0.000
Service & Domestic Hot Water	0	0	0	0	0	0	0	$5,000			0.000
Electrification	0	0	0	0	0	0	0	$11,680			0.000
EE, Low Income and Electrification	2,715	12,139,289	47,982,916	2,498	11,892,119	43,190,734	14,836	$2,678,718	2.22	6.90	0.074
Codes & Standards	147	1,185,822	1,185,822	147	1,185,822	1,185,822	445	$3,714	32.06	32.06	0.003
Codes & Standards	147	1,185,822	1,185,822	147	1,185,822	1,185,822	445	$3,714	32.06	32.06	0.003
Transmission & Distribution	0	919	25,732	0	919	25,732	9	$81	32.06	32.06	0.006
T&D	0	919	25,732	0	919	25,732	9	$81	32.06	32.06	0.006
C&S and T&D	147	1,186,741	1,211,554	147	1,186,741	1,211,554	454	$3,795	32.06	32.06	0.003
Utility Total	2,862	13,326,030	49,194,470	2,646	13,078,860	44,402,288	15,290	$2,682,512	2.26	7.01	0.072

TABLE PWP-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	460	3,675,684	30,244,009	460	3,675,684	30,244,009	9,750	$1,086,874	3.41	17.08	0.044
Residential	2,254	8,461,984	17,721,082	2,038	8,214,814	12,928,899	5,080	$1,576,674	1.43	3.55	0.135
Energy Efficiency	2,715	12,137,668	47,965,091	2,498	11,890,498	43,172,908	14,830	$2,663,548	2.23	7.00	0.074
Residential	0	1,620	17,826	0	1,620	17,826	7	$3,490	0.86	2.30	0.247
Low-Income	0	1,620	17,826	0	1,620	17,826	7	$3,490	0.86	2.30	0.247
Residential	0	0	0	0	0	0	0	$11,680			0.000
Electrification	0	0	0	0	0	0	0	$11,680			0.000
EE, Low Income and Electrification	2,715	12,139,289	47,982,916	2,498	11,892,119	43,190,734	14,836	$2,678,718	2.22	6.90	0.074
Commercial	147	1,185,822	1,185,822	147	1,185,822	1,185,822	445	$3,714	32.06	32.06	0.003
Codes & Standards	147	1,185,822	1,185,822	147	1,185,822	1,185,822	445	$3,714	32.06	32.06	0.003
Commercial	0	919	25,732	0	919	25,732	9	$81	32.06	32.06	0.006
T&D	0	919	25,732	0	919	25,732	9	$81	32.06	32.06	0.006
C&S and T&D	147	1,186,741	1,211,554	147	1,186,741	1,211,554	454	$3,795	32.06	32.06	0.003
Utility Total	2,862	13,326,030	49,194,470	2,646	13,078,860	44,402,288	15,290	$2,682,512	2.26	7.01	0.072

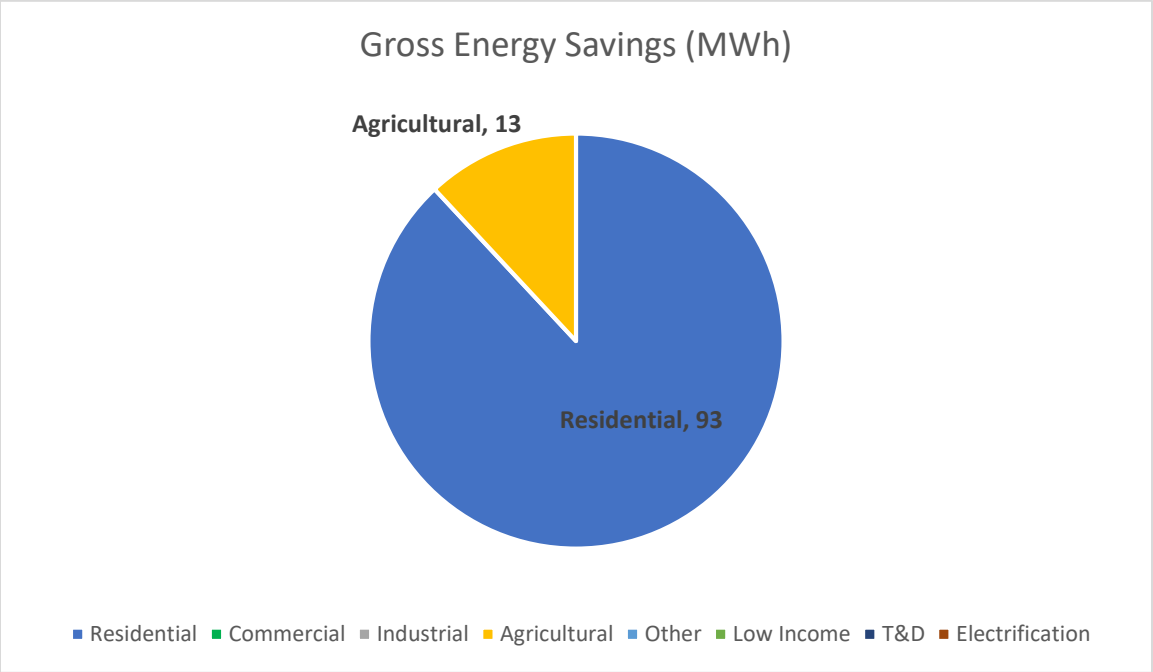
TABLE PWP-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	461	3,679,318	30,261,768	461	3,678,228	30,256,441	9,755	$1,065,768	3.48	18.98	0.043
Multiple	0	0	0	0	0	0	0	$22,000			0.000
Residential	2,250	8,447,027	17,566,716	2,035	8,206,516	12,847,235	5,050	$1,561,088	1.43	3.61	0.135
Residential - Single-Family	3	11,323	136,607	2	5,755	69,232	25	$14,692	0.88	0.87	0.275
Energy Efficiency	2,715	12,137,668	47,965,091	2,498	11,890,498	43,172,908	14,830	$2,663,548	2.23	7.00	0.074
Residential	0	1,620	17,826	0	1,620	17,826	7	$3,490	0.86	2.30	0.247
Low-Income	0	1,620	17,826	0	1,620	17,826	7	$3,490	0.86	2.30	0.247
Residential	0	0	0	0	0	0	0	$11,680			0.000
Electrification	0	0	0	0	0	0	0	$11,680			0.000
EE, Low Income and Electrification	2,715	12,139,289	47,982,916	2,498	11,892,119	43,190,734	14,836	$2,678,718	2.22	6.90	0.074
Any	147	1,185,822	1,185,822	147	1,185,822	1,185,822	445	$3,714	32.06	32.06	0.003
Codes & Standards	147	1,185,822	1,185,822	147	1,185,822	1,185,822	445	$3,714	32.06	32.06	0.003
Any	0	919	25,732	0	919	25,732	9	$81	32.06	32.06	0.006
T&D	0	919	25,732	0	919	25,732	9	$81	32.06	32.06	0.006
C&S and T&D	147	1,186,741	1,211,554	147	1,186,741	1,211,554	454	$3,795	32.06	32.06	0.003
Utility Total	2,862	13,326,030	49,194,470	2,646	13,078,860	44,402,288	15,290	$2,682,512	2.26	7.01	0.072

PLUMAS-SIERRA RURAL ELECTRIC COOPERATIVE

Plumas-Sierra Rural Electric Cooperative at a Glance

- Climate Zone: 16
- Customers: 8,263
- Total annual retail sales: 144,301 MWh
- Annual Retail Revenue: $32,144,923
- Annual energy efficiency expenditures for reporting year: $134,512
- Gross annual savings from reporting year portfolio: 106 MWh



Plumas-Sierra Rural Electric Cooperative Overview

Plumas-Sierra Rural Electric Cooperative (PSREC) is a member-owned, not-for-profit utility located in the eastern Sierras of Northern California. PSREC provides electricity to more than 8,100 rural residents in portions of Plumas, Sierra and Lassen counties in California and part of Washoe County, Nevada.

Plumas-Sierra's service territory encompasses more than 1,700 square miles with more than 1,300 miles of transmission and distribution power line. PSREC serves just six members per mile of line, compared to the average of 34 customers per mile of line for investor-owned utilities.

The goal of PSREC's energy efficiency programs is to help members understand and control their energy use.

Major Program and Portfolio Changes

There were no major changes to the PSREC programs or portfolios in 2024.

Program and Portfolio Highlights

The majority of the energy savings for the CY24 program were provided by the residential sector.

Commercial, Industrial & Agricultural Programs

PSREC provides free energy audits to businesses to assist with energy conservation and troubleshooting high energy consumption. This program has been successful in assisting business owners in making decisions in efficiency upgrades and conservation.

PSREC offers rebates for commercial and industrial members who perform efficiency upgrades including lighting and other custom measures.

To encourage the installation of energy efficient equipment in agricultural irrigation systems PSREC offers rebates for pump tests and efficiency improvements.

Residential Programs

- Geothermal Heating/Cooling Loans: 0% interest ground source heat pump loop loans available for installation of ground-source heat pumps.
- HVAC Rebates: PSREC provides members with rebate options to encourage installation of energy-efficient electric heat pumps and ground-source heat pumps in new construction and existing homes and small businesses. Upgrading to an energy-efficient heating and cooling system will contribute to increased comfort in homes while helping to reduce overall energy use.
- ENERGY STAR® Rebates: Rebates available for the purchase of an ENERGY STAR® refrigerator, dishwasher or clothes washer.
- Appliance Recycling: Rebates offered for recycling a non-essential freezer or refrigerator.
- ENERGY STAR® Lighting Rebates: Offers rebates for the purchase and installation of LED lamps.
- LED Holiday Light Rebate: Provides an incentive to replace incandescent holiday light strands with qualified new ENERGY STAR LED holiday light strands.
- Water Heater Sales and Rebates: Discounted sales of, and rebates for the purchase of high-efficiency electric water heaters, including heat pump water heaters.
- Weatherization Rebates: PSREC offers members rebates for upgrading windows and insulation in their homes. By retrofitting a home to above-code R-Values, and upgrading

windows to double-pane high-performance windows, members not only realize the added comfort, but also gain increased home values. PSREC encourages members to invest in weatherization measures prior to, or in addition to, investing in a new heating source for energy conservation.

- Annual Member Meeting Efficiency Giveaways: PSREC provides members who attend the annual meeting with efficiency items such as LED lights, low-flow showerheads, faucet aerators, etc.
- Efficiency Education: PSREC provides energy efficiency and conservation information, as well as kilowatt meters, to interested members to help them reduce their bill, understand their energy consumption and make their home more efficient. This program has successfully addressed high bill concerns by empowering members to use information such as our 'Do-It-Yourself Energy Audit' to learn more about their home and how they use energy.
- Efficiency Education - Energy Audits: PSREC provides free comprehensive energy audits to assist members with energy conservation and troubleshooting high energy consumption in their home. This program has been successful in educating members about efficiency and conservation and assisting in reduction of energy use, especially in low-income homes.

Complementary Programs

- Low Income Winter Rate Assistance Program: Income-qualified members can apply for a discounted rate during the heating season. In conjunction, a home energy audit is offered, and efficiency information is provided to assist members with energy conservation.
- Net Metering Program: PSREC offers net metering for members who install renewable energy generation systems.
- Community Shared Solar: PSREC offers solar energy shares to our members who currently cannot install solar on their homes or businesses due to cost, location or ownership status.
- Lending Library and Resource Center: Provides energy efficiency and renewable energy resources to members through a book lending library and resource center in our office lobby.
- Electric Vehicle Rebate: PSREC offers a $500 rebate for the purchase of an electric vehicle.
- Research, Development, and Demonstration: PSREC is researching electric vehicle charging infrastructure and other program options to encourage the adoption of electric vehicles in its service area.

Evaluation, Measurement & Verification Studies

PSREC performs a yearly internal review to evaluate program effectiveness and improvement areas. PSREC has committed to seek third-party evaluation of its programs every five years, dependent upon budget.

Major Differences or Diversions from CA POU TRM for Energy Savings

PSREC uses the CMUA POU TRM, eTRM, and the Bonneville Power Administration as the primary sources for the majority of reported energy savings. Savings for the commercial lighting program are custom calculations based on the specific equipment replaced.

TABLE PSREC-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	1	7,508	64,361	1	4,017	30,728	11	$22,184	0.19	0.14	0.855
Building Envelope	2	5,469	104,855	1	3,380	66,336	17	$4,567	0.96	0.24	0.101
HVAC - Cooling	0	1,370	12,444	0	737	6,695	2	$1,030	0.69	0.22	0.183
HVAC - Heat Pump	24	77,313	1,159,694	15	46,876	703,145	272	$91,793	1.12	0.31	0.174
Lighting - Indoor	0	262	3,860	0	141	2,084	1	$753	0.38	0.32	0.482
Service & Domestic Hot Water	0	1,060	10,600	0	583	5,830	2	$3,733	0.22	0.21	0.774
Water Pumping / Irrigation	1	12,600	126,000	0	5,040	50,400	17	$10,452	0.51	0.31	0.251
Energy Efficiency	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207
EE, Low Income and Electrification	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207
C&S and T&D								$0			
Utility Total	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207

TABLE PSREC-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Agricultural	1	12,600	126,000	0	5,040	50,400	17	$10,452	0.51	0.31	0.251
Residential	27	92,982	1,355,814	17	55,735	814,818	306	$124,060	0.91	0.29	0.204
Energy Efficiency	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207
EE, Low Income and Electrification	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207
C&S and T&D								$0			
Utility Total	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207

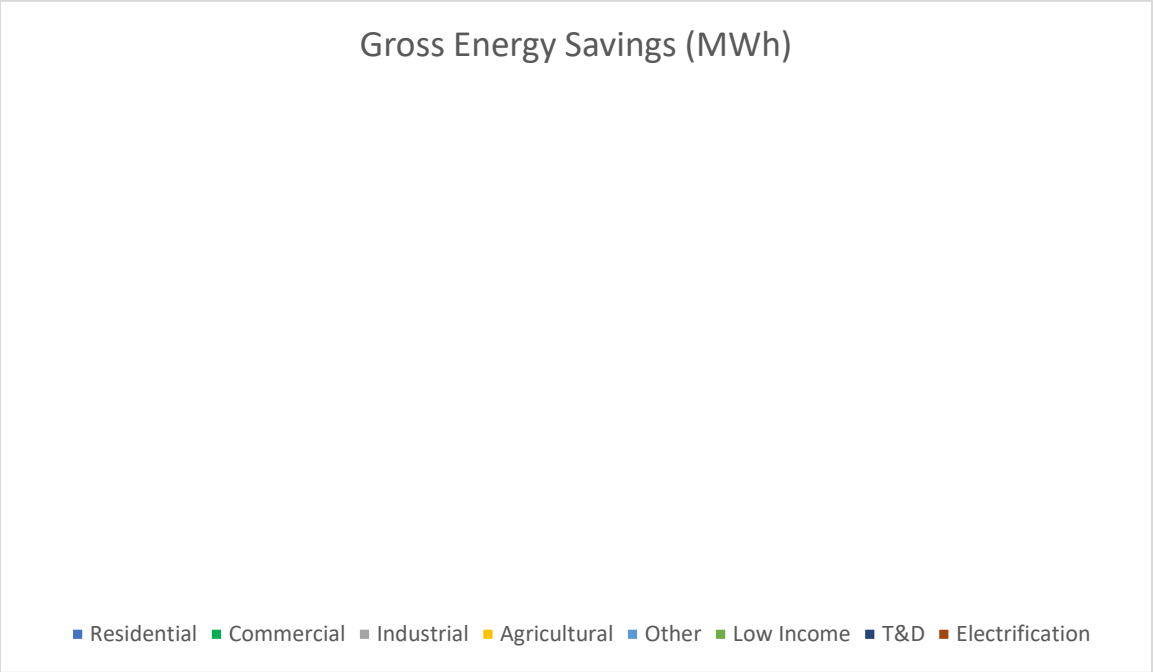
TABLE PSREC-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	1	16,024	142,783	1	7,436	62,143	22	$18,534	0.38	0.28	0.353
Multiple	6	31,630	461,763	4	18,311	268,347	105	$43,710	0.94	0.62	0.217
Residential	1	4,590	79,461	1	3,170	57,494	17	$10,206	0.49	0.20	0.255
Residential - Single-Family	19	53,338	797,808	11	31,858	477,235	180	$62,062	1.06	0.22	0.174
Energy Efficiency	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207
EE, Low Income and Electrification	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207
C&S and T&D								$0			
Utility Total	28	105,582	1,481,814	17	60,775	865,218	323	$134,512	0.88	0.29	0.207

PORT OF OAKLAND

Port of Oakland at a Glance

- Climate Zone: 3
- Customers: 131
- Total annual retail sales: 94,989 MWh
- Annual Retail Revenue: $18,253,778
- Annual energy efficiency expenditures for reporting year: $14,547
- Gross annual savings from reporting year portfolio (MWh): 0



Port of Oakland Overview

The Port of Oakland (the Port) oversees the Oakland seaport, Oakland International Airport, and 20 miles of waterfront. Together with its business partners, the Port supports more than 84,000 jobs in the region and nearly 827,000 jobs nationwide. The Port exemplifies a unique combination of public/private endeavors. It encompasses a world-class container port, a thriving airport, an array of retail and commercial buildings, and acres of recreational and open space. The Port has approximately 167 commercial electric customers.

Major Program and Portfolio Changes

Although no customers completed projects in FY24, the Port offered incentives for energy efficiency projects.

Program and Portfolio Highlights

There were no programmatic highlights in FY24.

Commercial, Industrial & Agricultural Programs

- Energy Audits: The Port provides Energy Audits that focus on five major energy-saving retrofit/improvement projects that will result in load reduction and more efficient use of energy.
- Energy Saving Measures Exceeding Title 24 Standards: The Port will provide a rebate for any new facility constructed within the Port by its electricity customers that exceed the Title 24 standards in energy saving measures. Eligible facilities must reduce energy usage by a minimum of 10% compared to the standard Title 24 facility.
- Energy Saving Equipment Retrofits/Improvements Rebates: The Port has implemented a program that provides rebates and solid technical support for the installation of new energy-efficiency equipment/improvements by our commercial customers.
- Lighting Retrofit: A program providing rebates for the installation of energy-efficiency lighting upgrades.

Residential Programs

The Port does not have any residential customers.

Complementary Programs

The Port recognizes the unique opportunities available in renewable energy, energy storage, and electric vehicles due to our customer base. We are working with customers to identify needs and assess the potential for renewable energy, storage, EV adoption, and EV charging infrastructure programs and investments.

Evaluation, Measurement & Verification Studies

Go to https://www.cmua.org/emv-reports for more information on EM&V studies.

Major Differences or Diversions from CA POU TRM for Energy Savings

Reported savings are custom calculations based on actual equipment replaced and installed.

TABLE Port-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Lighting - Indoor	0	0	0	0	0	0	0	$14,547			0.000
Energy Efficiency	0	0	0	0	0	0	0	$14,547			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$14,547			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$14,547			0.000

TABLE Port-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	0	0	0	0	0	0	0	$14,547			0.000
Energy Efficiency	0	0	0	0	0	0	0	$14,547			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$14,547			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$14,547			0.000

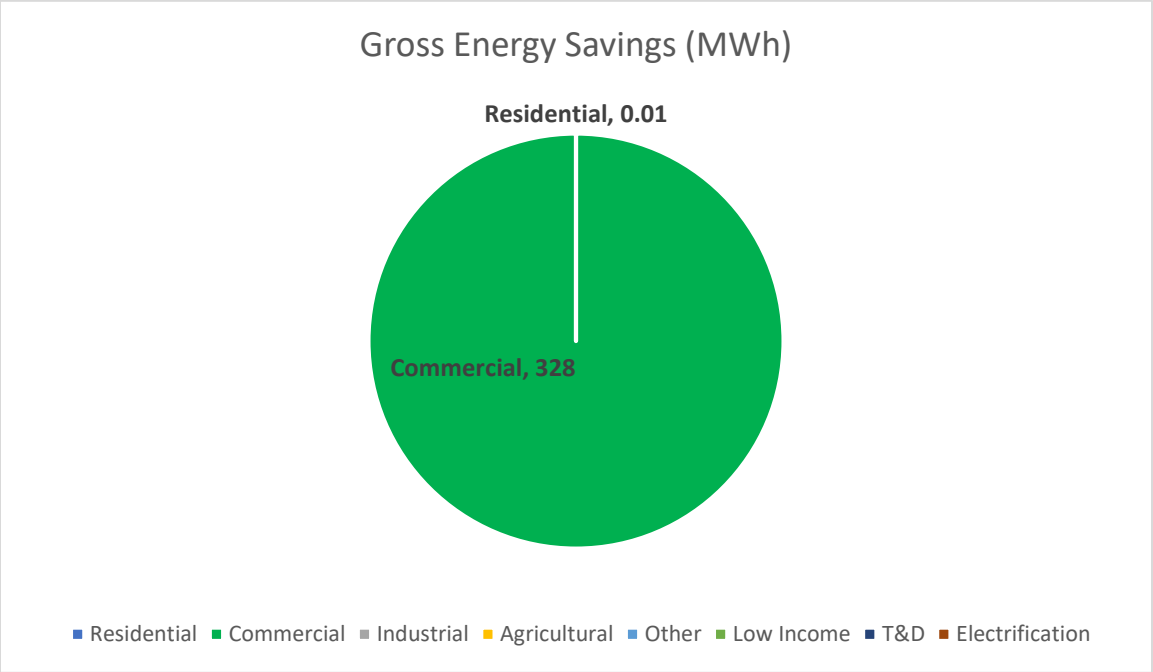
TABLE Port-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	0	0	0	0	0	0	0	$14,547			0.000
Energy Efficiency	0	0	0	0	0	0	0	$14,547			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$14,547			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$14,547			0.000

RANCHO CUCAMONGA MUNICIPAL UTILITY

Rancho Cucamonga Municipal Utility at a Glance

- Climate Zone: 10
- Customers: 3,433
- Total annual retail sales: 111,590 MWh
- Annual Retail Revenue: $20,723,377
- Annual energy efficiency expenditures for reporting year: $44,649
- Gross annual savings from reporting year portfolio: 328 MWh



Rancho Cucamonga Overview

The Rancho Cucamonga Municipal Utility (RCMU) began providing electric services in 2004 to primarily commercial customers. Since then, RCMU has grown and expanded to residential and industrial customers and new developments. Interest and participation in EE programs continue to have low demand due to existing customer base and new growth coming from new construction that meets or exceeds Title 24 requirements.

Major Program and Portfolio Changes

There were no major program changes implemented in FY 2024.

Program and Portfolio Highlights

In previous years, the greatest participation in EE programs has been attained by the commercial EE rebate program. Replacing inefficient lamp fixtures with LEDs continues to be the trend for EE rebates. Programs and EE practices are promoted online and free energy audits are continuing to be offered to educate customers on energy savings and potential upgrades on existing equipment.

Commercial, Industrial & Agricultural Programs

- EE Program: Non-Res Lighting, Non-Res Refrigeration: RCMU has adopted an "Express Solution" model for EE rebates. Customers receive a rebate for estimated kilowatt hour savings for the first year in the following categories: Lighting, Interior LED, Exterior LED, Delamping, HVAC, Motors and Refrigeration.
- Direct Savings Program: Non-Res Lighting: To encourage and assist small and medium sized businesses to reduce their energy usage, RCMU will pay and install up to $1,500 of recommended retrofit items that are determined from the complimentary energy audit. Any cost above the $1,500 limit is paid by the customer.

Residential Programs

During this reporting period, the RCMU residential customer base expanded from primarily leasing multi-family tenants to include single family owned residences. With the growth coming from new developments that meet or exceed Title 24, there is a continued challenge to find interest in EE improvements among the residential customers. The homes are built with LED lighting fixtures, energy efficient appliances, and may include solar PV systems. The newly established residential rebate program has low demand as anticipated. Staff will continue to explore innovative ways to tailor the programs to increase participation.

Complementary Programs

Complementary Programs

- Energy Audits: RCMU offers free, customized energy audits including lighting, HVAC and equipment assessment and a review of energy usage. Specific cost-effective recommendations to improve EE and reduce energy use are provided.
- Low Income: The program is intended to assist customers with their bills and is funded by RCMU Public Benefit Fund. The household size and gross income requirements is based off the San Bernardino County Income Limits and Documentation System. RCMU also offers acceptance into the low-income program based on LIHEAP acceptance.
- Medical Support Assistance Program: The program will assist eligible residential customers where a full-time resident of the household regularly requires the use of essential medical support equipment. An application with supporting documentation from the patient's doctor is required to receive the credit each month.

TABLE RCMU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	10	101	0	0	0	0	$100			0.000
HVAC - Cooling	0	1,509	15,090	0	1,509	15,090	5	$1,238	0.67	1.27	0.192
Lighting - Outdoor	140	326,506	3,265,060	140	326,506	3,265,060	1,498	$42,102	9.15	12.09	0.016
Energy Efficiency	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017
EE, Low Income and Electrification	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017
C&S and T&D								$0			
Utility Total	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017

TABLE RCMU-2. Energy Efficiency Program Results by Sector

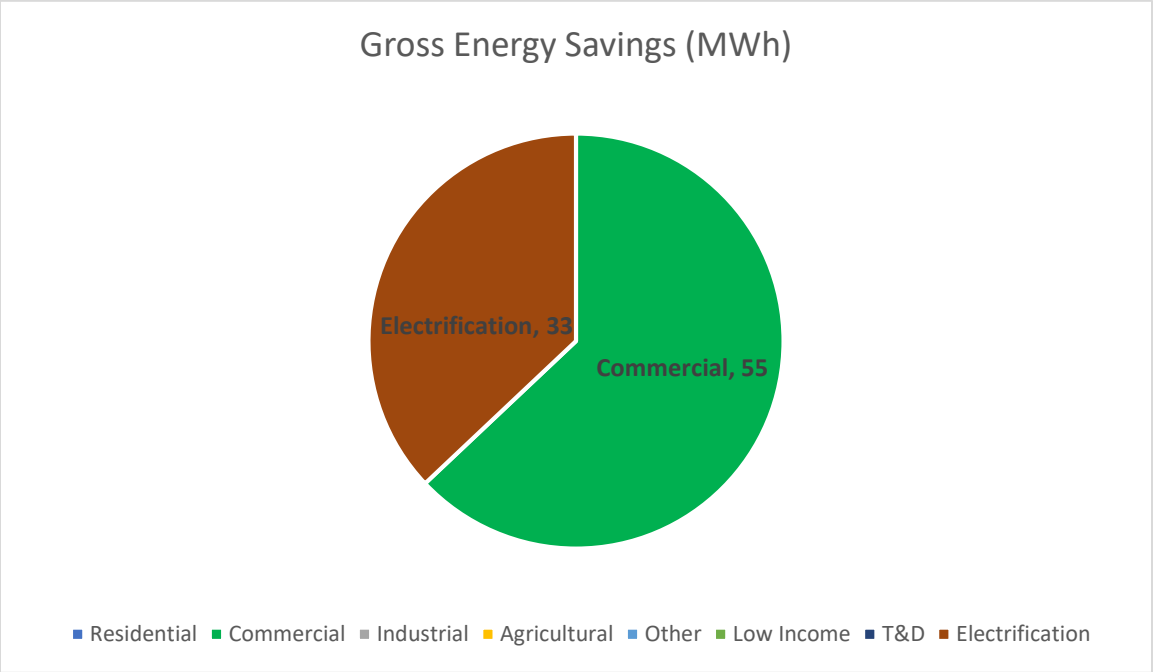
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	140	328,015	3,280,150	140	328,015	3,280,150	1,503	$43,340	8.70	11.69	0.017
Residential	0	10	101	0	0	0	0	$100			0.000
Energy Efficiency	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017
EE, Low Income and Electrification	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017
C&S and T&D								$0			
Utility Total	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017

TABLE RCMU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	140	328,015	3,280,150	140	328,015	3,280,150	1,503	$43,340	8.70	11.69	0.017
Residential - Multi-Family	0	10	101	0	0	0	0	$100			0.000
Energy Efficiency	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017
EE, Low Income and Electrification	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017
C&S and T&D								$0			
Utility Total	140	328,025	3,280,251	140	328,015	3,280,150	1,503	$43,440	8.67	11.62	0.017

Redding Electric Utility at a Glance

- Climate Zone: 11
- Customers: 44,343
- Total annual retail sales: 736,112 MWh
- Annual Retail Revenue: $129,391,300
- Annual energy efficiency expenditures for reporting year: $284,876
- Gross annual savings from reporting year portfolio: 88 MWh



Redding Electric Utility Overview

Total sales for FY 2024 were 736,612 MWh – a 3.39% decrease compared to FY 2023. Redding attributes the decrease in retail sales to rising cost of living expenses from inflation, lower work from home levels, and a slower rate of new construction. Redding continuously develops electric sales forecasts, especially as the utility expects to see sustained increases in sales attributed to economic growth and increased building and transportation electrification.

Due to Redding's hot summer climate and high residential load, REU's peak demand typically occurs in the summer between 4:00-5:00 p.m. and is more than double the peak demand during non-cooling months.

In previous reporting years, Redding committed much of our Cap-and-Trade (C&T) auction proceeds to efforts that reduce greenhouse gas emissions, support energy efficiency and electrification upgrades to income-eligible customers, and achieve reliable energy savings. Redding does not expect to receive additional funding from C&T auction proceeds for customer programs and is actively ramping down greenhouse gas-funded programs over the next few years. There are no plans for new programs utilizing C&T auction proceeds.

Major Program and Portfolio Changes

REU continuously evaluates and makes changes to the public benefits programs to maximize the benefits to the community and maintain compliance with State and Federal Regulations.

In September 2021, Redding's City Council approved Redding's Demand-Side Management Integrated Resource Plan (DSM-IRP) report. The DSM-IRP concluded that energy efficiency measures were not cost-effective for ratepayers due to Redding's low avoided costs and the impact of lost revenue for providing programs that inherently reduce load (i.e. energy efficiency). In contrast, electrification programs are cost-effective for all ratepayers (not just participants), provide a positive revenue source to help sustain Public Benefits funding, and are a cost-effective way to save carbon. As a result, Redding City Council approved terminating all energy efficiency rebate programs paid through Public Benefits, replacing them with a new suite of building electrification programs beginning in FY2023. The approved DSM-IRP report is available on the City of Redding's website.[16]

Redding implemented several electrification programs effective July 1st, 2022, including:

- Residential Electrification Rebates
    - Heat Pump Water Heaters
    - Heat Pump Clothes Dryers
- Commercial Electrification Rebates
    - Heat Pump Water Heaters
- New Construction Residential Rebates
    - Heat Pump Space and Water Heating Package

With the LED Streetlight Replacement Project ending in FY 2023, the Redding Energy Efficiency Economic Recovery Plan (EEE-RP), which provides EE upgrades to City facilities, is the final remaining EE savings program. This program is funded by C&T auction proceeds, and there are no plans to extend the program once all funding is exhausted.

[16]http://reddingcityca.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=3604&MediaPosition=&ID=7641&CssClass

Program and Portfolio Highlights

Redding's City Energy Efficiency Economic Response Program accounted for 63% of annual energy savings, or 0.055 million kWh (net). This was a decrease of 81% or -0.236 kWh from FY23 as most large-scale projects are now complete.

Redding utilizes the kWh equivalent (e-kWh) for therms saved when evaluating the total energy savings. On the residential side, the Residential Electrification Rebates Program accounted for 32% of total annual energy savings for the year, or 0.028 million e-kWh. While participation is still low, it has begun to increase. Furthermore, switching to a new administrative system to manage the applications has significantly reduced administrative costs. Redding continues to conduct marketing and outreach efforts to increase participation in the new electrification programs.

During the reporting year, Redding developed the Residential Electrification Assistance Program (REAP) to provide electrification upgrades at no-cost to income-qualified customers. The program was implemented in July 2024. Therefore, energy savings from REAP will be reported starting in FY 2025.

Commercial, Industrial & Agricultural Programs

Water Heaters – Deemed rebates for converting from fossil-fueled water heaters to heat pump technology.

City Facilities Energy Efficiency – Funding from C&T auction proceeds provide updates to City of Redding facilities, including lighting retrofits and upgrades to energy-efficient equipment. Retrofit lighting projects are calculated using a custom calculator to determine savings based on existing equipment, retrofit equipment, and hours of operation.

Residential Programs

Water Heater Electrification – Deemed rebates for converting from fossil-fueled water heaters to heat pump technology.

Clothes Dryer Electrification – Deemed rebates for converting from fossil-fueled clothes dryers to heat pump technology.

Single-Family New Construction Electrification – Deemed rebates for installing heat pump space and water heating equipment (in lieu of fossil-fuel appliances) and Wi-Fi capable thermostats in new construction single-family homes.

Complementary Programs

Low-Income Programs – Low-income assistance spending (through the CARES Program and Residential Energy Discount) continues to be the second-largest area of our Public Benefits

Program expenditures. During FY 2024, rate discounts represented about $1.91 million, and assistance programs represented about $0.05 million paid with public benefits funds. Low-income programs have been most beneficial to a significant portion of our customer base that has limited situational and/or financial means to participate in other energy efficiency programs.

Electric Vehicle (EV) and Charging Infrastructure – Redding offers Transportation Electrification (TE) vouchers towards the purchase or lease of electric vehicles or electric bikes (E-Bikes) for low-income residential ratepayers, and DC fast chargers for commercial ratepayers through Low Carbon Fuel Standard (LCFS) funding.

Residential Education – Redding offers a variety of in-home services through the Residential Energy Advisor program. This includes guiding customers through the rebate programs while educating them with energy-saving tips and discussing the benefits of electrification.

Commercial Education – Redding offers a variety of in-business services through the Commercial Energy Advisor program. This includes guiding customers through the rebate programs while educating them with energy-saving tips and discussing the benefits of electrification.

Evaluation, Measurement & Verification Studies

The results of Redding EM&V reports are available on CMUA's website: https://www.cmua.org/emv-reports.

In addition to these activities, rebate processing includes technical reviews on 100% of the rebate applications submitted to ensure that projects align with program requirements. Furthermore, REU performs pre- and post-field inspections on large projects that account for the majority of savings.

Major Differences or Diversions from CA POU TRM for Energy Savings

For the vast amount of its energy efficiency programs, REU uses the eTRM standard measures as constructed within the Energy Services Platform's (ESP) reporting tool. For REU's unique programs (City Energy Efficiency Economic Response Plan), REU used the custom measure feature in ESP to represent the energy and demand impacts of those programs. REU utilizes a custom calculation for lighting retrofit projects in the City Energy Efficiency programs.

TABLE REU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Lighting - Indoor	8	55,383	830,745	8	55,383	830,745	279	$155,790	0.44	0.80	0.215
Energy Efficiency	8	55,383	830,745	8	55,383	830,745	279	$155,790	0.44	0.80	0.215
HVAC - Heat Pump	1	2,676	40,139	1	2,542	38,132	10	$28,526	0.11	0.09	0.856
Service & Domestic Hot Water	-0	29,904	299,040	-0	29,791	297,910	42	$100,560	0.22	0.21	0.368
Electrification	0	32,580	339,179	0	32,333	336,043	52	$129,086	0.19	0.18	0.421
EE, Low Income and Electrification	8	87,963	1,169,924	8	87,716	1,166,788	332	$284,876	0.33	0.42	0.276
C&S and T&D								$0			
Utility Total	8	87,963	1,169,924	8	87,716	1,166,788	332	$284,876	0.33	0.42	0.276

TABLE REU-2. Energy Efficiency Program Results by Sector

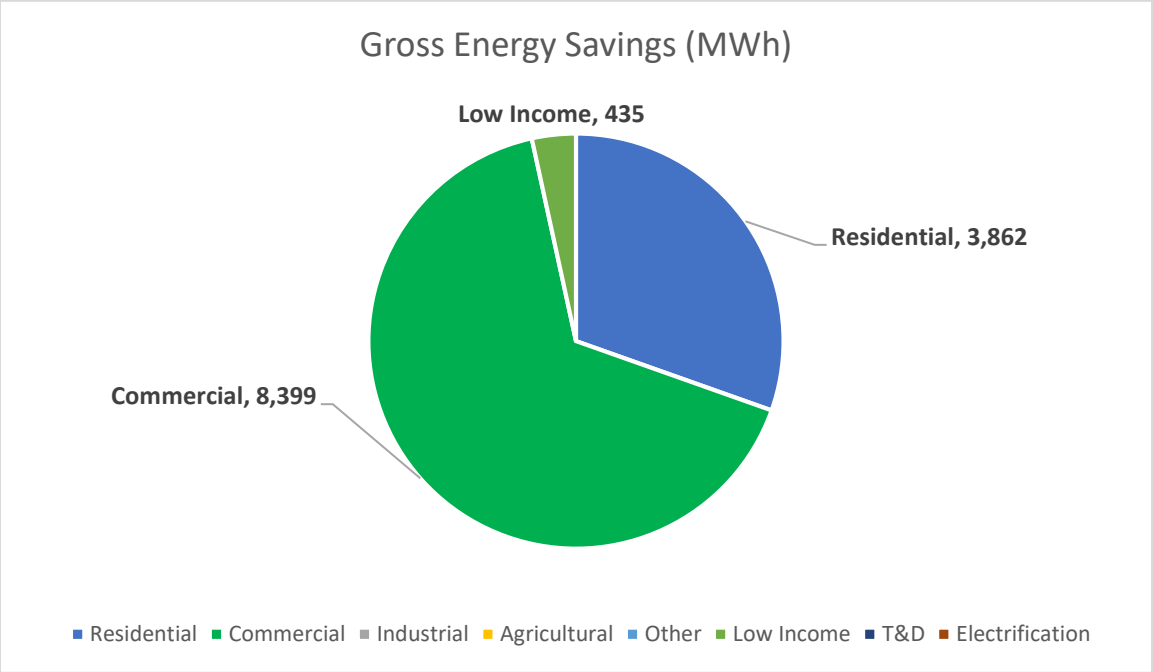
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	8	55,383	830,745	8	55,383	830,745	279	$155,790	0.44	0.80	0.215
Energy Efficiency	8	55,383	830,745	8	55,383	830,745	279	$155,790	0.44	0.80	0.215
Residential	0	32,580	339,179	0	32,333	336,043	52	$129,086	0.19	0.18	0.421
Electrification	0	32,580	339,179	0	32,333	336,043	52	$129,086	0.19	0.18	0.421
EE, Low Income and Electrification	8	87,963	1,169,924	8	87,716	1,166,788	332	$284,876	0.33	0.42	0.276
C&S and T&D								$0			
Utility Total	8	87,963	1,169,924	8	87,716	1,166,788	332	$284,876	0.33	0.42	0.276

TABLE REU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Other Commercial	8	55,383	830,745	8	55,383	830,745	279	$155,790	0.44	0.80	0.215
Energy Efficiency	8	55,383	830,745	8	55,383	830,745	279	$155,790	0.44	0.80	0.215
Multiple	0	32,580	339,179	0	32,333	336,043	52	$129,086	0.19	0.18	0.421
Electrification	0	32,580	339,179	0	32,333	336,043	52	$129,086	0.19	0.18	0.421
EE, Low Income and Electrification	8	87,963	1,169,924	8	87,716	1,166,788	332	$284,876	0.33	0.42	0.276
C&S and T&D								$0			
Utility Total	8	87,963	1,169,924	8	87,716	1,166,788	332	$284,876	0.33	0.42	0.276

Riverside Public Utilities at a Glance

- Climate Zone: 10
- Customers: 113,082
- Total annual retail sales: 2,064,551 MWh
- Annual Retail Revenue: $352,501,989
- Annual energy efficiency expenditures for reporting year: $7,144,896
- Gross annual savings from reporting year portfolio: 12,696 MWh



Riverside Overview

Riverside Public Utilities (RPU) has been providing efficient, reliable water and electric services throughout the city since 1895. RPU is committed to providing the highest quality services at the lowest possible rates to benefit customers and the community.

RPU continues to help customers manage their energy use through a comprehensive range of education, rebates and incentives. In FY 2024, RPU reached 57% of its kWh savings goal of 1% of retail sales as adopted by the Board of Public Utilities in 2021.

Major Program and Portfolio Changes

RPU continues to enhance and expand its energy efficiency program portfolio for the benefit of its customers and the community. Staff regularly review the program portfolio and make changes to the rebates and incentives as needed. Since 2020, RPU has developed new and enhanced programs for both commercial and residential customers. This has led to an increase in program participation and resulted in increased energy savings being realized.

Throughout FY 2024, RPU enhanced the program offer via the Tree Power Program, Commercial Outdoor Lighting program, and the Small Business Direct install programs. Beginning FY 2024, RPU implemented some enhancements to the existing Energy Savings Assistance Program (ESAP) with Southern California Gas Co., expanding the program to include refrigerator replacement and whole house fans at no cost to qualifying customers.

Program and Portfolio Highlights

RPU has focused considerable attention on further developing commercial programs. Commercial customers represent almost 12% of the customer base, but account for approximately 65% of the City's load. In FY 2024 RPU entered a second year of the Medium and Large Business Outdoor Lighting Program, Small Business Direct Installation Program, and Small Business Refrigerator Load Program.

Commercial, Industrial & Agricultural Programs

- Air Conditioning Incentives – Rebates for replacement of energy inefficient AC units.
- Business Outdoor Lighting Program – Program provides direct installation for medium and large business with outdoor lighting conversion to efficient LED.
- Key Account Energy Efficiency Program (KEEP) – Program targeting RPU's largest Time of Use Customers and includes the top 300 RPU customers in terms of consumption. KEEP is intended to provide Key Account customers with a comprehensive energy efficiency plan including a priority list of recommended energy efficiency measures along with an estimated return on investment and applicable utility incentives.
- LEED New Construction – Rebate for LEED certification for new buildings and major renovations.
- Lighting Incentive – Rebates for kWh savings on installation of more energy efficient lighting and controls.
- Performance Based Incentive – Rebates for customers who can demonstrate a kWh savings based on custom energy-efficiency measures.

- Refrigerator Load Program - Program offers the direct installation of energy efficiency measures such as air curtains, cooler gaskets, automatic door closures, LED case lighting retrofits and high-efficiency motor upgrades.
- Small Business Direct Install Program (SBDI) - Program provides small and medium-sized businesses with energy audits, and direct installation of energy efficiency measures such as lighting upgrades and controls, HVAC tune-ups, exit and open/closed signs, advanced power strips and weatherization.
- Weatherization – Rebates for installation of insulation, window film and cool roofs.

Residential Programs

- Air Conditioning Incentives – Rebates for replacing Central Air Conditioners with a SEER rating of 15 above and HVAC tune-up.
- Appliance Recycling – Free recycling service for old inefficient refrigerators and freezers.
- Energy Savings Assistance Program (ESAP) – Direct installation program targeting low-income customers, offered in partnership and cooperation with SCGC. Measures include lighting efficiency upgrades, HVAC tune-ups, smart power strips, and refrigerator recycling (low-income assistance, Res Lighting, Res Cooling, Res Refrigeration).
- Energy Star Appliances – Rebates for purchase of Energy Star-rated refrigerators, dishwashers, clothes washers, room air conditioners, ceiling fans, and televisions.
- Heat Pumps – New rebate to residential electric customers when they purchase and install new energy-efficient heat pumps.
- Pool Saver – Rebates for purchase and installation of high efficiency, variable speed, or multi-flow pool pump motors.
- Tree Power – Rebates for purchasing and planting of up to five qualifying shade trees per year and one free qualifying shade tree coupon printed on the March back of the bill.
- Weatherization – Rebates for installing attic insulation or wall insulation, standard rebates for duct replacement, duct testing/sealing, window film, solar and standard attic fans, whole house fans, and cool roofs.

Complementary Programs

- SHARE – This low-income assistance program credits $250 toward the electric deposit or as an emergency payment on delinquent balances and/ or assists with a $16 monthly bill payment and beginning January 1st, 2024, the monthly credit was increased to $20 to offset the rate increase for qualified low-income applicants annually
- Energy Savings Assistance Program (ESAP) - In partnership with SoCal Gas, ESAP is designed to help lower monthly bills to income-qualified renters and homeowners, making homes more energy efficient through professional no-cost energy-saving home improvements by RPU's authorized contractor Synergy. Participation of ESAP for FY 2024 was 367 with 4,874 different EE measures installed.

- Pool Pump Timer Credit Load Shift Program – This program offers a bill credit of $5 per month for customers who agree to install and program their residential pool pump timer so that the pump operates only during off-peak hours.

Evaluation, Measurement & Verification Studies

RPU is committed to providing cost-effective, ongoing evaluation, measurement, and verification (EM&V) efforts for its energy efficiency programs. EM&V costs are covered in the individual program budgets.

In addition to periodic program audits, RPU consistently performs the following in support of EM&V activities:

- An onsite inspection rate of a selection of randomly selected residential program participants, performed by RPU staff and contractors.
- A pre-and post-inspection of 100% of large commercial rebate participants, including a review of historical energy usage, energy-saving calculations, and post-measure bill analysis.
- Audits and installations performed by third-party contractors for RPU direct installation programs have high inspection rates that are performed by both the contractor and RPU staff.
- Refrigerator recycling program administered by A&G Recycling Angels assures full inspection when the contractor picks up old appliances.

TABLE RPU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	2,070,068	20,700,684	0	2,070,068	20,700,684	6,916	$335,406	7.03	9.56	0.020
Appliance & Plug Loads	241	874,538	5,224,956	229	829,256	4,948,015	1,818	$248,920	2.44	8.24	0.057
Building Envelope	175	192,465	3,557,903	159	175,207	3,231,945	1,229	$148,957	4.58	8.81	0.066
Commercial Refrigeration	0	116,984	1,359,252	0	116,984	1,359,252	485	$159,873	0.94	9.56	0.148
HVAC - Cooling	2,311	4,306,156	95,791,775	1,942	3,330,556	71,801,263	26,292	$2,198,098	5.91	8.42	0.047
Lighting - Indoor	2	415,233	4,177,098	2	415,233	4,177,098	1,395	$89,599	5.30	9.56	0.026
Lighting - Outdoor	0	1,372,825	13,728,250	0	1,372,825	13,728,250	6,432	$1,029,220	1.51	9.56	0.091
Miscellaneous	2	2,354,229	22,439,137	2	2,354,007	22,438,249	7,634	$2,319,499	1.09	9.55	0.125
Service & Domestic Hot Water	0	5,956	60,628	0	5,658	57,597	20	$2,067	2.85	8.56	0.044
Whole Building	0	552,494	8,287,410	0	552,494	8,287,410	2,936	$163,096	5.68	9.56	0.026
Energy Efficiency	2,732	12,260,949	175,327,094	2,334	11,222,289	150,729,763	55,156	$6,694,735	3.32	8.80	0.060
Appliance & Plug Loads		12,288	122,880		12,288	122,880	44	$24,591	0.67	9.56	0.242
Building Envelope	0	62,355	1,247,100	0	62,355	1,247,100	472	$146,321	1.96	9.56	0.173
HVAC - Cooling	0	186,806	2,493,777	0	186,806	2,493,777	949	$209,927	2.14	9.56	0.110
Lighting - Indoor	0	173,153	2,597,295	0	173,153	2,597,295	981	$69,322	4.22	9.56	0.036
Low-Income	0	434,602	6,461,052	0	434,602	6,461,052	2,446	$450,161	2.32	9.56	0.094
EE, Low Income and Electrification	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	57,602	$7,144,896	3.26	8.83	0.062
C&S and T&D								$0			
Utility Total	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	57,602	$7,144,896	3.26	8.83	0.062

TABLE RPU-2. Energy Efficiency Program Results by Sector

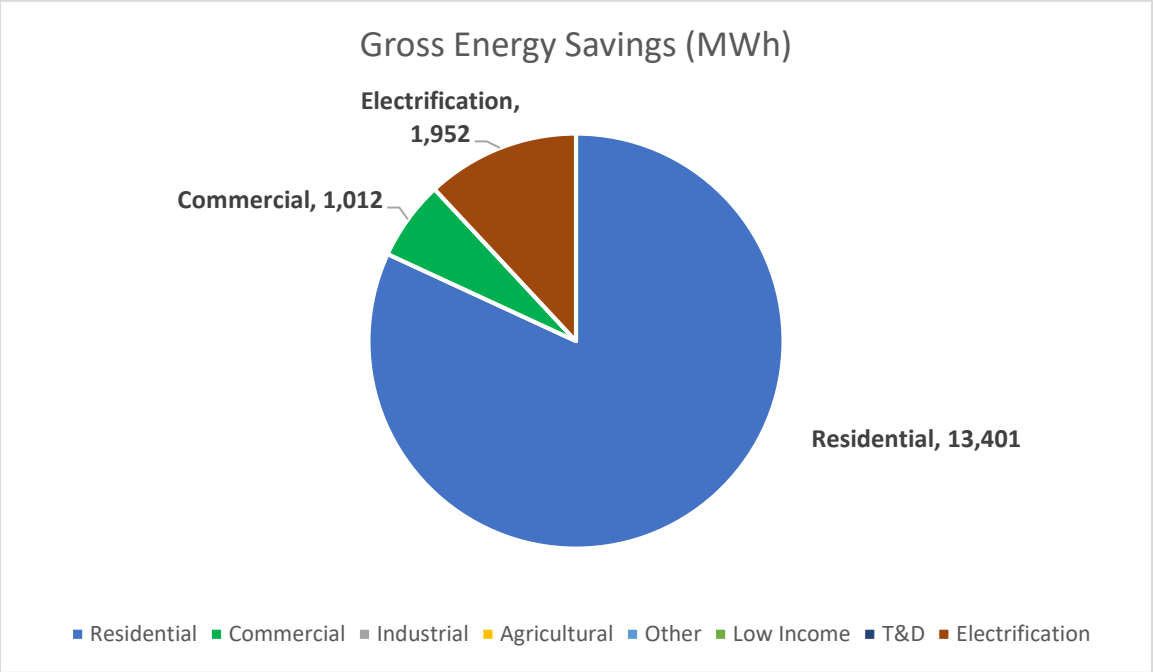
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	1,393	8,398,770	93,711,419	1,246	8,200,225	90,603,173	32,042	$4,086,481	2.49	9.29	0.056
Residential	1,338	3,862,179	81,615,675	1,088	3,022,064	60,126,589	23,114	$2,608,254	4.63	8.43	0.068
Energy Efficiency	2,732	12,260,949	175,327,094	2,334	11,222,289	150,729,763	55,156	$6,694,735	3.32	8.80	0.060
Residential	0	434,602	6,461,052	0	434,602	6,461,052	2,446	$450,161	2.32	9.56	0.094
Low-Income	0	434,602	6,461,052	0	434,602	6,461,052	2,446	$450,161	2.32	9.56	0.094
EE, Low Income and Electrification	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	57,602	$7,144,896	3.26	8.83	0.062
C&S and T&D								$0			
Utility Total	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	57,602	$7,144,896	3.26	8.83	0.062

TABLE RPU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	1,393	6,573,878	76,705,467	1,246	6,375,333	73,597,222	26,262	$2,655,990	3.11	9.23	0.045
Other Commercial	0	1,883,609	17,769,261	0	1,883,609	17,769,261	6,058	$1,802,219	1.11	9.56	0.122
Residential	1,338	3,803,463	80,852,366	1,088	2,963,348	59,363,280	22,837	$2,236,525	5.36	8.42	0.060
Energy Efficiency	2,732	12,260,949	175,327,094	2,334	11,222,289	150,729,763	55,156	$6,694,735	3.32	8.80	0.060
Residential	0	434,602	6,461,052	0	434,602	6,461,052	2,446	$450,161	2.32	9.56	0.094
Low-Income	0	434,602	6,461,052	0	434,602	6,461,052	2,446	$450,161	2.32	9.56	0.094
EE, Low Income and Electrification	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	57,602	$7,144,896	3.26	8.83	0.062
C&S and T&D								$0			
Utility Total	2,732	12,695,551	181,788,146	2,334	11,656,891	157,190,815	57,602	$7,144,896	3.26	8.83	0.062

Roseville Electric Utility at a Glance

- Climate Zone: 11
- Customers: 69,178
- Total annual retail sales: 1,162,275 MWh
- Annual Retail Revenue: $189,988,393
- Annual energy efficiency expenditures for reporting year: $3,324,682
- Gross annual savings from reporting year portfolio: 16,365 MWh



Roseville Electric Utility Overview

The City of Roseville is a summer peaking utility located in climate zone 11 and forecast zone 4. Summers are hot and include several days over 100 degrees. Winters are mild with daily highs often in the 50s and 60s, and overnight lows only occasionally dropping into the 30s, but rarely below 32 degrees.

Roseville is the largest and fastest growing city in Placer County, and significantly influences the economy as the retail destination and healthcare hub for the Sacramento region.

Municipal owned Roseville Electric Utility offers affordable electric rates and reliable power to 61,882 residential accounts and 7,305 commercial accounts.

In FY 2024 Roseville issued new construction permits for 1,259 single family homes, 337 multifamily units and 30 commercial buildings. While issued permits for multifamily new construction were less than half of last year's, there is an anticipation of substantially increased multifamily new construction permits in the coming years due incentives in fee deferrals for affordable housing projects as well as SB 937 fee deferrals.

Development of industrial land has increased and vacancy rates are at a historic low of 1.6 percent. Commercial development has also increased primarily related to the construction of restaurants, retail space, and other personal service uses. Office space vacancy is up from the previous year at 13.5%.

The median household income in Roseville has risen to $111,466. Over 96% percent of Roseville residents over age 25 have a high school diploma, and 47% of residents over 25 have obtained a Bachelor's degree or higher.

Roseville aims to provide a broad portfolio of programs for both residential and commercial customers to allow for high engagement in energy efficiency installations and behavior throughout the customer base. Roseville makes concerted efforts to rebate products that will mitigate high energy usage during the summer months, which is when our customers are most likely to experience higher bills.

Roseville's customer base has embraced new technology such as smart thermostats, heat pump HVACs, Heat Pump Water Heaters, and Electric Vehicles. Interest in rooftop solar remains high amongst our customers.

In FY 2024, Roseville's rebate offerings were successful in garnering the participation necessary to exceed its gross energy efficiency targets. Although these targets were met this year, Roseville has seen a decline in participation and energy savings gained from many of its long-standing energy efficiency offerings. In recent years Roseville has been particularly successful in promoting all-electric homes for new construction. FY24 reporting will not reflect the full continued investment in this area because of the delays seen in construction. The majority of projects set to complete in the FY24 year were delayed and thus we will be presenting those investments and energy savings next reporting cycle in FY25. This, as well as reduced participation in commercial rebate programs, are the main factors accounting for a decrease in energy savings and spending between this reporting cycle and our last.

In addition to energy efficiency goals, Roseville has maintained a focus of assisting low income customers through rate assistance. Rate Assistance participants receive a $15 credit on their monthly base charge. In addition, Roseville's Low Income Rate Discount was increased from 15% to a 20% discount in June 2024. This increased assistance for low income customers was enacted to mitigate the impact of our most recent rate adjustment as well as general economic

inflation and cost of living increases. Income eligibility has been maintained at the level of 200% of the Federal Poverty Level. Roseville Electric Utility also offers a specialized rate for those who qualify for Medical Rate Assistance. In addition to the $15 credit towards the monthly base charge, Medical Rate participants receive a 50% discount on their first 500 kWh and a 20% discount on all other kWh usage. Although Roseville implemented a temporary 8% energy cost surcharge between February 2023 and December 2024, Roseville has been able to cover the cost of this surcharge for all customers enrolled in rate assistance. In addition to increasing rate assistance benefits, Roseville has made concerted efforts to increase rate assistance enrollment by increasing general outreach, streamlining application processes, increasing time limits before reapplication is required, and creating less burdensome routes for providing proof of income. Roseville now allows qualification through providing evidence of concurrent enrollment in either CalFresh, SNAP, TANF, CAPI, or Section 8 housing. Roseville's enhanced focus on assisting Low Income and Medical Rate customers through rate assistance has resulted in a 38% increase in rate assistance expenditures compared to FY2022 levels and this is expected to continue to rise in the coming years.

Major Program and Portfolio Changes

In FY23 Roseville made historic investment reservations for all-electric new construction homes that were scheduled to be paid out in FY24. The level of interest and pace of reservations in this program far exceeded expectation. Although the majority of these expenditures ended up being delayed to FY25, Roseville's FY24 incentive levels included strategies to invest in all-electric homes by shifting funding away from other measures for a set period of time. Due to this, as well as other market factors, at mid-year Roseville experimented with reduced incentives and incentive caps on select programs where current market information pointed towards lower incentives being sufficient. In some cases, these reduced incentives did not significantly affect participation; however, in other programs, incentive changes did result in reduced participation. For many of the programs with reduced participation, it is not clear how much the incentive drops were responsible verses the decline being part of a trend already underway of a multi-year reduction in participation due to the incentivized products already having reached significant market saturation. Increased interest rates in the commercial lending market may have also contributed to this decline.

Roseville's incentive strategy for the next reporting cycle of FY25 will include returning some offerings to their previous incentive levels.

Focus on Electrification – Success in Residential – Commercial Market Remains Uninterested:

While electrification offerings continued to be prominent within our residential sector, our transition to promoting only electrification in the commercial sector was not nearly as successful. In FY24 Roseville was only able to capture one, although large, commercial electrification project. Interest in commercial electrification is low as customers are seeing that the additional inspections that these projects trigger, as well as the overall project costs and

expected appliance performance, does not yet match the typical project budget constraints or specific needs for commercial buildings.

In order to capture any significant commercial HVAC related energy savings opportunities in the coming years, Roseville believes it must allow technology offerings outside of exclusively electrification.

Changes in Electrification Reporting:

In previous years, Roseville reported electrification savings in terms of kWh exclusively, taking the gas savings in therms, converting these to their kWh equivalent and then subtracting the kWh of the added electric load to get the total net kWh savings reported for a measure. This was done knowing that these energy savings should be displayed as a kWh to count towards Roseville's energy savings targets. For this reporting cycle, publicly owned utilities worked on an enhancement within the ESP reporting tool allowing us to report the negative kWh for added electric load, saving in terms of gas therms, while also displaying net savings in terms of equivalent kWh. Cost effectiveness metrics and bill savings are now able to use the information from both gas and electric rates, and gas and electric avoided costs.

Reduction in Commercial Lighting:

Beginning in FY23, stricter permitting requirements were enacted for commercial lighting projects. This seems to have continued to dampen commercial interest in participating in these rebate projects. Additionally, Roseville is evaluating if the decline in participation is also due to having reached a higher saturation in commercial buildings that have already transitioned to LEDs. While commercial LED retrofits were still the most significant contributor to energy savings gained in our commercial sector, for the broader portfolio the reduced opportunities in investment have meant that commercial lighting represented only 6% of Roseville total gross annual energy Savings in FY24.

Overall Commercial Participation Reduction:

Decline in commercial rebate program participation was not limited to just Roseville's lighting offering in FY24. In general, Roseville has seen the financial climate, including higher interest rates, reducing the appetite for commercial customers to make large investments in energy efficiency. Additionally, Roseville's Commercial Custom program has been a cornerstone of the commercial offerings in past years, but did not gain any participation in FY24. Additionally, several reserved projects were canceled due to a major participant's company acquisition and rebuild.

Program and Portfolio Highlights

Home Energy Reports – Highest Performer and Most Cost Effective:

Residential Home Energy Reports continue to be the largest contributor to Roseville's annual kWh savings having captured more annual kWh savings than all other rebate programs

combined, at 12.5 GWh and 77% of Roseville's total portfolio. Not only has this program continued to achieve the highest savings, but it has also remained as the most cost effective program in Roseville's portfolio. While the program is still the most influential in the portfolio by far, the height of the savings may not be consistently obtainable in years to come. FY24's energy savings showed a 10% drop from the previous year and savings have continued to decline after the end of the FY.

Tune Ups and Smart Thermostats Produce High Residential Engagement:

Our HVAC Tune Up and Smart Thermostat offerings continue to drive the most engagement with our residential customers in terms of rebate offerings. In FY 2024 we were able to rebate 1,133 HVAC tune ups and 720 Smart Thermostats. While this participation is significant, it does represent a decline from the previous year, most significantly in the case of smart thermostats which declined by 23%.

Progress in Residential Retrofit Electrification:

Residential Electrification continued to show high participation in FY24 and contributed to almost 2 GWh in energy savings. Participation in Residential Heat Pump HVAC retrofits increased by 27%, despite incentive offerings that were lower than the previous year. Heat Pump Water Heater Transitions were just 4% behind last year, with most of the participation being concentrated during times that stackable incentives were available through both TECH Clean California and Roseville. After TECH Clean's Water Heater Program ended, participation in Roseville's program sharply dropped, as significant incentives are required for a project that can be about two to ten times the cost of a traditional gas water heater replacement. The number of folks participating in induction cooktops grew 24% from FY23, and while there is minimal interest in Heat Pump Dryers, participation grew significantly in FY24. To support electrification, Roseville has continued to offer incentives on panel replacements. In FY24, participation in this offering was half of what it was the previous year, despite overall increases in electrification. It is possible that this decline is due to increased contractor education where methods for avoiding panel replacement projects are becoming more widely understood.

Commercial, Industrial & Agricultural Programs

Commercial LED and Other Lighting: Offers business customers a wide variety of energy efficient LED interior and exterior LED lighting retrofits and control options for updating their facilities.

Commercial HVAC: Includes package and split system retrofits, smart thermostats and HVAC tune ups. Offerings also included incentives for all electric systems.

Commercial Custom: Customer driven rebate option targets projects that reduce peak loads and energy consumption and offers unlimited energy efficiency technology opportunities for the large and key account customers.

Residential Programs

Low-Income Rate Assistance: Roseville Electric assisted approximately 2,044 customers in rate reduction for their utility bills in FY24. Additionally, Roseville works with local agencies and supports the local LIHEAP program.

Residential Electrification: Rebate program offering incentives for fuel substitution including transitions to Heat Pump HVACs, Heat Pump Water Heaters, Heat Pump Dryers and Induction Cooktops. Incentives for Smart Thermostats are offered in conjunction with the HVAC replacement and incentives for Panel Replacements are offered in order to make electrification accessible.

Residential Electric to Electric Appliances: Rebate offerings for customers with traditional electric HVACs/Furnaces, Water Heaters, Dryers, and Cooktops to switch to the energy efficient heat pump version and efficient induction technology for cooktops.

Residential Whole House Fan: Program offering a rebate to customers installing a permanently fixed 2000 cfm (or greater) whole house fan.

Residential Windows (Discontinued): Program for retrofit Windows must be Energy Star rated with a U-value of .30 and an SHGC of .25 or less and bear the National Fenestration Rating Council label. One residual project was completed in FY24.

Residential Home Energy Reports: Industry-recognized, contractor-managed energy efficiency behavior program providing education, feedback and tips to residential customers.

Residential HVAC: Provides rebates performing annual HVAC tune-ups and installing smart thermostats. While Traditional High Efficiency HVAC replacement offerings are no longer available through this program, FY24 produced one residual non electrification HVAC replacement.

Residential Shade Tree: Rebate program designed to incentivize and educate customers to plant drought-tolerant shade trees to keep their home cool. A local urban forester recommends trees. Energy efficiency savings for the trees was obtained from an EM&V performed in 2010.

Residential Pool Pump: Rebate program designed to incentivize customers to upgrade from a single speed to a variable speed pool pump.

Residential New Construction: An all-electric home program for single family, multifamily and accessory dwelling units offering incentives to builders. This program was designed to be consistent with new construction programs from neighboring utilities. Offerings included All Electric homes including Induction Cooktop Technology and All Electric Homes without

Induction Cooktops provided. Savings estimates are obtained from HERS energy reports and reviewed by the third-party administrator. This program has been fully reserved through 2026.

Complementary Programs

Electric Vehicle Program:

Roseville Electric participates in California Air Resource Board's (CARB) Low Carbon Fuel Standard (LCFS) Program. Proceeds from the sale of LCFS credits go to fund electric vehicle incentive programs. As the value of LCFS credits declined during 2024, this left our transportation electrification programs with more limited funding compared to previous years.

In FY2024, Roseville's residential LCFS program provided incentives for low income customers to install a Level 2 charger. In the FY25 year residential offerings were added for ebikes, including an increased incentive level for low income customers.

In addition to residential rebates, LCFS funding provided robust offerings for commercial customers. By the beginning of FY24, all commercial funding was reserved but payouts upon project completion occurred throughout the year. The commercial program included incentives towards infrastructure upgrades, free EV site assessments upon request, incentives towards electric vehicles, as well as Level 2 charging for workplaces and fleets. Additionally, incentives towards DC fast charging were available for commercial nonprofit customers. Roseville allocated a large portion of the LCFS funding this past FY to the public school system in the form of incentives for electric school buses and charging infrastructure. Roseville has maintained a focus on increasing equity enrollment in LCFS related projects.

Additionally, funding was used to promote electric vehicle adoption through outreach and education.

In FY 2023, an update to the independent assessment of the potential impact of electric vehicles to the City of Roseville Electric grid was completed for Roseville Electric Utility. This report provided recommendations for a strategic approach to address the electrification of the transportation industry. Roseville staff are using this report and other industry research to identify opportunities for improvements and expansion of our existing EV program.

Community Solar:

Roseville introduced a 986 kW community solar project, Roseville Solective, to residential households in March 2019. A portion of the program was set aside for low-income customers. The project is funded by the participants and the energy contributes to the Utility's RPS requirements. The objective is to explore options for customers who rent or otherwise choose not to install solar on their own homes.

Utility Exploration Center reimagined:

For nearly 16 years, the Roseville Utility Exploration Center (UEC) has been a learning haven for thousands of community members eager to learn about the world of utility systems. Whether navigating through a colossal trash pile or cranking a hand generator to understand electric demands, thousands of visitors have cherished unique experiences. After two years of planning and construction, the UEC has undergone a complete overhaul and is now fully reimagined for the next decade and more. The 3,000-square-foot museum has been redefined with mind-blowing exhibits and unparalleled exploration opportunities.

Prepare for a fusion of high-tech and low-tech elements within the refreshed exhibit hall. Highlights include encounters with a real garbage truck, engaging in hands-on waste sorting activities aligned with Placer County's recycling practices, delving into the fascinating realm of wastewater-cleaning microbes, and uncovering innovative approaches to delivering electricity to homes with minimal environmental impact.

Over 1,000 visitors helped us reopen the Utility Exploration Center on April 6th to celebrate all the hard work that went into this refresh. 16,000+ visitors continued to pour in April, May and June, 78% increase compared to the previous year. This investment in our community will help ensure that the UEC stays at the leading edge of utility education and community engagement.

The Utility Exploration Center developed targeted education and outreach programs for all age ranges and hosts regionally attended special events.

Age Specific Programming Includes:

- STEM Story Time for Preschoolers (1,066 attendees) – Offering stories and activities that highlight the work done by Electric employees and ways for residents to partner in conservation.
- Kindergarten and 1st grade field trips exploring energy efficiency (1,018 students and 300 adults chaperones)
- League of Explorers for 7-11 year olds, including electric themed monthly take home kits and in-person science experiments. (477 3rd-5th grade students)
- 4th Grade class visits, and traveling trunks including information on renewable energy and conducting energy audits. (50 teachers and 1,354 students)
- 8th Grade energy efficiency school and home investigation program and community energy efficiency video contest. (782 students)
- Electric Field day for High schoolers exploring how the Electric Utility operates and the career paths available to pursue (75 students)
- High school students toured the Roseville energy park including operations of a natural gas power plant to explore real world applications of the concepts they learn in school. (167 students)

- Adult learners participated in hands on workshops covering topics such as solar, electric vehicles, whole home electrification and shade tree care. (182 attendees)

Community Events include:

- Big Truck Summer – Residents watch demonstrations and get to meet Roseville Electric lineworkers who highlight the amazing work they do every day to make sure energy flows throughout the City. (900 attendees)
- Earth Night – Families join our utilities to enjoy an evening celebrating our sustainability initiatives throughout the City and learning how they can work with us to conserve our resources for the future. (830 attendees)

In partnership with our Utility Exploration Center, Roseville also offered education workshops for adults both in person and online with topics such as solar, HVAC replacements, Water Heater replacements, electric vehicles and whole home electrification.

Evaluation, Measurement & Verification Studies

Because Roseville's energy efficiency programs have had EM&Vs conducted within the last few years, and because our programs have not changed in design, we opted to not EM&V any programs during FY 2024. We plan to EM&V our electrification programs in the near future. Selection of the programs to review is prioritized by the dollars spent and savings claimed for the program or when a provisional or custom measure is introduced to our customers.

The budget for pre- and post-EM&V is determined by the program selected for review, and can vary from $20,000 up to $150,000. The budget depends on the extent of field measurement or customer surveys required to evaluate the program within the guidelines established by the California Energy Commission.

All third-party EM&V and M&V reports are published on CMUA's website under resources in the document library.

Recent Reports include:

- EM&V- Residential Home Energy Reports (2019)
- EM&V-Commercial Exterior Lighting (2017)
- EM&V- Residential HVAC, Pool Pump, Whole House Fan and Sunscreen (2016)
- M&V- Smart Thermostats (2018)
- M&V- HVAC Tune Ups (2018)

Major Differences or Diversions from CA POU TRM for Energy Savings

Roseville Electric's avoided costs are entered into the ESP reporting model and are calculated based on energy prices, transmission losses and distribution losses. All modeling is performed using these costs.

Roseville Electric relies on the savings documented in the POU TRM. If not available, the measure is entered to the ESP reporting model as a custom measure. When a custom program is entered, the source of energy savings is documented as coming from an industry approved method (Energy Reports), a published industry white paper or published EM&V. HERS reports are provided by Builders for new construction programs and reviewed by a third party consultant. Some measures utilize calculation for watts reduction with calculations for kW and kWh performed with standard industry hours of use data. Savings calculations for residential electrification were produced by a custom study completed for Roseville Electric by Energeia in 2020. Savings for commercial electrification was provided by a custom calculator developed by DNV specifically for Roseville Electric Utility, but utilizing eTRM data.

TABLE Roseville-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	4,618	65,923	0	3,918	55,421	5	$15,287	0.25	0.13	0.357
HVAC - Heat Pump	1	1,595,094	23,926,408	1	1,541,315	23,119,729	3,983	$1,420,730	1.13	0.69	0.081
Service & Domestic Hot Water	0	352,637	5,289,548	0	352,637	5,289,548	757	$307,832	1.25	0.87	0.076
Electrification	1	1,952,349	29,281,879	1	1,897,870	28,464,698	4,745	$1,743,848	1.14	0.71	0.080
Appliance & Plug Loads	28	59,652	601,640	27	36,710	372,084	109	$32,069	0.83	0.33	0.103
BROs	0	12,509,997	12,509,997	0	8,256,598	8,256,598	3,348	$589,443	1.00	1.00	0.071
Building Envelope	1	157,707	3,154,136	1	79,241	1,584,827	743	$112,753	1.14	1.38	0.102
HVAC - Cooling	10	742,113	4,955,653	9	679,270	4,559,572	2,054	$394,446	1.11	0.95	0.103
HVAC - Heat Pump	1	7,125	106,875	1	5,700	85,500	38	$14,394	0.50	0.11	0.221
Lighting - Indoor	133	488,306	5,371,366	120	439,475	4,834,229	1,635	$216,507	1.59	1.48	0.055
Lighting - Outdoor	146	445,113	4,896,243	131	400,602	4,406,619	2,030	$218,945	1.44	1.55	0.061
Service & Domestic Hot Water	0	2,350	35,250	0	1,880	28,200	13	$2,278	1.04	0.55	0.106
Energy Efficiency	320	14,412,363	31,631,160	289	9,899,476	24,127,629	9,969	$1,580,834	1.17	1.07	0.075
EE, Low Income and Electrification	321	16,364,712	60,913,039	290	11,797,347	52,592,327	14,714	$3,324,682	1.15	0.85	0.078
C&S and T&D								$0			
Utility Total	321	16,364,712	60,913,039	290	11,797,347	52,592,327	14,714	$3,324,682	1.15	0.85	0.078

TABLE Roseville-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	1	29,216	438,239	1	29,216	438,239	78	$25,934	1.19	0.65	0.078
Residential	0	1,923,133	28,843,640	0	1,868,654	28,026,459	4,666	$1,717,914	1.14	0.72	0.080
Electrification	1	1,952,349	29,281,879	1	1,897,870	28,464,698	4,745	$1,743,848	1.14	0.71	0.080
Commercial	284	1,011,843	11,214,369	256	909,608	10,077,164	3,920	$497,289	1.45	1.46	0.060
Residential	36	13,400,520	20,416,791	33	8,989,869	14,050,465	6,049	$1,083,545	1.04	0.91	0.084
Energy Efficiency	320	14,412,363	31,631,160	289	9,899,476	24,127,629	9,969	$1,580,834	1.17	1.07	0.075
EE, Low Income and Electrification	321	16,364,712	60,913,039	290	11,797,347	52,592,327	14,714	$3,324,682	1.15	0.85	0.078
C&S and T&D								$0			
Utility Total	321	16,364,712	60,913,039	290	11,797,347	52,592,327	14,714	$3,324,682	1.15	0.85	0.078

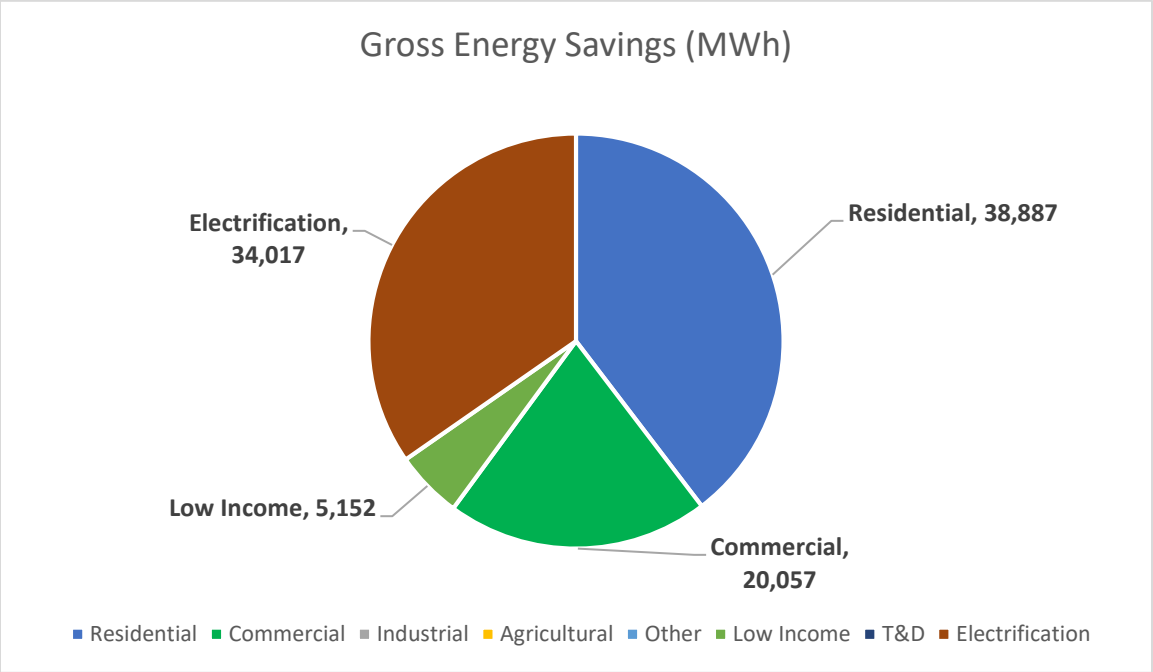
TABLE Roseville-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	0	1,118	13,415	0	1,118	13,415	-0	$2,218	0.40	0.10	0.205
Other Commercial	1	29,216	438,239	1	29,216	438,239	78	$25,934	1.19	0.65	0.078
Residential - Single-Family	0	1,922,015	28,830,225	0	1,867,536	28,013,043	4,667	$1,715,696	1.14	0.72	0.080
Electrification	1	1,952,349	29,281,879	1	1,897,870	28,464,698	4,745	$1,743,848	1.14	0.71	0.080
Office - Small	2	3,024	45,360	1	2,570	38,556	12	$3,698	0.71	0.95	0.126
Other Commercial	283	1,008,819	11,169,009	254	907,037	10,038,608	3,908	$493,591	1.46	1.47	0.060
Residential	30	12,894,166	18,359,429	29	8,552,427	12,387,706	5,288	$917,717	1.05	1.02	0.080
Residential - Single-Family	5	506,355	2,057,362	4	437,442	1,662,759	762	$165,828	1.02	0.56	0.109
Energy Efficiency	320	14,412,363	31,631,160	289	9,899,476	24,127,629	9,969	$1,580,834	1.17	1.07	0.075
EE, Low Income and Electrification	321	16,364,712	60,913,039	290	11,797,347	52,592,327	14,714	$3,324,682	1.15	0.85	0.078
C&S and T&D								$0			
Utility Total	321	16,364,712	60,913,039	290	11,797,347	52,592,327	14,714	$3,324,682	1.15	0.85	0.078

SACRAMENTO MUNICIPAL UTILITY DISTRICT

Sacramento Municipal Utility District at a Glance

- Climate Zone: 12
- Customers: 674,510
- Total annual retail sales: 10,721,201 MWh
- Annual Retail Revenue: $1,781,725,537
- Annual energy efficiency expenditures for reporting year: $55,561,769
- Gross annual savings from reporting year portfolio: 98,114 MWh



Notes on Methodology: Electrification is based on equivalent reported electrification savings in terms of kWh exclusively, taking the gas savings in therms, converting these to their kWh equivalent and then subtracting the kWh of the added electric load to get the total net kWh savings reported for a measure. These calculations were completed using internal SMUD systems, outside of the ESP platform. Low Income captures both energy efficiency and electrification measures.

Sacramento Municipal Utility District Overview

Sacramento Municipal Utility District (SMUD) is planning program changes to respond to the following industry trends, utility direction and changing customer expectations:

- In July of 2020, the SMUD Board declared a climate emergency and set a goal of delivering carbon neutral electricity by 2030.

- Diversity, Equity, Inclusion, and Belonging (DEIB) is a stated goal in SMUD culture. Many of our programs have included Equity components to help insure Inclusion. In addition, SMUD Board of Directors issued funding for a Community Impact Plan program offerings to ensure equitable access to decarbonization offerings.
- Energy efficiency, building electrification, transportation electrification, solar and storage will continue to converge toward complete energy solutions, customized to meet the needs of the customer and the utility.

Major Program and Portfolio Changes

SMUD continued long-term reduction in the overall energy efficiency budget, with an ensuing reduction in the energy and peak savings achieved in prior years. This was both a planned reduction as SMUD's focus shifted towards its 2030 Zero Carbon plan goals and a decrease in commercial program activity resulting from economic conditions. Major program changes include the following:

- Growing and scaling up residential and commercial load flexibility portfolio of programs, including My Energy Optimizer™ (MEO) Partner (residential smart thermostats), MEO Partner+ (residential battery storage), Peak Conserve™ (residential air conditioner switch), and PowerDirect (commercial autoDR program).
- The Advanced Homes program conducted delivery coordination with the statewide California TECH program, which provided incentives for heat pump water and space heating conversions.

Program and Portfolio Highlights

On July 17, 2020, the SMUD Board of Directors adopted a climate emergency declaration. The SMUD Board of Directors adopted a climate emergency declaration that commits to working toward an ambitious goal of delivering carbon neutral electricity by 2030. The declaration recognizes the immediate risks to our community and demands bold action to achieve results.

As SMUD charts the process to decarbonize our electricity supply, we recognize there is a need to help our customers decarbonize their lives also through energy efficiency, building electrification and transportation electrification. Building and transportation electrification will both place strain on the distribution grid and force a larger carbon free electricity supply. Managing the load and grid in 2030 will encourage SMUD to operate the supply and grid differently.

Due to these expected changes, SMUD is changing many of their existing programs and developing new programs to prepare SMUD and our customers to this new future. As we move forward, this will encourage more bundling of programs and care to develop programs that aid us to a carbon free future.

For 2024, SMUD spent $50.8 million for residential and commercial energy-efficiency programs, compared to a budget of $38.9 million. All expenditures are public-goods funded. These programs delivered 11 megawatts (MW) of peak-load reduction and 98.1 million kilowatt-hours (GWh) of annual energy savings.

Commercial, Industrial & Agricultural Programs

Commercial, Industrial & Agricultural Programs

Expenditures for commercial/industrial energy efficiency retrofit and electrification programs for existing buildings and facilities, and for all-electric commercial and residential new construction, were $8.2 million, with delivery of 25.8 GWh in annual energy savings.

- Customized Energy Efficiency Incentives: Promotes the installation of energy-efficient equipment, controls, and processes at commercial and industrial customer facilities. Provides incentives to contractors and/or customers to promote the installation of energy efficient lighting, HVAC, motors, and refrigeration equipment and controls. The program also provides incentives for retro-commissioning, process improvements, and data center storage projects that result in energy savings.
- Express Energy Solutions: Provides prescriptive incentives to participating qualified contractors for high-efficiency equipment across a variety of end-uses: lighting, HVAC, refrigeration, and food-service equipment. Incentives are targeted to the contractor/supplier in an effort to stimulate the market for energy-efficient equipment and services and are designed to cover a significant portion of the incremental cost of the equipment.
- Complete Energy Solutions: Third party administrator performs comprehensive energy audits of small and medium-sized businesses. Customer receives a customized report detailing recommended energy improvements, estimated savings, estimated cost and payback. Third party administrator then assists customer in hiring a contractor to complete the project.
- Integrated Design Solutions: Provides incentives to builders and their design teams to design new commercial and industrial buildings energy efficient than required by Title 24 (or typical new construction in the case of Title 24-exempt buildings and processes).
- Multifamily Retrofit: Provides incentives to apartment owners and managers to complete energy retrofits
- Smart Homes: Provides incentives to builders and their design teams to design efficient all electrics homes and apartments

Residential Programs

Expenditures for residential energy-efficiency and electrification programs for existing homes were $21.0 million and achieved 67.0 GWh in annual energy savings.

- Advanced Home Solutions: Provides rebates for qualifying (Energy Star, Consortium for Energy Efficiency, and/or other high-efficiency levels) efficiency improvements, which include mini split heat pump, heat pump space heaters and heat pump water heaters.
- Home Energy Reports: Emailed energy reports to support more energy efficient usage within a home
- Appliance Efficiency Program: Included in this program are induction cooking rebates, Refrigerator/Freezer Recycling, SHIFT, and the Retail Partnership Program.
    - Induction Cooking Rebates provides incentives for both electric replacement and gas conversions
    - Retail Partnership Program is an upstream program that works with big box retailers to pay retailer incentives for all the energy efficiency items they sell in their stores.
    - SHIFT is an upstream program that works with big box retailers to pay retailer incentives to shift adoption away from high volume non-Energy Star models

Complementary Programs

Low Income Programs

SMUD has expanded offerings for income qualified customers in 2024. While continuing to offer no-cost direct installations of electrification and energy efficiency measures to our residential low-income customers, this year commercial installations were added. Based upon SMUD's commitment to leave no community behind as part of our Community Impact Plan, SMUD has introduced low-cost direct installations for small and medium-sized businesses as well as multifamily properties serving underserved communities.

Expenditures for low-income electrification and energy efficiency programs for existing homes and businesses were $11.4M and achieved 5.2 GWh in annual energy savings.

Information/Education Programs

SMUD provides residential and commercial educational events, classes and seminars through its Energy & Technology center. These activities provide information on a wide range of distributed energy resources, including energy efficiency, building electrification, electric transportation, solar, and battery storage.

Demand-Reduction Programs

- Peak Corps and Peak Conserve (Residential Air Conditioner Load Management): Peak Corp is a legacy program in which radio-controlled cycling devices were installed on customers' central air conditioners to send a radio signal to switch, or cycle off, their air conditioners to reduce peak load on the electric system. In the late 1990's the program was transitioned into maintenance mode with no new installations. In 2010 the program was modified for emergency use only and all service and maintenance related work was

discontinued. Operators have the ability to activate the entire ACLM cycling program within a 3-minute time span, but the program has not been activated since 2000. In 2023, Peak Conserve was launched as a successor program with new two-way switches utilizing SMUD's mesh communication network.

- Power Direct (Commercial Automated Demand Response): Launched in 2013, this program enhances customer facilities' energy performance by seamlessly integrating automated response capabilities into participants' energy management, lighting, and HVAC systems; it automatically reduces electricity consumption on Conservation Days in times of high demand.
- My Energy Optimizer Partner (Residential smart thermostats): Continuing from 2022, this program utilizes smart thermostat devices for economic load curtailment events. A portion of customers were also enrolled into the Critical Peak Pricing (CPP) Rate.
- My Energy Optimizer Partner Plus (Residential battery storage): The program launched in 2023 and offers incentives and performance payments for event-based battery utilization.

Other Complimentary Programs

- Shade Trees: Provides free shade trees to SMUD customers. Implemented through the community-based non-profit Sacramento Tree Foundation (STF). STF foresters review tree selection and site locations with customers, who plant the trees.
- Electric Vehicles: In 2024, SMUD's Drive Electric program continued to promote adoption of plug-in electric vehicles through special PEV rate offerings, participation in educational events, and educational offerings through our website SMUD.org/PEV. SMUD incentivized EV chargers for commercial customers and provided rebates for EV chargers for residential customers. SMUD also completed direct installation of chargers for income eligible customers.
- Renewable Energy Programs: SMUD has continued to work closely with our community to develop new programs for our customers including an Affordable Housing Virtual Solar option. This new program, coupled with the Solar and Storage rate, has joined our voluntary green pricing programs including SolarShares, which supports expansion of distributed solar, and commercial and residential REC purchase programs.
- Codes & Standards: SMUD continues to pursue the development and implementation of codes and standards (e.g. T24, T20, etc.) as the most cost-effective source of Energy Savings. SMUD participates in several working groups, drives code compliance through programs, assists with workforce training, conducts research, and develops data management systems to improve tracking and reporting. SMUD is claiming 51 net GWh energy savings associated with the Statewide Codes and Standards Team for 2024.
- Research, Development, and Demonstration: SMUD has a centralized research and development program that conducts public good research across the electricity enterprises from the supply side to demand side. Research is conducted in eight

research areas which include renewable energy, electric transportation, climate change, distributed generation, energy efficiency, demand response, storage and smart grid. These programs seek to track emerging technologies, demonstrate promising technologies and prepare SMUD and SMUD customers for adoption of these emerging technologies.

Evaluation, Measurement & Verification Studies

Evaluation studies are managed through SMUD's Finance & Strategy division's Enterprise & Risk business unit. Studies are selected based on its importance to SMUD's Enterprise Strategy pillars, which covers a wide range of initiatives, including Environmental Leadership activities.

For 2024, evaluation studies completed included:

- My Energy Optimizer Partner Thermostat Year 2
- My Energy Optimizer Partner+ Battery Peak Conserve Summer 1
- Advanced Commercial Solutions (Integrated Design Solutions and Customized Efficiency)
- Advanced Homes Solutions HVAC

In 2025, the following evaluation studies will be completed:

- Peak Conserve Summer 2
- My Energy Optimizer Partner Thermostat Year 3
- Residential Equity Building Decarbonization
- PrePay Proof of Concept
- Transportation Electrification Portfolio Evaluability
- Home Energy Reports & Rate Coach
- PowerDirect

Major Differences or Diversions from CA POU TRM for Energy Savings

In order to determine energy savings, programs may rely on several sources: the California Technical Reference Manual, Energy Modeling Software, or specific studies conducted by utilities or recognized working groups. The goal is to use the most current studies/workpapers which best represent CZ12 and SMUD customers.

TABLE SMUD-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads		48,300	483,000		48,300	483,000	45	$543,966	0.02	0.02	1.457
HVAC - Heat Pump		24,942,862	326,179,438		24,648,783	321,768,250	24,192	$20,826,845	0.43	0.15	0.091
Miscellaneous		0	0		0	0	0	$663,500			0.000
Service & Domestic Hot Water		5,045,630	65,663,472		5,041,216	65,610,504	4,625	$4,938,040	0.21	0.28	0.106
Whole Building	17	3,980,567	79,609,560	17	3,980,513	79,608,750	3,691	$5,055,585	0.22	0.14	0.106
Electrification	17	34,017,359	471,935,470	17	33,718,812	467,470,504	32,552	$32,027,937	0.34	0.15	0.099
Appliance & Plug Loads	5,623	5,553,658	72,989,471	3,578	3,795,746	49,983,356	3,511	$1,891,593	0.44	0.09	0.054
Codes & Standards	0	51,000	765,000	0	40,800	612,000	38	$251,649	0.04	0.04	0.608
Commercial Refrigeration		52,784	791,760		42,227	633,408	39	$19,406	0.48	1.43	0.045
Food Service	0	2,468	26,910	0	1,974	21,528	2	$1,044	0.37	0.20	0.065
HVAC - Cooling	911	1,901,010	22,228,305	621	1,423,635	17,065,568	1,345	$365,324	1.04	0.45	0.030
HVAC - Heating		15,270,882	229,063,230		9,162,529	137,437,938	8,347	$1,920,185	0.17	0.01	0.021
Lighting - Indoor	182	11,396,205	79,773,435	145	9,116,964	63,818,748	8,355	$1,366,552	0.99	0.76	0.025
Service & Domestic Hot Water		202,538	3,038,070		121,523	1,822,842	111	$254,205	0.11	0.01	0.206
Whole Building	369	24,513,898	145,916,770	264	17,704,324	110,310,668	9,608	$4,396,379	0.51	0.47	0.054
Energy Efficiency	7,086	58,944,443	554,592,951	4,609	41,409,722	381,706,055	31,357	$10,466,336	0.50	0.11	0.038
Appliance & Plug Loads		4,464	44,640		4,464	44,640	4	$21,242	0.04	0.23	0.616
Food Service		6,975	69,750		5,580	55,800	5	$33,377	0.03	0.15	0.774
HVAC - Cooling	3,583	550,975	7,078,915	3,583	519,827	6,611,701	508	$1,544,541	0.13	2.74	0.326
HVAC - Heat Pump	172	1,661,691	20,819,331	172	1,603,028	20,203,992	1,567	$7,934,479	0.07	0.20	0.546
Lighting - Indoor		636,112	4,452,784		508,890	3,562,227	467	$139,328	0.55	1.73	0.047
Service & Domestic Hot Water		2,270,807	27,627,371		1,879,603	22,932,923	1,724	$3,390,968	0.11	0.22	0.203
Whole Building		20,901	313,515		16,721	250,812	16	$3,561	1.19	1.06	0.021
Low-Income	3,755	5,151,925	60,406,306	3,755	4,538,113	53,662,095	4,291	$13,067,495	0.09	0.26	0.333
EE, Low Income and Electrification	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	68,200	$55,561,769	0.31	0.14	0.087
C&S and T&D								$0			
Utility Total	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	68,200	$55,561,769	0.31	0.14	0.087

TABLE SMUD-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	17	1,492,822	22,326,120	17	1,194,275	17,861,154	1,128	$4,377,040	0.11	0.09	0.362
Residential		32,524,537	449,609,350		32,524,537	449,609,350	31,425	$27,650,897	0.38	0.15	0.089
Electrification	17	34,017,359	471,935,470	17	33,718,812	467,470,504	32,552	$32,027,937	0.34	0.15	0.099
Commercial	555	20,057,409	209,681,385	413	15,845,223	164,734,540	14,530	$4,687,886	0.64	0.56	0.038
Residential	6,531	38,887,034	344,911,566	4,196	25,564,500	216,971,515	16,827	$5,778,451	0.38	0.05	0.037
Energy Efficiency	7,086	58,944,443	554,592,951	4,609	41,409,722	381,706,055	31,357	$10,466,336	0.50	0.11	0.038
Commercial		827,538	7,289,299		662,030	5,831,439	608	$508,585	0.23	0.74	0.112
Residential	3,755	4,324,387	53,117,007	3,755	3,876,083	47,830,656	3,683	$12,558,910	0.09	0.24	0.362
Low-Income	3,755	5,151,925	60,406,306	3,755	4,538,113	53,662,095	4,291	$13,067,495	0.09	0.26	0.333
EE, Low Income and Electrification	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	68,200	$55,561,769	0.31	0.14	0.087
C&S and T&D								$0			
Utility Total	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	68,200	$55,561,769	0.31	0.14	0.087

TABLE SMUD-3. Energy Efficiency Program Results by Building Type

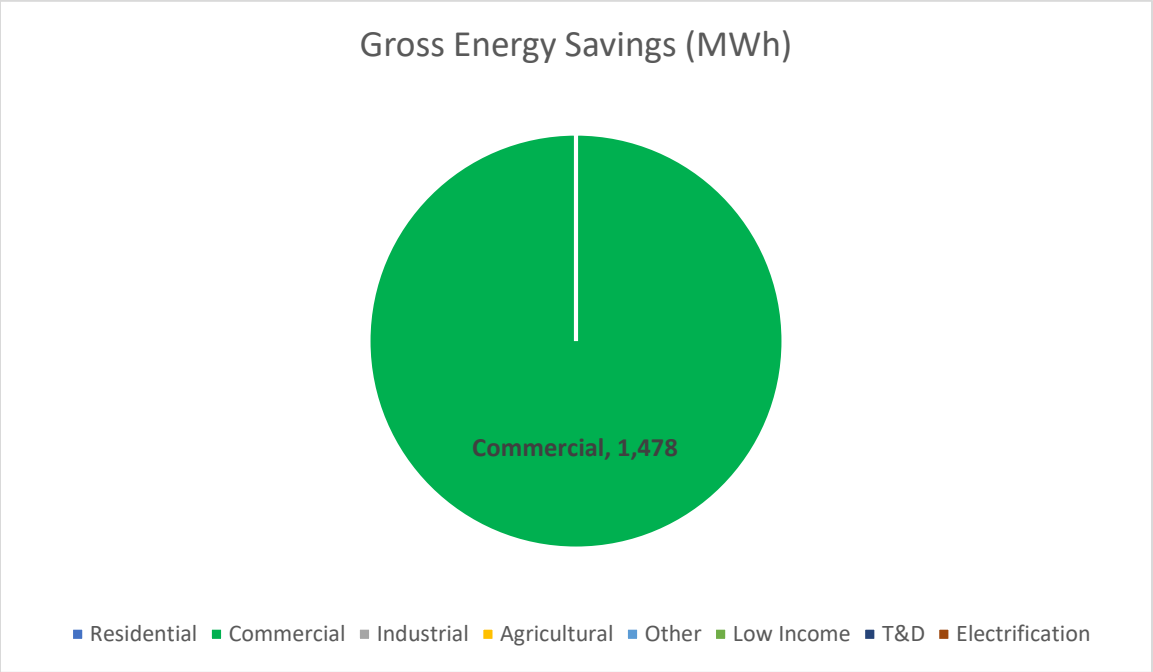
Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Assembly		82,242	1,233,630		65,794	986,904	61	$230,342	0.11	0.06	0.345
Education - Community College		1,344,800	20,172,000		1,075,840	16,137,600	1,017	$2,175,250	0.20	0.20	0.199
Education - Primary School		0	0		0	0	0	$57,750			0.000
Education - Secondary School	5	84	1,260	5	84	1,260	0	$367,237	0.00	0.00	430.609
Manufacturing Light Industrial		1	15		1	12	0	$146,252	0.00	0.00	18,006.373
Office - Large		5,910	88,650		4,728	70,920	4	$290,399	0.01	0.02	6.050
Office - Small		55,737	769,845		44,590	615,879	41	$569,104	0.02	0.04	1.328
Other Agricultural	12	1	15	12	1	15	0	$4,251	0.00	0.00	418.713
Residential - Multi-Family		1,719,976	31,004,320		1,719,976	31,004,320	1,600	$2,442,515	0.19	0.17	0.128
Residential - Single-Family		30,804,561	418,605,030		30,804,561	418,605,030	29,825	$25,208,382	0.40	0.15	0.086
Restaurant - Fast-Food		0	0		0	0	0	$225,159			0.000
Retail - Large		4,047	60,705		3,238	48,564	3	$311,297	0.00	0.02	9.470
Electrification	17	34,017,359	471,935,470	17	33,718,812	467,470,504	32,552	$32,027,937	0.34	0.15	0.099
Any	0	51,000	765,000	0	40,800	612,000	38	$251,649	0.04	0.04	0.608
Assembly		710,346	5,108,022		560,649	3,972,005	514	$61,232	1.35	1.45	0.018
Education - Primary School	89	711,585	4,981,095	71	569,268	3,984,876	515	$136,549	0.56	0.08	0.041
Education - Secondary School		1,080,609	12,885,855		937,659	11,406,262	851	$349,329	0.54	0.49	0.043
Education - University		41,006	287,042		32,805	229,634	30	$5,221	0.83	1.44	0.027
Grocery		73,150	512,050		58,520	409,640	54	$1,830	4.59	0.99	0.005
Health/Medical - Hospital	0	118,425	832,543	0	94,740	666,034	87	$28,880	0.47	1.32	0.052
Health/Medical - Nursing Home		114,560	801,920		91,648	641,536	84	$29,455	0.44	1.21	0.055
Lodging - Hotel		811,734	12,176,010		649,387	9,740,808	596	$156,274	1.03	2.33	0.024
Lodging - Motel		0	0		0	0	0	$36,624			0.000
Manufacturing Biotech	56	2,540,616	32,680,256	20	1,194,596	13,575,752	1,096	$528,182	0.44	0.45	0.054
Manufacturing Light Industrial	184	2,681,309	39,108,435	176	2,568,283	37,635,292	2,356	$1,358,722	0.46	0.41	0.053
Office - Large	94	2,539,979	22,390,143	35	1,923,445	16,284,041	1,770	$353,229	0.93	1.28	0.028
Office - Small	88	2,943,350	38,006,834	76	2,610,585	34,244,041	2,404	$1,013,003	0.59	0.55	0.042
Other Agricultural		0	0		0	0	0	$34,000			0.000
Other Commercial	8	2,831,092	19,893,644	6	2,265,919	15,930,590	2,077	$328,154	1.02	1.57	0.025
Residential		17,060,900	34,121,800		11,942,630	23,885,260	4,320	$1,288,970	0.64	0.64	0.056
Residential - Single-Family	6,531	21,775,134	310,024,766	4,196	13,581,070	192,474,255	12,469	$4,237,832	0.32	0.03	0.032
Restaurant - Sit-Down		129,064	903,448		103,251	722,758	95	$47,303	0.33	0.61	0.078
Retail - Large	15	2,634,502	18,441,514	12	2,107,602	14,753,211	1,932	$203,278	1.58	2.22	0.016
Retail - Small	21	96,082	672,574	17	76,866	538,059	70	$4,791	2.45	4.09	0.011

Storage - Unconditioned		0	0		0	0	0	$11,830			0.000
Energy Efficiency	7,086	58,944,443	554,592,951	4,609	41,409,722	381,706,055	31,357	$10,466,336	0.50	0.11	0.038
Assembly		375,194	2,791,262		300,155	2,233,010	275	$246,476	0.19	0.60	0.134
Health/Medical - Hospital		8,100	121,500		6,480	97,200	6	$47,271	0.06	0.15	0.719
Office - Large		209,993	1,963,447		167,994	1,570,758	154	$116,042	0.26	1.03	0.097
Other Commercial		0	0		0	0	0	$4,500			0.000
Residential - Multi-Family		2,241,521	26,431,755		1,793,217	21,145,404	1,650	$2,850,658	0.12	0.17	0.183
Residential - Single-Family	3,755	2,082,866	26,685,252	3,755	2,082,866	26,685,252	2,033	$9,708,252	0.08	0.31	0.508
Restaurant - Sit-Down		106,666	1,462,235		85,333	1,169,788	78	$66,602	0.27	1.05	0.082
Retail - Large		127,585	950,855		102,068	760,684	94	$27,693	0.58	1.79	0.044
Low-Income	3,755	5,151,925	60,406,306	3,755	4,538,113	53,662,095	4,291	$13,067,495	0.09	0.26	0.333
EE, Low Income and Electrification	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	68,200	$55,561,769	0.31	0.14	0.087
C&S and T&D								$0			
Utility Total	10,857	98,113,727	1,086,934,727	8,380	79,666,647	902,838,655	68,200	$55,561,769	0.31	0.14	0.087

SAN FRANCISCO PUBLIC UTILITIES DISTRICT

San Francisco Public Utilities District at a Glance

- Climate Zone: 3
- Customers: 7,003
- Total annual retail sales: 940,181 MWh
- Annual Retail Revenue: $166,558,139
- Annual energy efficiency expenditures for reporting year: $404,304
- Gross annual savings from reporting year portfolio: 1,478 MWh



San Francisco Public Utilities Commission Overview

The San Francisco Public Utilities Commission (SFPUC)'s Hetch Hetchy Power manages a portfolio of electric generation, which includes the Hetch Hetchy Water and Power System, which generates an average of 1.4 million MWh of clean hydroelectric power each year, 28 municipal solar photovoltaic installations (8.0 MW), and a biogas cogeneration facility (2 MW). Hetch Hetchy Power has made a commitment to energy efficiency as its highest priority resource.

Historically, Hetch Hetchy Power's energy efficiency programs have mainly targeted its municipal customers, and most of its programs have been provided at no charge to these civic agencies. Hetch Hetchy Power also now offers programs for its growing residential and commercial customer sectors.

Major Program and Portfolio Changes

This year's energy savings are primarily derived from direct install lighting projects at Hamilton Recreation Center, Richmond Recreation Center, Multi-Service Center South, San Francisco Police Department (SFPD) Tenderloin Station and SFPD Stables. There were also retrocommissioning and controls projects at the Veterans Building and Multi-Service Center South.

Program and Portfolio Highlights

Energy efficiency has been an essential component of Hetch Hetchy Power's resource portfolio for more than a decade. In the current reporting period, FY 2023-24, completed energy efficiency projects and programs are estimated to save 491 MWh (net savings) of electricity per year, at a utility cost of $304,000. Hetch Hetchy Power's energy efficiency projects and programs also achieve significant natural gas savings each year, which are accounted for separately from this report.

Program highlights for FY 2023-24 include:

- High bay gym lighting retrofit at Hamilton Recreation Center
- High bay gym lighting and exterior lighting retrofit at Richmond Recreation Center
- Interior lighting retrofit at Multi-Service Center South
- Interior lighting retrofit at SFPD Stables
- Interior lighting retrofit at SFPD Tenderloin Station
- Retrocommissioning at the War Memorial Veterans Building
- Controls retrofit at Multi-Service Center South

Commercial, Industrial & Agricultural Programs

Hetch Hetchy Power's energy efficiency programs are generally tailored to each customer (almost all of which are other City departments), because most of these customers are large and have varied property characteristics. These programs include:

- General Fund Program: This program provides complete retrofit services and customized incentives to targeted municipal customers. The program focuses on City agencies that are funded primarily through local tax receipts, fees, and federal/state-funded programs. These customers are considered hard-to-reach (due to limited access to capital and engineering, as well as insufficient price signals).
- Civic Center Sustainability District: Through a partnership with the Clinton Global Initiative, this program demonstrates green, renewable and energy efficient

technologies as a national model for sustainability in historic districts. For energy efficiency projects, the program provides free energy audits, design, construction management, construction services, and full funding to buildings in the City's Civic Center historic district.

- Energy Benchmarking Program: San Francisco requires owners of non-residential buildings over 10,000 square feet to annually benchmark and disclose the energy performance of their buildings. In FY 2023-24, Power Enterprise released its twelfth annual report benchmarking the energy performance of San Francisco's municipal buildings.
- Upgrade for Savings: Hetch Hetchy Power offers customized cash incentives and technical support to help customers make significant upgrades to energy-efficient equipment, systems, and operational practices.
- Blueprint for Savings: This new construction energy efficiency program offers design assistance and cash payments to building owners and design teams planning to construct highly energy efficient buildings 50,000 square feet or larger.

Residential Programs

Hetch Hetchy Power primarily serves municipal loads. Hetch Hetchy Power provides distribution service to the former military installations at Treasure Island and Hunters Point, both of which are in the process of being redeveloped to residential/commercial uses. Additional energy efficiency activities for this new residential use are limited as these new units are being built to the latest code and energy efficiency standards. In addition, Hetch Hetchy Power serves a limited number of affordable housing sites. New programs are under development to serve these customers.

Complementary Programs

Hetch Hetchy Power offers several related programs, among them:

Renewable Energy Programs:

- Municipal Renewable Program: Under this program, Hetch Hetchy Power directly installs, maintains, and operates solar PV systems on municipal buildings throughout the City and County of San Francisco; and
- GoSolarSF: This program provides incentive payments to San Francisco residents and businesses installing rooftop solar projects. The program includes a component for low-income residents, which complements a statewide program administered by Grid Alternatives, a nonprofit organization.

Electrification Programs:

- All Electric Multifamily Program: This program provides free electrification planning services, including a building electrification-focused audit and roadmap, for eligible affordable housing developments.
- EV Charge SF: This program provides incentive payments and technical support for qualified municipal, commercial, and multifamily customers installing electric vehicle charging beyond code minimums.
- Electrify My Ride: This program provides point-of-sale rebates for income-qualified customers to purchase electric bicycles.

Evaluation, Measurement & Verification Studies

Historically, most of the energy efficiency retrofit projects funded by Hetch Hetchy Power have included an individual M&V study following the International Performance Measurement and Verification Protocol (IPMVP). These projects have included an M&V plan with a sampling plan, a logging plan, an approach to data recovery and analysis, and a written report.

Major Differences or Diversions from CA POU TRM for Energy Savings

Hetch Hetchy Power's mostly direct-install energy efficiency portfolio allows it to report energy savings based on site-specific engineering studies with detailed ex ante savings estimates. These studies base savings on on-site collected data for hours of operation, nameplate data for replaced equipment, and detailed site-specific costs. As such, Hetch Hetchy Power assumes an "existing conditions" baseline for energy savings calculations, and accordingly, Hetch Hetchy Power does not separately claim savings from code advocacy.

TABLE SFPUC-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
HVAC - Heating	4	1,124,947	16,874,212	4	1,124,947	16,874,212	3,884	$194,648	3.16	10.52	0.015
Lighting - Indoor	36	259,900	3,898,500	36	259,900	3,898,500	1,301	$193,443	2.03	10.52	0.066
Miscellaneous	0	93,473	1,402,100	0	93,473	1,402,100	295	$16,213	2.58	10.52	0.015
Energy Efficiency	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
EE, Low Income and Electrification	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
C&S and T&D								$0			
Utility Total	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024

TABLE SFPUC-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
Energy Efficiency	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
EE, Low Income and Electrification	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
C&S and T&D								$0			
Utility Total	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024

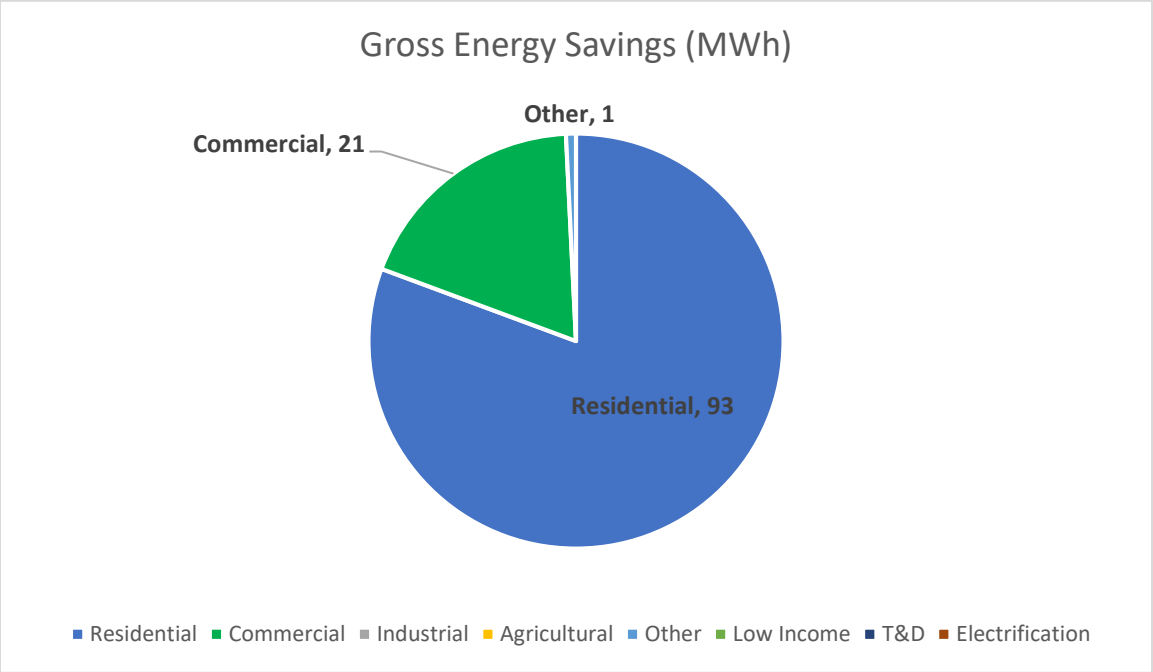
TABLE SFPUC-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Other Commercial	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
Energy Efficiency	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
EE, Low Income and Electrification	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024
C&S and T&D								$0			
Utility Total	40	1,478,321	22,174,812	40	1,478,321	22,174,812	5,480	$404,304	2.60	10.52	0.024

CITY OF SHASTA LAKE

City of Shasta Lake at a Glance

- Climate Zone: 11
- Customers: 4,597
- Total annual retail sales: 198,620 MWh
- Annual Retail Revenue: $33,073,350
- Annual energy efficiency expenditures for reporting year: $120,994
- Gross annual savings from reporting year portfolio: 115 MWh



Shasta Lake Overview

The City of Shasta Lake (CSL) is located in Shasta County north of Redding. CSL invests its Public Benefit funds to promote positive community impacts by promoting electricity-saving measures. CSL utilizes a comprehensive set of traditional rebate programs available to all customers under retrofit projects.

Major Program and Portfolio Changes

Reportable savings tend to fluctuate dramatically from year to year. In the last five years, CSL has achieved 71% of net kWh savings targets.

Program and Portfolio Highlights

The Residential Direct Install Program provided 42% of the gross annual savings in FY24. The program provides instant kWh savings by installing lighting and water savings measures at no cost to the customer.

Commercial, Industrial & Agricultural Programs

CSL manages a comprehensive energy efficiency incentive program for commercial customers focusing on energy efficiency and peak load reduction. Rebates are available for upgraded lighting, HVAC, appliances, refrigeration equipment, electronics, and, in cases where an analysis is performed, rebates can be offered for additional equipment that reduces energy use and/or demand. On-site energy audits are provided by CSL energy specialists. Energy efficiency measures are recommended, and additional visits are completed upon request.

- Commercial/Industrial Lighting Program: CSL offers rebates to business owners who invest in the installation of energy efficiency lighting upgrades. There is a prevalence of inefficient lighting throughout the City and most high bay lighting uses high intensity discharge fixtures instead of more efficiency fluorescent or LED fixtures.
- Commercial HVAC: The City offers rebates to commercial customers for energy efficient HVAC upgrades.
- Commercial Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems.
- Commercial Appliances: Rebates are available for energy efficient cooking equipment such as ovens, dishwashers, fryers, griddles, etc.
- Commercial Electronics: The City offers rebates for uninterrupted power supplies, plug-load occupancy sensors and smart power strips.
- Commercial/Industrial Custom Program: CSL offers rebates to business owners based on site-specific consumption. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the customer project.

Residential Programs

CSL manages a comprehensive energy efficiency incentive program for residential customers. Rebates are offered for the installation of various energy efficiency measures, such as lighting, HVAC, appliances and weatherization. On-site energy audits are provided by CSL energy specialists. Energy efficiency measures are recommended, and additional visits are completed upon request.

- Residential Lighting Program: CSL offers rebates to homeowners who install ENERGY STAR® qualified LED lamps/bulbs, ceiling fans and LED holiday lights.
- Residential HVAC Program: CSL offers rebates to homeowners who install high performance heat pumps, central air-conditioners, room air-conditioners, or whole

house fans that exceed current state requirements. CSL also offers a rebate for duct sealing when not required by code.

- Residential Equipment Program: CSL offers rebates to homeowners who purchase new ENERGY STAR qualified products, including clothes washers, room air conditioners, dishwashers, pool pumps, and refrigerators.
- Residential Weatherization Program: CSL offers rebates to homeowners who invest in weatherizing their homes, including attic and wall insulation, window treatments/replacement, air/duct sealing and radiant barriers.
- Residential Heat Pump Water Heater Rebate Program: CSL offers rebates to homeowners who purchase a new, energy efficient heat pump water heater.

Complementary Programs

- Low-Income Programs: Lifeline monthly rate discount program and one-time bill assistance known as SHARE
- Renewable Energy Programs: Focus on customized solar projects that benefit the City
- Research, Development, and Demonstration: Focuses on LED lighting in various applications, community solar charging station(s) and latest HVAC applications in City owned facilities
- Electric Vehicles: Support of local business in conversion of combustion engine vehicles to electric vehicles
- Water Conservation: Rebates offered for clothes washers with any domestic hot water source, toilets, and automatic irrigation controllers.

Evaluation, Measurement & Verification Studies

EM&V reports for CSL are posted on the CMUA website.

Major Differences or Diversions from CA POU TRM for Energy Savings

CSL has relied heavily on the energy savings listed in the POU TRM, the eTRM, and the Bonneville Power Administration. Non-residential lighting, custom projects and non-deemed measures utilize custom savings calculations.

TABLE CSL-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	895	8,951	0	716	7,161	3	$2,661	0.31	0.31	0.449
Appliance & Plug Loads	1	6,459	47,141	1	4,926	30,948	11	$20,739	0.17	0.16	0.767
Building Envelope	8	42,146	842,917	3	12,335	246,708	57	$15,165	0.95	0.84	0.090
HVAC - Cooling	2	3,948	58,265	1	3,038	45,004	18	$18,028	0.58	0.63	0.534
HVAC - Heat Pump	3	9,142	137,134	2	5,668	85,023	36	$31,987	0.73	0.68	0.503
Lighting - Indoor	3	26,449	266,771	3	24,940	250,628	90	$13,138	2.17	2.14	0.063
Lighting - Outdoor	2	24,160	283,834	1	19,386	227,804	102	$8,535	3.05	2.44	0.047
Service & Domestic Hot Water	0	2,138	21,383	0	1,487	14,874	5	$10,743	0.14	0.13	0.873
Energy Efficiency	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173
EE, Low Income and Electrification	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173
C&S and T&D								$0			
Utility Total	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173

TABLE CSL-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	895	8,951	0	716	7,161	3	$2,661	0.31	0.31	0.449
Commercial	0	21,415	256,977	0	17,132	205,581	95	$5,933	3.97	3.13	0.036
Residential	19	93,028	1,400,468	11	54,648	695,408	225	$112,401	0.75	0.71	0.212
Energy Efficiency	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173
EE, Low Income and Electrification	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173
C&S and T&D								$0			
Utility Total	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173

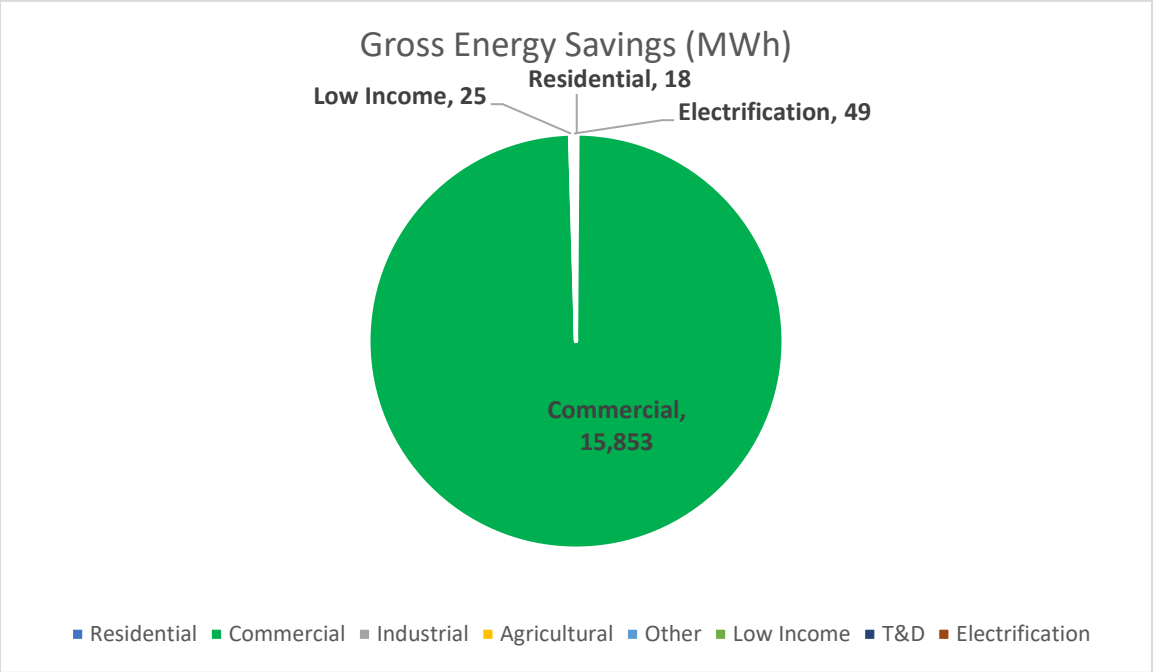
TABLE CSL-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	2	606	3,610	1	334	2,019	1	$1,891	0.13	0.11	1.057
Multiple	8	46,279	496,624	6	39,238	404,896	150	$70,275	0.85	0.79	0.214
Residential	8	45,144	874,535	3	14,600	274,171	70	$35,028	0.63	0.66	0.184
Residential - Single-Family	1	1,894	34,651	1	1,192	21,483	6	$7,868	0.36	0.28	0.524
Retail - Large	0	21,415	256,977	0	17,132	205,581	95	$5,933	3.97	3.13	0.036
Energy Efficiency	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173
EE, Low Income and Electrification	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173
C&S and T&D								$0			
Utility Total	19	115,337	1,666,397	11	72,496	908,151	323	$120,994	0.90	0.84	0.173

SILICON VALLEY POWER

Silicon Valley Power at a Glance

- Climate Zone: 4
- Customers: 60,685
- Total annual retail sales: 4,479,607 MWh
- Annual Retail Revenue: $620,605,445
- Annual energy efficiency expenditures for reporting year: $3,976,841
- Gross annual savings from reporting year portfolio: 15,945 MWh



Silicon Valley Power Overview

Silicon Valley Power (SVP) is unique in its mix of customers. While 85% of the customers are residential, 94% of the utility retail sales are to commercial, industrial and municipal customers. Over 75% of our electric load is attributable to our largest “Key Customers" and more than half comes from data centers. Historically, it is those customers, including the large data centers, who implement a few large projects that make up the majority of our annual energy savings each year. Our unique customer mix and mild climate results in very little energy savings from the residential sector as compared to the business sector. This is partly because we do not have a high residential air conditioning load, which often makes up a large percentage of residential energy portfolio savings in other climate zones.

Major Program and Portfolio Changes

In FY 2023-2024, Silicon Valley Power made the following changes to its program portfolio:

- Residential Building Electrification Rebates – In February 2024, Silicon Valley Power launched residential building electrification rebates for the replacement of gas water heaters, stovetops and clothes dryers with efficient electric heat pump water heaters, induction cooktops and electric clothes dryers. Tiered incentives are provided to pay higher incentives based on income eligibility for income-qualified customers.
- Silicon Valley Power added the following complimentary programs to its portfolio in FY 2023-2024 which are described in more detail in the complimentary programs section of this report: add-on incentives for electric panel upgrades when installing a residential building electrification measure, circuit pauser/splitter rebates, commercial and nonprofit solar rebate programs, a trade school scholarship for income-qualified customers and a residential battery storage rebate.
- Silicon Valley Power resumed its after-school energy education program with the Santa Clara Unified School District as part of its overall energy efficiency education and outreach program. This effort is targeted at fourth grade students and teaches them about energy conservation and efficiency, as well as renewable resources. It includes hands on components, such as conducting a simple home energy audit and building a solar powered model car.

Program and Portfolio Highlights

In FY 2023-2024, Silicon Valley Power customers completed a total of 7 large custom incentive projects under the Customer Directed Rebate and Date Center Rebate programs. These projects contributed approximately 13 million kWh in gross energy savings to the program's overall goal.

The Customer Directed Rebate and Data Center Rebate programs were developed years ago in recognition of the unique customer base served by Silicon Valley Power. The programs provide opportunities for energy-efficiency projects that may not otherwise fit into the utility's standard rebate and customer assistance offerings. Any energy efficiency project that decreases energy consumption at a facility in Santa Clara and is not already covered under one of our other rebate programs may qualify. Customers must provide a measurement and verification plan that is approved by Silicon Valley Power before work can begin. Pre- and post-inspection and validation of energy savings is required. Under the data center program, performance payments are made annually to ensure savings are achieved, as data centers do not always build out as planned and occupancy can vary. The performance incentive component has been well-received by Silicon Valley Power's customers, as the rebate is paid to the facility's operating budget annually after the initial capital project is closed. This was a benefit to the customer that utility staff did not anticipate and the performance incentive is now used for

building controls and any custom project where energy savings have a high level of uncertainty. Lighting retrofits are the second largest contributor to Silicon Valley Power's energy efficiency goals with nearly 2.7 million kWh in energy savings.

Commercial, Industrial & Agricultural Programs

- Business Rebates: Encourages businesses to install energy efficient lighting, air conditioners, motion sensors, programmable thermostats, food service equipment, etc. The programs are occasionally changed to match statewide programs.
- Emerging Technologies Grant: The program provides grants to encourage businesses to develop new energy-related technologies. The incentive is paid in two installments. The first payment of 50% of the incentive will be paid upon completion of the project and the second payment of 50% will be paid upon verification of energy savings. This is intended to encourage customers to implement innovative energy efficiency projects and minimize some of the risks involved if the savings do not materialize as expected, which has been one of the barriers to program adoption. SVP reviews emerging technologies and reaches out to customers to inform them about the program and appropriate emerging technologies for their business.
- Commercial New Construction Rebate: This program provides a rebate to customers who exceed Title 24 by 10% for the measure being incentivized, in line with our other prescriptive rebates for retrofit projects. A tiered Design Team Incentive is provided up to $50,000.
- Business Energy Audits: Provides free energy efficiency audits to business customers. Energy & Resource Solutions administers this and other business PBC programs.
- Enhanced Ventilation Controls Rebate: This program provides an incentive per ton for adding enhanced ventilation controls to HVAC rooftop packaged units 15 tons or smaller.
- Small Business Efficiency Services Program: This program is targeted at small business customers, and provides assistance in identifying energy efficiency projects, selecting and managing contractors, and help with filling out rebate application paperwork. The program also provides a 35% incentive for lighting and HVAC rebates, provided that customers to install the lighting measures within 6 months of program enrollment and HVAC measures within 12 months of enrollment in order to receive the additional incentive.
- Controls Program: This program is available for projects where at least 80% of the savings come from the control strategies. Incentives are paid on a performance basis with 6 payments made over 5 years. The first payment is made upon project completion and each additional annual payment will be subject to commissioning of the controls system and validation of persistent energy savings.

- Public Facilities' Energy Efficiency Program: SVP provides technical assistance and financial incentives for the expansion, remodel, and new construction of City of Santa Clara buildings.
- Data Center Efficiency Program: This program targets data centers with IT server load greater than 350 kW or cooling load greater than 100 tons. The incentive is paid as a performance incentive, where the customer will receive five annual payments based on actual measured energy savings, with the first payment made three months after project completion.
- Customer Directed Rebate: This program provides incentives based on actual energy saved for energy efficiency measures that do not fall into SVP's standard business rebate programs.
- Energy Efficiency Grant Program for Nonprofit Organizations: Organizations registered as a 501c3 are eligible for a grant up to $25,000 to fund energy efficiency upgrades in their facilities. The grant requires a 20% matching funds contribution through cash, other grant funding, donations, or some other documented means.
- Commercial Electrification Rebates: Silicon Valley Power offers commercial electrification rebates including a custom rebate for conversion to heat recovery chillers, a custom rebate for heat pump pool heaters, a rebate for heat pump air conditioners, bonus incentives for electrification of food service equipment and a rebate for installation of heat pump water heaters. The heat pump air conditioner rebate program also offers an incentive to help cover the cost of infrastructure improvements needed to accommodate the new equipment.

Residential Programs

- Residential Pool Pump Rebate: This program provides a rebate to residential customers installing a new variable speed pool pump with a qualifying controller.
- ENERGY STAR Residential Heat Pump Electric Water Heater Rebate: SVP offers a rebate for the purchase of an ENERGY STAR-qualified electric heat pump water heater. The rebate is tiered to provide higher incentives based on income eligibility for income-qualified customers.
- Residential Energy Efficiency Education and Energy Conservation Hot Line: The program encourages residents to become more energy efficient and reduce their energy bills. SVP staffs an information booth at City events, providing education on energy efficiency and solar electric generation systems to residents. Staff also answers an energy conservation hotline to assist customers in reducing their electric usage through energy conservation tips, assistance in analyzing energy usage, and suggestions for energy efficiency and building electrification retrofits.
- SVP Marketplace: Online marketplace where customers can purchase energy efficient products. The marketplace includes instant rebates on equipment such as ENERGY STAR room air cleaners and electric yard care equipment. Manufacturer rebates are also

provided for a variety of products including smart thermostats and various types of LED light bulbs.

- Heat Pump Water Heater Electrification Program – Silicon Valley Power provides funding for a regional midstream heat pump water heater electrification program through BayREN where enrolled contractors receive a $1000 incentive for installing an electric heat pump water heater in place of a natural gas water heater.
- Residential Building Electrification Rebates – In February 2024, Silicon Valley Power launched residential building electrification rebates for the replacement of gas water heaters, stovetops and clothes dryers with efficient electric heat pump heaters, induction cooktops and electric clothes dryers. Tiered incentives are provided to pay higher incentives based on income eligibility for income-qualified customers.

Complementary Programs

- Financial Rate Assistance Program (FRAP) – This program provides a discount ranging from 25-40% discount on the electric portion of utility bills for income-qualified residential customers, up to the first 800 kWh of use per month. Discounts are tiered based on income levels.
- Low Income EV Charging Station Grant for Multifamily properties – Under its low-income programs, SVP offers a grant of up to $1,000 per charging station for multifamily properties where a specified percentage of customers residing at the property qualify for SVP's low income programs. This is in addition to the rebate program the utility offers to all multifamily complexes in Santa Clara.
- Income-Qualified Solar Grant Program – Silicon Valley Power offers a grant up to $10,500 to install solar photovoltaic (PV) systems on the homes of low-income residents that will offset nearly 100% of their annual energy consumption.
- Electric Vehicle Charging Infrastructure Rebate - This program provides a rebate up to $550 per residential electric vehicle charger installed at residences receiving electricity from Silicon Valley Power. Multifamily housing can receive a rebate up to $3,000 per Level 2 charger installed, and schools and non-profit organizations can receive up to $5,000 per Level 2 charging station installed.
- Income-Qualified Pre-Owned Electric Vehicle Rebate – this program provides a $1500 rebate to income qualified customers for the purchase of an all-electric pre-owned vehicle or $1000 rebate for the purchase of a pre-owned plug-in hybrid electric vehicle (PHEV). Customers who meet LIHEAP income eligibility requirements receive an additional $1000 rebate and vehicles with an MPGe of 117 or greater are eligible for an additional $1,000 rebate.
- Electric Bicycle Rebate – This program provides a rebate of 10% of the purchase price of an electric bicycle, up to $300. Income-qualified customers can receive a bonus incentive of $200.

- Smart Electric Panel Rebates – Silicon Valley Power provides a rebate of $2,000 for residential customers who upgrade their electric panel to a smart panel and install an EV charger or a home electrification measure. A bonus incentive of $1,000 is available to income qualified customers. Customers meeting LIHEAP income guidelines receive an additional $1000 for a total of $4000.
- Multifamily Boiler Electrification Pilot Program – This program provides up to $100,000 in funding for the conversion of a natural gas boiler to an electric boiler at multifamily complexes with at least 25 dwelling units. The program covers up to 100% of the incremental cost of replacing the gas boiler with an efficient boiler.
- Educational Outreach in Schools - Silicon Valley Power contracts with Tinker Teach to provide online energy efficiency education modules for 4th and 10th grade classrooms located within the city of Santa Clara. Tinker Teach works with teachers at the schools to provide the modules, training materials and the opportunity to earn mini grants for classroom supplies. Students can compete for points and earn prizes based on completion of the modules. Content is tailored to showcase examples relevant to the local electric utility.
- Induction Cooking Demonstration Classes – Silicon Valley Power retrofitted the Santa Clara Unified School District's Adult Education Cooking Classroom with six induction cooktops and new cookware. The utility sponsors monthly cooking classes for Santa Clara residents to cook on induction cooktops and provides educational materials about the benefits of induction cooktops. Classes are fully funded by Silicon Valley Power and the School District charges a small fee to ensure those who enroll show up for the class.
- Commercial Solar Rebate Program - Silicon Valley Power offers a solar photovoltaic (PV) rebate to commercial customers who install a qualifying PV system between 200kW and 1 MW, not to exceed 80% of the facility's annual electric usage. The program is intended to help offset the utility's peak demand, especially during the summer months. Rebates will be paid as either an up-front rebate or as a performance-based incentive over two years.
- Nonprofit Solar Grant - Qualifying nonprofit organizations can receive a grant for installing a solar photovoltaic (PV) system at their facility. The grant may cover a significant portion of the system cost, with additional funds allocated for qualifying building repairs or infrastructure to make the site PV-ready.
- Trade School Scholarships - Silicon Valley Power provides scholarships up to $5,000 for eligible customers interested in furthering their career in an area supporting the energy industry. This program supports Santa Clara residents to help learn the skills to earn a livable wage while pursuing high demand careers in the energy industry.
- Student Grants for Energy Efficiency and Renewable Energy Projects - Silicon Valley Power offers grants up to $5,000 for high school students to create projects or awareness campaigns that will educate the Santa Clara community about energy efficiency and/or renewable energy.

- Community Outreach Grants for Energy Efficiency and Building Electrification Education - Silicon Valley Power offers grants up to $10,000 for not-for-profit community-based organizations to identify and provide outreach to underserved Santa Clara residential and small business customers, with an emphasis on diversity, equity and inclusion. Examples include but are not limited to educational videos, online resources, printed outreach materials, webinars or workshops.

Evaluation, Measurement & Verification Studies

Silicon Valley Power regularly conducts EM&V studies of its rebate programs. The most current study is planned to kick off in March 2025 and will be available in the fall. All past EM&V studies conducted on behalf of Silicon Valley Power can be found on the California Municipal Utilities Association website: https://www.cmua.org/emv-reports.

Major Differences or Diversions from CA POU TRM for Energy Savings

Silicon Valley Power uses the California eTRM for the majority of its energy savings. Where no savings value exists, Silicon Valley Power uses actual savings verified through metering or an approved measurement and verification plan. In the case of lighting projects, Silicon Valley Power uses a lighting calculator that utilizes actual operating hours. A copy of the calculator can be found at siliconvalleypower.com/businesses/rebates.

TABLE SVP-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	1	18,475	69,224	1	16,369	59,955	12	$1,116,779	0.01	0.01	21.097
Commercial Refrigeration	1	4,249	56,928	0	3,117	40,964	9	$19,388	0.28	0.26	0.611
HVAC - Cooling	1,285	12,932,122	193,981,830	1,092	10,992,304	164,884,555	34,878	$1,675,294	13.25	3.48	0.014
HVAC - Heat Pump	0	9,855	118,260	0	4,928	59,130	12	$54,250	0.13	0.12	1.155
Lighting - Indoor	300	2,702,622	13,513,110	195	1,762,401	8,812,004	1,804	$1,152,633	0.92	0.45	0.143
Process	23	204,392	3,065,880	20	173,733	2,605,998	550	$52,546	6.71	2.18	0.027
Energy Efficiency	1,610	15,871,715	210,805,231	1,309	12,952,851	176,462,607	37,265	$4,070,890	5.81	2.34	0.030
Service & Domestic Hot Water	0	48,776	487,756	0	48,776	487,756	96	($804,475)	0.01	0.01	-1.995
Electrification	0	48,776	487,756	0	48,776	487,756	96	($804,475)	0.01	0.01	-1.995
Appliance & Plug Loads	0	24,788	41,502	0	24,788	41,502	8	$710,427	0.01	0.01	17.420
Low-Income	0	24,788	41,502	0	24,788	41,502	8	$710,427	0.01	0.01	17.420
EE, Low Income and Electrification	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	37,369	$3,976,841	5.94	2.36	0.030
C&S and T&D								$0			
Utility Total	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	37,369	$3,976,841	5.94	2.36	0.030

TABLE SVP-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	1,608	15,853,240	210,736,008	1,308	12,936,482	176,402,652	37,253	$2,954,111	8.00	2.63	0.022
Residential	1	18,475	69,224	1	16,369	59,955	12	$1,116,779	0.01	0.01	21.097
Energy Efficiency	1,610	15,871,715	210,805,231	1,309	12,952,851	176,462,607	37,265	$4,070,890	5.81	2.34	0.030
Residential	0	48,776	487,756	0	48,776	487,756	96	($804,475)	0.01	0.01	-1.995
Electrification	0	48,776	487,756	0	48,776	487,756	96	($804,475)	0.01	0.01	-1.995
Residential	0	24,788	41,502	0	24,788	41,502	8	$710,427	0.01	0.01	17.420
Low-Income	0	24,788	41,502	0	24,788	41,502	8	$710,427	0.01	0.01	17.420
EE, Low Income and Electrification	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	37,369	$3,976,841	5.94	2.36	0.030
C&S and T&D								$0			
Utility Total	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	37,369	$3,976,841	5.94	2.36	0.030

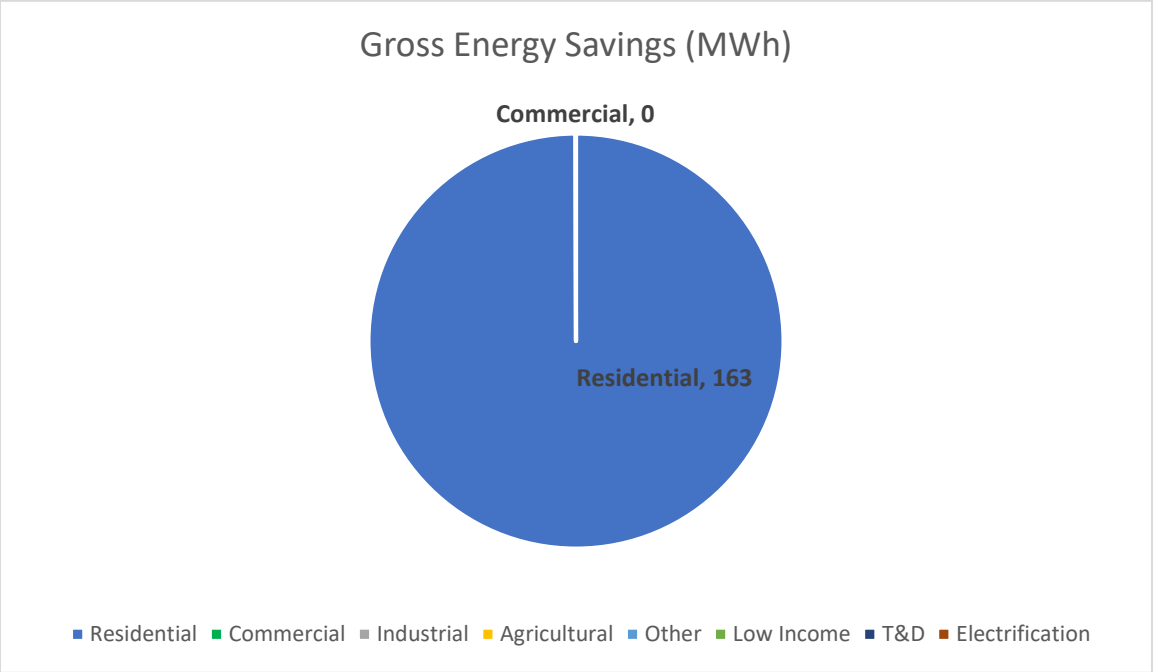
TABLE SVP-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	1,610	15,858,396	210,782,932	1,309	12,940,865	176,442,537	37,261	$3,727,593	6.34	2.42	0.028
Residential - Single-Family	0	13,319	22,300	0	11,987	20,070	4	$343,298	0.01	0.01	17.407
Energy Efficiency	1,610	15,871,715	210,805,231	1,309	12,952,851	176,462,607	37,265	$4,070,890	5.81	2.34	0.030
Multiple	0	48,776	487,756	0	48,776	487,756	96	($804,475)	0.01	0.01	-1.995
Electrification	0	48,776	487,756	0	48,776	487,756	96	($804,475)	0.01	0.01	-1.995
Residential - Single-Family	0	24,788	41,502	0	24,788	41,502	8	$710,427	0.01	0.01	17.420
Low-Income	0	24,788	41,502	0	24,788	41,502	8	$710,427	0.01	0.01	17.420
EE, Low Income and Electrification	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	37,369	$3,976,841	5.94	2.36	0.030
C&S and T&D								$0			
Utility Total	1,610	15,945,278	211,334,490	1,309	13,026,415	176,991,865	37,369	$3,976,841	5.94	2.36	0.030

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

Truckee Donner Public Utility District at a Glance

- Climate Zone: 16
- Customers: 14,676
- Total annual retail sales: 166,385 MWh
- Annual Retail Revenue: $33,149,400
- Annual energy efficiency expenditures for reporting year: $659,750
- Gross annual savings from reporting year portfolio: 163 MWh



Truckee Donner Public Utility District Overview

Truckee Donner Public Utility District (TDPUD) serves electricity and water to the greater Truckee area comprised of approximately 44 square miles in eastern Nevada County and approximately 1.5 square miles in adjacent Placer County. TDPUD is governed by a locally elected Board of Directors consisting of 5 members with staggered 4-year terms and operates on a calendar year budget. TDPUD is a transmission-dependent utility within NV Energy's control area and secures electric resources primarily through the Utah Associated Municipal Power System (UAMPS). TDPUD has been successful in transitioning towards renewable energy sources (well in excess of our Renewable Portfolio Standard requirements), keeping rates stable, and investing in accessible, cost-effective, energy efficiency programs.

Major Program and Portfolio Changes

This year TDPUD has continued to maintain its programs as they start to mature. No significant changes were made in 2024.

Program and Portfolio Highlights

TDPUD's Residential Energy Survey's has historically been very popular program with customers. In the fourth quarter of 2023 TDPUD expanded its virtual energy audit services to all customers. PY 2024 marks the first complete year for which this program was available to customers. The District continued to offer complimentary energy audits to commercial customers on an ad hoc basis (upon request).

The District has seen increased uptake on heat-pumps and heat-pump water heaters, as well as for induction cooktops in 2024. Uptake on traditional energy efficiency measures have seen a slight plateau, though interest in TDPUD's programs are consistent with local economic conditions and customer satisfaction is high.

Commercial, Industrial & Agricultural Programs

Commercial Custom Rebate (Non-Res Process): Provides incentives to commercial electric customers for replacing inefficient plant equipment with high efficiency equipment. Customers receive a rebate proportional to the projected first year energy savings. No activity occurred for this program in 2024.

Commercial Energy Survey: The District provides ad hoc energy surveys to commercial customers upon request, and subject to staff resources. These energy surveys provide customers analysis of their energy use patterns and an on-site review of their facilities and equipment. The complimentary survey delivers a set of no-capitol, low-capital, and high-capitol recommendations for business owners to follow-up on.

Commercial Efficient Upgrades: The District began working on a commercial menu program (equivalent in implementation to our Residential Energy Upgrades). The program will officially launch in 2025, though a couple of rebates were funneled through in 2024 as a pilot.

Residential Programs

Residential Appliance Rebate (Appliance): Provides increasing incentives to customers to purchase more energy efficient appliances as identified by Energy Star. Due to the saturation of Energy Star appliance purchases this program now only provides rebates for induction cook-tops and energy star air purifiers.

Heat Pump Water Heater (Res Electric Water Heater): Provides a $750 rebate for electric water heaters with a UEF > 2.85, and $1,000 for gas to electric conversions.

Residential Building Efficiency Rebates (Res Shell): Provides an incentive of up to $200 each for building envelope and/or duct air leakage tests and up to $500 (50% of project cost) each for building envelope or duct leakage mitigation.

Thermally Efficient Windows Rebate (Res Shell): Provides an incentive of $3.50 per square foot of window to replace qualifying single-pane windows. Primary heating source must be a permanent electric space heating system.

Water-Efficient Toilet Rebate (Non-Res Process): Encourages customers to replace high-water use toilets with low water use toilets (1.28 and 1.6 GPF) by providing increasing incentives for more efficient toilets. Rebates range from $25 to $100.

EV Charger Rebates: This rebate pays up to $950 for any (new) EV smart charger installed at a customer's home with proof of an EV registered at the address. Lower rebates available if the EV charger is not "smart" but is Energy Star listed.

Heat Pumps (Space Heating): Heat-pumps replace existing gas furnaces or older (inefficient) heat pumps as the main source of heat for the customer. Rebates are tiered based on the efficiency of the unit(s) being installed and scale with the size of the system (in Tons). Rebates span from $250 per Ton for an 8.5 HSPF system replacing a pre-existing heat pump to $800 per Ton for a 10 HSPF unit replacing a gas furnace.

Complementary Programs

Residential Energy Survey – RES (Res comprehensive): Provides free residential energy surveys and free energy and water-saving measures energy efficient LED bulbs, low-flow shower heads, faucet aerators, weather stripping, and pipe insulation at the time of survey. Customers are also informed about TDPUD conservation programs and good energy efficiency habits that they may benefit from and provided with associated literature.

Commercial Energy Survey: The District provides ad hoc energy surveys to commercial customers upon request, and subject to staff resources. These energy surveys provide customers analysis of their energy use patterns and an on-site review of their facilities and equipment. The complimentary survey delivers a set of no-capitol, low-capital, and high-capitol recommendations for business owners to follow-up on.

Payment Assistance Program Income-Qualified (Res Comprehensive): Provides an annual bill credit and a free residential energy survey to income qualified customers. Customers are qualified by an intermediary agency and are eligible for a one-time credit equal to two-times their highest energy charge in the past 12-months upon completion of the required Residential Energy Survey (RES). The requirement of the RES has been suspended during the COVID-19 crisis and all participants will be offered the RES when re-instated.

Patricia S. Sutton Conservation Garden (Not Evaluated): Promotes water-efficient landscaping by demonstrating, at the TDPUD's headquarters, native and drought tolerant plants,

hardscaping/mulching techniques, and efficient irrigation. Plant lists, design, and materials used in the project are all available via a web-based resource at www.tdpud.org.

School Conservation Education (Res Comprehensive): Promotes energy and water conservation through an innovative series of programs designed to both educate students and deliver, for free, energy and water savings measures.

Renewable Energy Generation: The District helps buy down the cost of additional renewable generation components within its energy portfolio. This increases our renewables within our RPS while maintaining low rates for our customers.

Evaluation, Measurement & Verification Studies

TDPUD is currently securing an EM&V contractor for a post hoc evaluation of PY 2024. Results will be reported via TDPUD's website once available.

Major Differences or Diversions from CA POU TRM for Energy Savings

Energy savings were predominately derived from the CA eTRM and in some cases were pulled from the CMUA POU TRM or from the Pacific Northwest Regional Technical Forum (RTF). One notable exception is found in the embedded energy value applied to our water-energy nexus measures. The embedded energy content for water-energy nexus measures was derived by our EM&V consultant in 2014 using actual water pumping data provided by the District.

TABLE TDPUD-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	0	1,229	13,148	0	676	7,232	3	$13,233	0.06	0.07	2.247
Building Envelope	0	15,791	406,797	0	4,422	113,903	24	$25,180	0.11	0.11	0.366
HVAC - Heat Pump	10	84,994	1,274,907	5	46,747	701,199	250	$25,136	3.08	1.90	0.048
Miscellaneous	1	13,088	21,214	1	9,226	16,133	6	$396,146	24.72	24.40	28.699
Process	0	61	666	0	33	366	0	$109,019	0.00	0.00	367.590
Service & Domestic Hot Water	5	48,116	481,155	3	26,464	264,635	95	$5,416	5.55	4.90	0.025
Whole Building	0	47	47	0	47	47	0	$85,620	0.00	0.00	1,806.325
Energy Efficiency	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793
EE, Low Income and Electrification	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793
C&S and T&D								$0			
Utility Total	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793

TABLE TDPUD-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	0	61	666	0	33	366	0	$106,559	0.00	0.00	359.296
Residential	17	163,265	2,197,269	10	87,581	1,103,149	378	$553,190	17.91	18.01	0.665
Energy Efficiency	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793
EE, Low Income and Electrification	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793
C&S and T&D								$0			
Utility Total	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793

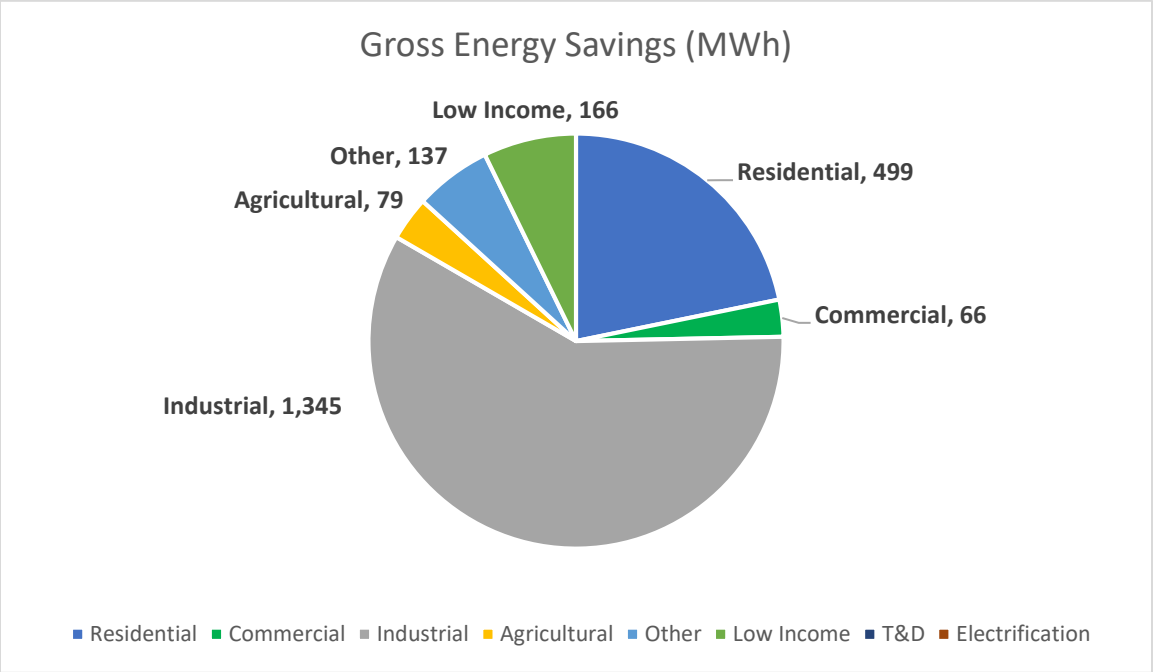
TABLE TDPUD-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	17	163,265	2,197,269	10	87,581	1,103,149	378	$553,190	17.91	18.01	0.665
Retail - Small	0	61	666	0	33	366	0	$106,559	0.00	0.00	359.296
Energy Efficiency	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793
EE, Low Income and Electrification	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793
C&S and T&D								$0			
Utility Total	17	163,326	2,197,935	10	87,614	1,103,515	378	$659,750	15.01	15.11	0.793

TURLOCK IRRIGATION DISTRICT

Turlock Irrigation District at a Glance

- Climate Zone: 12
- Customers: 95,780
- Total annual retail sales: 2,258,282 MWh
- Annual Retail Revenue: $321,738,686
- Annual energy efficiency expenditures for reporting year: $1,340,341
- Gross annual savings from reporting year portfolio: 2,292 MWh



Turlock Irrigation District Overview

Turlock Irrigation District (TID) continues to help customers achieve energy savings through the implementation and promotion of a variety of energy efficiency programs for all rate classes. Many programs provide rebate opportunities to encourage customers to conserve energy. A significant portion of the energy efficiency measures adopted by our customers were implemented by industrial and commercial segments. TID provides a variety of options for businesses that are looking to make changes in their existing systems by making upgrades or retrofitting their existing facility. Rebates are available that address areas such as lighting, compressed air systems, refrigeration systems, motors, gaskets, chillers and many other systems components.

Major Program and Portfolio Changes

We also had our Electric Vehicle & Charging rebate programs, which has seen a large increase in rebates since we started these programs in 2019. These programs were funded through the Low Carbon Fuel Standard (LCSF) program which promotes GHG reductions through transportation electrification. TID had offered residential and non-residential customers rebates when they purchased a plug-in electric vehicle or installed an EV charger. TID has expended $1,251,008.61 and issued 2,342 rebates for residential customers, 94 for non-residential through 2024. TID has also installed 10 TID-owned EV Level 2 Chargers for public use.

Program and Portfolio Highlights

TID's Custom rebate accounted for 90% of the total program savings in 2024. This was driven by lighting projects completed by our non-residential customers. TID is continuing this lighting program through the end of 2025, at which time it will be retired and no longer available.

Commercial, Industrial & Agricultural Programs

- Commercial LED rebate programs: TID offers our non-residential customers a lighting rebate that is paid based on first year kWh savings.
- Commercial and Industrial HVAC: TID offers a prescriptive rebate for heating and cooling measures that, as a summer peaking utility, can greatly benefit our customers.

Residential Programs

TID offers many rebates for Heating & Cooling, Appliances and General Improvements. In 2024, TID adopted the Residential HVAC Tuneup rebate program year around, offering customers a rebate incentive when they had a tuneup performed on their heating & cooling systems. During this time, we saw more than 200 customers take advantage of this rebate. We marketed both to our customers and local HVAC contractors to promote the new program, which has made this program successful.

Multifamily Direct Install Program: TID has contracted to provide weatherization services for residents who live in multifamily complexes. The program enables customers to reduce their energy bills by implementing feasible measures to make their homes more energy efficient.

Complementary Programs

- TID CARES Program: An energy assistance program for qualified customers to receive a discount on their monthly energy bills. The CARES program reduces the monthly customer charge of $17 to $6, a savings of $11, and provides a 15% discount on the first 800 kWh energy charges.

- Medical Rate Assistance: The District provides a 50% discount on the first 500-kWh energy charges for customers who use additional energy due to life-support equipment or a medical condition.
- Weatherization: TID has contracted with organizations within our community to provide weatherization services for families who meet the income qualification guidelines. The program enables families to reduce their energy bills by making their homes more energy efficient.

Evaluation, Measurement & Verification Studies

Our 2023 EM&V is available at: https://www.cmua.org/emv-reports

Major Differences or Diversions from CA POU TRM for Energy Savings

TID continues to calculate the savings for each individual project. In order to capture actual savings for our lighting rebates, paid by first year kWh savings, we administer a pre-inspection for each project to establish a baseline usage. We also administer a post-inspection to confirm the number of fixtures that were upgraded, installed and de-lamped. In doing this we are able to confirm actual savings as precisely as possible.

TABLE TID-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	867	13,006	0	737	11,055	4	$2,505	0.52	0.47	0.303
Appliance & Plug Loads	87	11,408	159,712	74	9,697	135,755	48	$28,244	0.57	0.44	0.273
Building Envelope	47	91,929	1,011,221	31	63,301	696,313	243	$142,930	0.86	0.95	0.253
HVAC - Cooling	9	16,725	131,504	7	13,871	110,052	47	$43,514	0.67	0.38	0.464
Lighting - Indoor	2	39,326	589,888	2	29,966	449,483	163	$34,199	1.53	1.29	0.102
Miscellaneous	0	154	1,386	0	131	1,178	0	$689	0.18	0.18	0.693
Service & Domestic Hot Water	1	5,529	55,289	1	4,658	46,583	17	$2,915	1.50	2.29	0.076
Low-Income	146	165,938	1,962,005	115	122,361	1,450,419	522	$254,995	0.89	0.79	0.223
Appliance & Plug Loads	0	62,644	671,254	0	33,749	361,431	119	$31,456	1.26	0.44	0.107
Building Envelope	3	3,913	47,196	1	1,313	17,573	6	$4,779	0.43	0.23	0.361
Commercial Refrigeration	0	57,414	861,218	0	34,449	516,731	143	$30,389	2.41	1.89	0.079
HVAC - Cooling	283	590,562	8,745,473	167	350,238	5,299,740	1,846	$467,581	2.03	1.14	0.121
Lighting - Indoor	19	1,163,250	17,415,061	10	638,903	9,565,353	3,105	$444,564	2.20	1.04	0.062
Lighting - Outdoor	3	137,116	2,056,746	2	75,414	1,131,210	520	$57,446	2.28	1.45	0.068
Process	0	6,669	66,688	0	4,001	40,013	14	$3,253	1.33	0.31	0.098
Service & Domestic Hot Water	0	11,524	115,243	0	6,757	67,566	25	$5,065	1.34	0.71	0.091
Water Pumping / Irrigation	0	78,620	1,179,300	0	31,448	471,720	165	$26,496	1.96	0.34	0.075
Whole Building	16	14,550	290,996	13	12,367	247,347	78	$14,316	1.66	1.66	0.085
Energy Efficiency	324	2,126,262	31,449,174	193	1,188,640	17,718,683	6,022	$1,085,345	2.08	1.03	0.082
EE, Low Income and Electrification	470	2,292,200	33,411,179	308	1,311,000	19,169,103	6,545	$1,340,341	1.85	1.00	0.094
C&S and T&D								$0			
Utility Total	470	2,292,200	33,411,179	308	1,311,000	19,169,103	6,545	$1,340,341	1.85	1.00	0.094

TABLE TID-2. Energy Efficiency Program Results by Sector

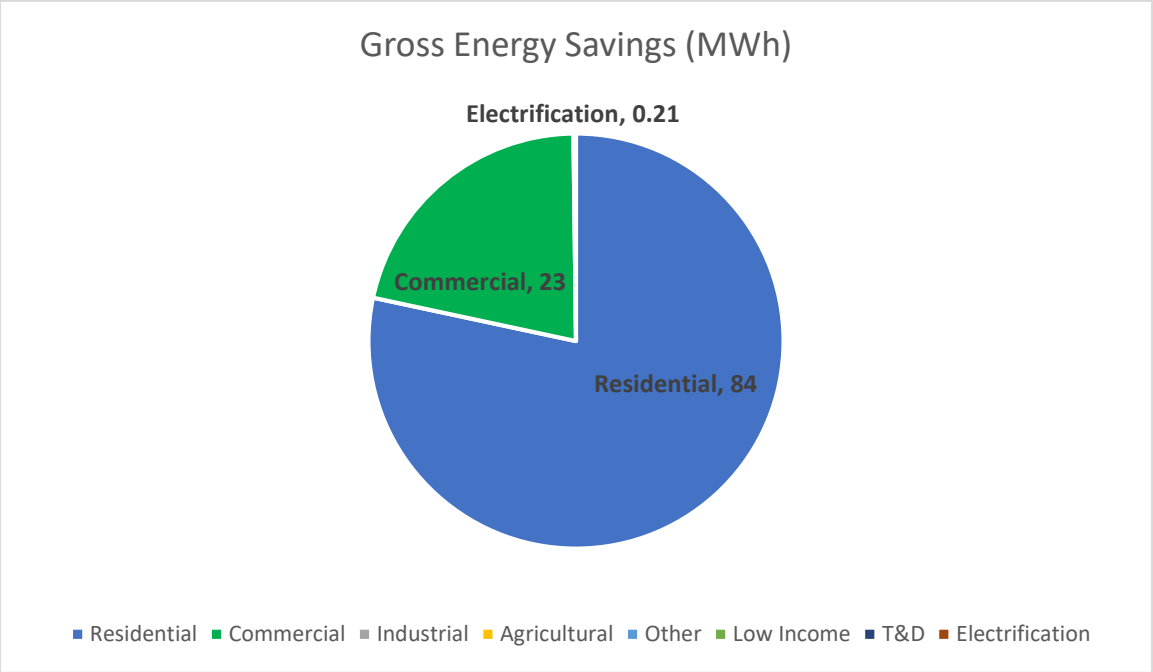
Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	146	165,938	1,962,005	115	122,361	1,450,419	522	$254,995	0.89	0.79	0.223
Low-Income	146	165,938	1,962,005	115	122,361	1,450,419	522	$254,995	0.89	0.79	0.223
Agricultural	0	78,620	1,179,300	0	31,448	471,720	165	$26,496	1.96	0.34	0.075
Any	3	137,116	2,056,746	2	75,414	1,131,210	520	$57,446	2.28	1.45	0.068
Commercial	10	66,025	990,369	5	34,054	510,808	176	$26,081	2.06	0.95	0.068
Industrial	155	1,345,069	20,142,687	92	753,724	11,285,861	3,498	$551,780	2.26	0.93	0.065
Residential	156	499,432	7,080,071	94	293,999	4,319,084	1,663	$423,543	1.82	1.43	0.134
Energy Efficiency	324	2,126,262	31,449,174	193	1,188,640	17,718,683	6,022	$1,085,345	2.08	1.03	0.082
EE, Low Income and Electrification	470	2,292,200	33,411,179	308	1,311,000	19,169,103	6,545	$1,340,341	1.85	1.00	0.094
C&S and T&D								$0			
Utility Total	470	2,292,200	33,411,179	308	1,311,000	19,169,103	6,545	$1,340,341	1.85	1.00	0.094

TABLE TID-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Residential	109	85,674	1,037,841	93	72,823	882,165	299	$131,990	0.89	0.71	0.191
Residential - Mobile Home	8	32,976	399,752	5	19,785	239,851	88	$40,476	1.02	1.02	0.215
Residential - Multi-Family	28	41,770	469,387	17	25,062	281,632	118	$79,143	0.80	0.80	0.349
Residential - Single-Family	1	5,518	55,025	1	4,690	46,771	17	$3,386	1.30	1.84	0.088
Low-Income	146	165,938	1,962,005	115	122,361	1,450,419	522	$254,995	0.89	0.79	0.223
Assembly	2	8,467	127,005	1	4,657	69,853	24	$3,762	2.06	0.72	0.072
Grocery	0	51,232	768,488	0	30,740	461,093	124	$27,970	2.41	1.91	0.081
Other Agricultural	0	85,289	1,245,988	0	35,449	511,733	179	$29,750	1.89	0.34	0.077
Other Industrial	3	137,116	2,056,746	2	75,414	1,131,210	520	$57,446	2.28	1.45	0.068
Residential	82	377,911	5,867,681	49	222,584	3,562,631	1,404	$355,410	1.90	1.69	0.139
Residential - Single-Family	74	121,521	1,212,391	45	71,415	756,453	259	$68,133	1.43	0.68	0.115
Restaurant - Fast-Food	9	57,558	863,364	4	29,397	440,955	152	$22,319	2.07	1.00	0.068
Storage - Conditioned	150	549,497	8,242,454	90	306,906	4,603,584	1,443	$219,648	2.25	0.75	0.064
Storage - Unconditioned	3	565,834	8,487,517	2	311,209	4,668,134	1,511	$211,300	2.18	1.43	0.060
Warehouse - Refrigerated	2	171,836	2,577,541	1	100,869	1,513,038	406	$89,609	2.47	0.70	0.079
Energy Efficiency	324	2,126,262	31,449,174	193	1,188,640	17,718,683	6,022	$1,085,345	2.08	1.03	0.082
EE, Low Income and Electrification	470	2,292,200	33,411,179	308	1,311,000	19,169,103	6,545	$1,340,341	1.85	1.00	0.094
C&S and T&D								$0			
Utility Total	470	2,292,200	33,411,179	308	1,311,000	19,169,103	6,545	$1,340,341	1.85	1.00	0.094

City of Ukiah at a Glance

- Climate Zone: 2
- Customers: 7,899
- Total annual retail sales: 105,784 MWh
- Annual Retail Revenue: $30,112,700
- Annual energy efficiency expenditures for reporting year: $114,707
- Gross annual savings from reporting year portfolio: 107 MWh



Ukiah Overview

The City of Ukiah (Ukiah) is located in Mendocino County on Highway 101 approximately 100 miles north of San Francisco. The City is committed to helping customers manage energy use through energy education and a comprehensive menu of energy efficiency incentives. The City also provides funding to assist income-qualified customers.

Major Program and Portfolio Changes

There were no major program changes in FY24. Ukiah started a Low-Income Direct Install Program in FY23 and a Commercial Lighting Do It Yourself program will begin in FY25. Ukiah also began incentivizing induction cooktops and ranges in FY24. Additionally, in FY24, Ukiah

offered a rebate for replacing gas-powered outdoor yard equipment with fully electric equipment.

Program and Portfolio Highlights

The Residential Direct Install Program delivered the greatest percentage of savings in FY24, accounting for 61% of the total savings. Ukiah achieved 51% of the target energy savings for the past five reporting years.

Commercial, Industrial & Agricultural Programs

Ukiah provides comprehensive energy efficiency incentive program offerings for commercial and industrial customers focusing on energy efficiency and peak load reduction. Rebates are available for upgraded lighting, HVAC, appliances, refrigeration equipment, and electronics, and in cases where an analysis is performed rebates can be offered for additional equipment that reduces energy use and demand. Energy specialists provide on-site energy audits. Energy efficiency measures are recommended, and additional visits are completed upon request.

- Non-Res Lighting: Ukiah offers rebates to business owners who invest in the installation of energy-efficient lighting upgrades. There is a prevalence of inefficient lighting throughout the city instead of more efficient fluorescent or LED fixtures.
- Non-Res HVAC: Ukiah offers rebates to commercial customers for energy-efficient HVAC upgrades.
- Non-Res Refrigeration: Rebates are available to improve the efficiency of commercial refrigeration systems.
- Non-Res Appliances: Rebates are available for energy-efficient cooking equipment such as ovens, dishwashers, fryers, griddles, etc.
- Non-Res Electronics: The City offers rebates for uninterrupted power supplies, plug-load occupancy sensors, and smart power strips.
- Non-Res Custom: The City offers rebates to business owners based on site-specific consumption. Rebates are tailored to the individual business owner's needs based on the audit and the potential energy savings associated with the customer project.

Residential Programs

Ukiah provides comprehensive energy efficiency incentive program offerings for residential customers. Rebates are offered for the installation of various energy efficiency measures, such as lighting, HVAC, appliances, and weatherization. Energy specialists provide on-site energy audits. Energy efficiency measures are recommended, and additional visits are completed upon request.

- Residential Lighting: Ukiah offers rebates to homeowners who install ENERGY STAR® qualified LED lamps/bulbs, ceiling fans, and LED holiday lights.

- Residential HVAC: Ukiah offers rebates to homeowners who install high-performance heat pumps and air-conditioners that exceed current state requirements. Ukiah also offers a rebate for duct sealing when not required by code.
- Residential Equipment: Ukiah offers rebates to homeowners who purchase new ENERGY STAR-certified products, including clothes washers, induction cooktops and ranges, dishwashers, pool pumps, refrigerators, and advanced power strips. Rebates are also available for refrigerator and freezer recycling.
- Residential Weatherization: Ukiah offers rebates to homeowners who invest in weatherizing their homes, including attic and wall insulation, window treatments/replacement, solar attic fans, and air sealing.
- Residential Water Heater Rebate: Ukiah offers rebates to homeowners who purchase a new, energy-efficient electric water heater.

Complementary Programs

- Low-Income Programs: Ukiah offers a low-income bill assistance program to eligible customers.
- Renewable Energy Program: Ukiah offers net metering agreements to customers wishing to install Solar PV.
- Electric Yard Equipment rebates were offered in FY24 for replacing gas powered items with fully electric equipment.
- Electric Vehicles: In addition to the 8 Tesla Fast Charging stations, the Electric Utility has installed four Level II chargers in the downtown area and is reviewing additional locations throughout the city. Ukiah has also received approval to offer a rebate for installation of a Level 2 EV charger in customer homes and up to $4,000 for public or workplace Level 2 chargers.

Evaluation, Measurement & Verification Studies

EM&V information for the City can be found at www.cmua.org.

Major Differences or Diversions from CA POU TRM for Energy Savings

Ukiah has relied heavily on the unit energy savings listed in CMUA's POU TRM, the eTRM, and the Bonneville Power Administration. The Commercial Lighting and Commercial Custom programs use custom savings calculations.

TABLE Ukiah-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	212	3,392	0	212	3,392	1	$3,709	0.15	0.09	1.490
Electrification	0	212	3,392	0	212	3,392	1	$3,709	0.15	0.09	1.490
Appliance & Plug Loads	2	18,413	104,784	2	16,561	89,145	35	$32,905	0.54	0.51	0.409
Building Envelope	0	4,442	88,840	0	1,417	28,346	8	$5,264	0.58	0.68	0.273
HVAC - Cooling	28	5,312	78,225	17	3,925	58,023	24	$17,519	0.83	0.79	0.405
HVAC - Heat Pump	1	7,942	119,135	1	4,924	73,864	32	$16,685	1.00	0.81	0.302
Lighting - Indoor	9	44,319	460,787	8	40,784	421,914	155	$22,204	3.10	3.10	0.064
Lighting - Outdoor	3	18,346	209,371	2	15,123	172,556	76	$14,310	1.54	0.58	0.103
Service & Domestic Hot Water	2	7,811	78,111	1	2,393	23,928	9	$2,110	2.03	2.04	0.107
Energy Efficiency	45	106,586	1,139,254	30	85,127	867,775	340	$110,999	1.33	1.05	0.158
EE, Low Income and Electrification	45	106,798	1,142,646	30	85,339	871,167	341	$114,707	1.29	1.00	0.163
C&S and T&D								$0			
Utility Total	45	106,798	1,142,646	30	85,339	871,167	341	$114,707	1.29	1.00	0.163

TABLE Ukiah-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	212	3,392	0	212	3,392	1	$3,709	0.15	0.09	1.490
Electrification	0	212	3,392	0	212	3,392	1	$3,709	0.15	0.09	1.490
Commercial	3	22,907	274,885	2	18,326	219,908	89	$6,621	3.94	0.86	0.038
Residential	42	83,679	864,369	28	66,802	647,867	251	$104,378	1.16	1.10	0.198
Energy Efficiency	45	106,586	1,139,254	30	85,127	867,775	340	$110,999	1.33	1.05	0.158
EE, Low Income and Electrification	45	106,798	1,142,646	30	85,339	871,167	341	$114,707	1.29	1.00	0.163
C&S and T&D								$0			
Utility Total	45	106,798	1,142,646	30	85,339	871,167	341	$114,707	1.29	1.00	0.163

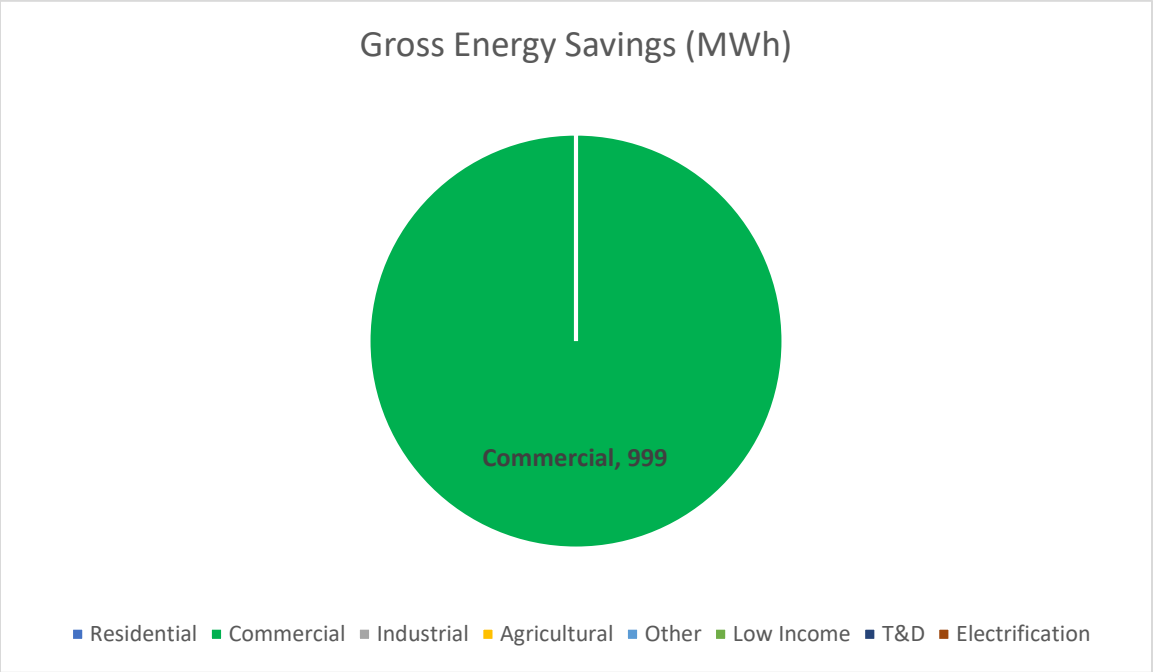
TABLE Ukiah-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Any	0	212	3,392	0	212	3,392	1	$3,709	0.15	0.09	1.490
Electrification	0	212	3,392	0	212	3,392	1	$3,709	0.15	0.09	1.490
Any	2	865	4,905	1	523	2,965	1	$9,989	0.04	0.04	3.760
Multiple	43	82,039	803,397	29	68,224	647,684	246	$69,968	1.61	1.45	0.131
Residential	0	8,811	149,538	0	4,487	71,758	27	$21,060	0.70	0.73	0.403
Residential - Single-Family	0	760	12,084	0	604	9,905	4	$5,718	0.33	0.37	0.799
Retail - Large	0	14,111	169,330	0	11,289	135,464	62	$4,263	4.12	0.62	0.040
Energy Efficiency	45	106,586	1,139,254	30	85,127	867,775	340	$110,999	1.33	1.05	0.158
EE, Low Income and Electrification	45	106,798	1,142,646	30	85,339	871,167	341	$114,707	1.29	1.00	0.163
C&S and T&D								$0			
Utility Total	45	106,798	1,142,646	30	85,339	871,167	341	$114,707	1.29	1.00	0.163

VERNON PUBLIC UTILITIES

Vernon Public Utilities at a Glance

- Climate Zone: 8
- Customers: 1,761
- Total annual retail sales: 1,031,891 MWh
- Annual Retail Revenue: $169,046,104
- Annual energy efficiency expenditures for reporting year: $113,887
- Gross annual savings from reporting year portfolio: 999 MWh



Vernon Overview

The City of Vernon, located in climate zone 8, is 5.2 square miles and located southeast of Downtown Los Angeles. Founded in 1905, Vernon currently houses more than 1,800 businesses that employ approximately 50,000 people, serving as a vital economic engine in the region. Vernon is home to various businesses that specialize in food and agriculture, apparel, steel, plastics, logistics, information technology and home furnishings.

Vernon Public Utilities (VPU) is an essential resource for the City's ever-growing and evolving business community. As such, the current and future energy efficiency portfolio of VPU is designed to align with the utility's goal of serving its predominantly commercial and industrial customer base with reliable and cost competitive utility rates.

Major Program and Portfolio Changes

For FY24, VPU launched its Commercial Energy Rebate Program (CERP), which provided customers with deemed incentives on various measures that include LED Lighting, HVAC, Heat Pumps and restaurant equipment. In addition, the utility continues to educate its business community on the importance of efficiency through its no-cost energy audit services. Over the years, businesses have successfully leveraged VPU's complimentary energy audit services to identify various efficiency opportunities, ranging from operational adjustments that involve refrigeration controls to large scale LED lighting retrofits. VPU remains a key partner in the energy efficiency journey as customers continue to identify options to lower operating costs.

With a customer base that is comprised mainly of large commercial and industrial customers, one of the ongoing challenges faced by VPU is the limited types of efficiency measures and projects can be implemented by the customer each year. Any complex energy efficiency project implemented by a business requires proper financial planning, corporate approval for the allocation of funds, and proactive budgeting for capital improvements. Depending on the business needs at a given time, implementation of energy efficiency projects may or may not be a priority.

Program and Portfolio Highlights

For FY24 portfolio highlights, VPU customers that are in the cold storage and food processing sectors explored refrigeration control upgrades, plus evaporator motor and air compressor replacements to achieve energy savings.

To help support these complex energy efficiency projects, VPU worked with a third-party engineering consultant to conduct evaluation, measurement and verification studies to confirm the validity of the savings generated.

LED Lighting retrofits also contributed to a portion of energy savings through VPU's custom incentive program. Customers with 24/7 operations and large warehouses can see significant savings by upgrading from non-LED to LED lighting technology. The utility's longstanding Custom Incentive Program continues to lead the way in providing incentives for any commercial electric customer that implements efficiency upgrades that produces above code savings.

Commercial, Industrial & Agricultural Programs

VPU's Commercial and Industrial programs are comprised of the following:

1. Custom Incentive Program (CIP): The CIP provides incentives for the implementation of energy efficient technologies and equipment, such as LED lighting, variable speed drives, air compressors, motors, refrigeration controls, and air conditioning upgrades.

2. Energy Audit Program: As part of this program, VPU provides no-cost on-site energy audits for commercial and industrial businesses. The comprehensive energy audit includes a detailed

billing analysis of energy usage and costs, identification of energy efficiency measures, recommended actions and referral to VPU's incentive programs.

3. Customer Directed Program (CDP): The CDP provides incentives for custom projects that demonstrate energy savings. Customers are required to contribute a portion of the total project cost and are only eligible if the proposed energy efficiency project does not qualify for any of the other programs.

4. Commercial Energy Rebate Program (CERP): The CERP is a deemed energy efficiency offering that provides rebates to businesses that install eligible measures to include LED Lighting, HVAC, Heat Pumps and restaurant equipment.

5. Commercial EV Charger Incentive Program (CEVSE): VPU commercial electric customers are eligible to receive a rebate (per port), for the installation of qualifying Level 2 EV Chargers and Level 3 Direct Current (DC) Fast Chargers.

6. Commercial Electric Forklift Incentive Program (CEF): VPU commercial electric customers are eligible to receive a rebate towards the lease or purchase of a qualifying electric forklift.

Residential Programs

VPU's Residential programs are comprised of the following:

1. Residential Electric Vehicle (EV) Rebate Program: VPU's residential electric customers are eligible to receive incentives for the purchase or lease of a qualifying, new or used EV.

2. Residential Electric Vehicle (EV) Charger Rebate Program: VPU's residential electric customers are eligible to receive incentives for the installation of a qualifying, smart Level 2 EV Charger.

Complementary Programs

VPU's complementary programs and services are comprised of the following:

1. Energy Education and Outreach Services: VPU hosts meetings on a regular basis to provide businesses with an update of the utility's latest offerings, which encompasses energy efficiency programs. In addition, VPU also has a dedicated newsletter, and bill inserts that goes out to utility customers to increase overall awareness on various initiatives that are spearheaded by different city departments.

2. Time-of-Use (TOU) Rate Plans: VPU customers that meet the electrical demand threshold are eligible to enroll in TOU rate plans that help businesses manage energy costs by taking advantage of lower rates during off-peak periods and avoided higher on-peak rates when energy resources are in demand.

Evaluation, Measurement & Verification Studies

For FY24, an EM&V study was conducted for a large wholesale food distributor that offers fresh, frozen and packaged products to bakery and food service clients. The company operates a cold storage facility that had to upgrade a significant amount of evaporator fan motors and condenser fan motors. The motor control systems also contributed to additional energy savings by toggling motor operating speeds based on compressor operation. VPU plans to continue to leverage third party engineering consultants to conduct EM&V studies for complex energy efficiency projects implemented by its large commercial and industrial customer base.

Major Differences or Diversions from CA POU TRM for Energy Savings

Due to Vernon's unique customer base that is comprised of almost all industrial and large commercial customers, VPU relies on customized energy savings calculations that are derived from an independent, third-party engineering analysis. The engineering analysis may reference CA investor-owned utility work papers or other reputable industry sources where appropriate. VPU may also utilize the eTRM for energy savings on certain deemed measures when the opportunity arises.

TABLE VPU-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Appliance & Plug Loads	26	666,348	6,419,969	26	666,348	6,419,969	2,215	$73,408	9.35	2.11	0.014
Commercial Refrigeration	30	297,476	4,353,120	30	297,476	4,353,120	1,476	$36,761	11.50	2.73	0.012
HVAC - Heat Pump	2	3,302	48,320	2	3,302	48,320	16	$408	11.50	0.36	0.012
Lighting - Indoor	12	32,183	221,385	12	32,183	221,385	71	$3,310	7.93	0.72	0.017
Energy Efficiency	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
EE, Low Income and Electrification	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
C&S and T&D								$0			
Utility Total	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013

TABLE VPU-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Commercial	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
Energy Efficiency	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
EE, Low Income and Electrification	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
C&S and T&D								$0			
Utility Total	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013

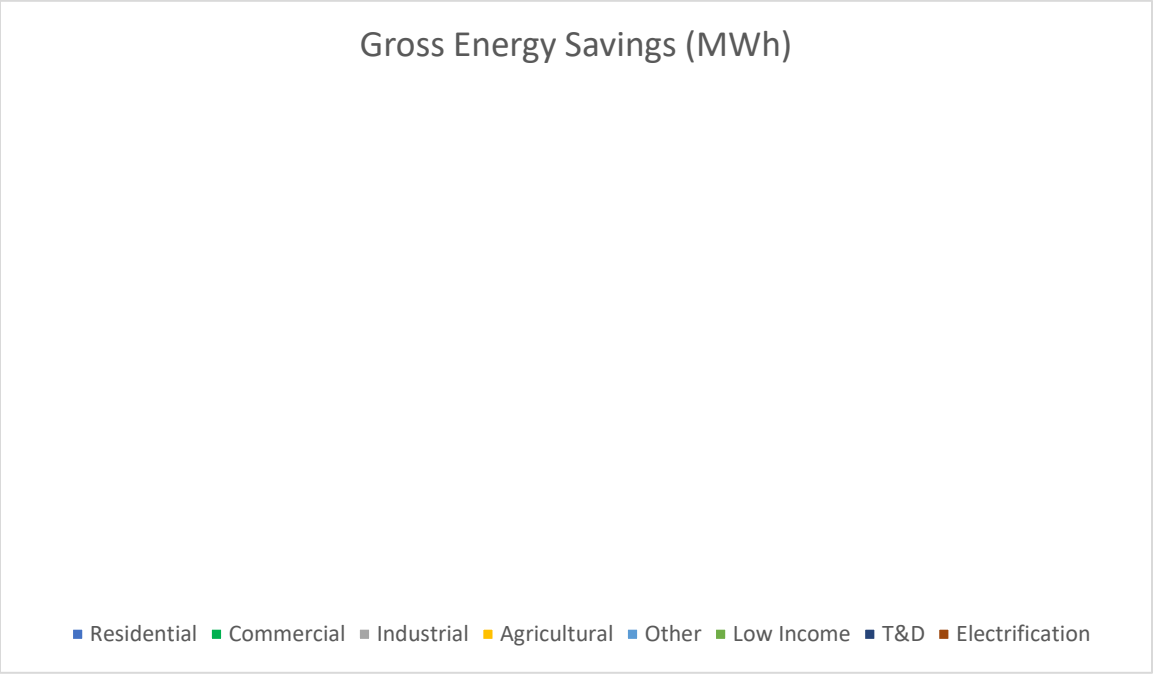
TABLE VPU-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Multiple	26	666,348	6,419,969	26	666,348	6,419,969	2,215	$73,408	9.35	2.11	0.014
Other Commercial	12	32,183	221,385	12	32,183	221,385	71	$3,310	7.93	0.72	0.017
Warehouse - Refrigerated	31	300,778	4,401,440	31	300,778	4,401,440	1,492	$37,169	11.50	2.54	0.012
Energy Efficiency	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
EE, Low Income and Electrification	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013
C&S and T&D								$0			
Utility Total	69	999,309	11,042,794	69	999,309	11,042,794	3,778	$113,887	10.01	2.15	0.013

VICTORVILLE MUNICIPAL UTILITIES SERVICES

Victorville Municipal Utilities Services at a Glance

- Climate Zone: 14
- Customers: 91
- Total annual retail sales: 102,900 MWh
- Annual Retail Revenue: $20,007,000
- Annual energy efficiency expenditures for reporting year: $0
- Gross annual savings from reporting year portfolio: 0 MWh



Victorville Municipal Utilities Services Overview

- Victorville Municipal Utilities Services (VMUS) only serve non-residential customers.
- The annual budget for energy efficiency programs is $200,000.
- Peak demand was 21.1 MWs (0.5% less than last year).
- Sales were 102,900 MWhs (4.8% less than last year).
- The system load factor was 68.5%.
- Customers are served through 12 kV underground facilities with larger gauge ASCR conductors to improve system reliability and reduce system losses.

Program and Portfolio Highlights

- Time-of-use meters and customers' access to their daily usage on the web portal provide the data to assess the cost of their energy usage and demand requirements.
- Cost-effective, reliable, and feasible energy efficiency improvements are a priority in the Victorville's integrated resource plan.
- Victorville serves municipal facilities that can be interrupted as scheduled.

Commercial, Industrial & Agricultural Programs

- Audits – Industrial – Non-Res Audits: On-site energy assessment and recommendations designed to potentially improve energy operating efficiency and reduce load requirements.
- Lighting – Industrial – Non-Res Lighting: Financial incentives to improve energy efficiency for lighting applications, based on rate of $0.15/kWh for one year of energy savings and $150/kW for each kW that has been reduced. The EE Program payment shall not exceed 50% of the lighting material cost (including installation) or $50,000 per FY, whichever is lower.
- New Construction Projects – Industrial – Non-Res Construction Projects: Financial incentives for new equipment components that exceed state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards by more than 10%. Financial incentive payment is based on a rate of $0.15/kWh for each kWh that has been reduced, $150/kW for each kW that has been reduced, and $2/therm for each therm that has been reduced (whole building approach) for one year of energy savings between the baseline energy performance standards and the proposed energy performance standards for a whole building approach. Financial incentive payment shall not exceed 50% of the cost difference between standard and upgraded equipment and/or materials, or $100,000, whichever is lower.
- Custom Energy Efficiency Incentives: Financial incentives payment for the replacement of energy efficient equipment/technology that conserves energy and permanently reduces coincident summer/winter on-peak load and exceeds state-mandated codes, federal-mandated codes, industry accepted performance standards or other baseline energy performance standards. Financial incentive payment is based on a rate of $0.15/kWh or $2/therm for one year of energy savings and $150/kW for each kW that has been reduced and shall not exceed 50% of the total cost associated with the equipment/materials (including installation) or $50,000 per FY, whichever is lower.
- City Facilities: City owned facilities that are served by VMUS are qualified to participate in any of the energy efficiency programs herein. Qualifying city facilities served by VMUS could take advantage of our direct install program or custom incentives. The level of incentives or direct install budget will be determined by VMUS on a case-by-case basis.

- Utility-Side Projects/Activities: Direct funding for projects/activities on the utility side of the meter that promote a benefit to VMUS customers in terms of improved safety, system integrity, energy efficiency, conservation, or Research and Development (R&D). Projects must be authorized by the City Council as part of the annual operating budget or through a subsequent request in a public meeting.

Residential Programs

Victorville only serves non-residential customers.

Complementary Programs

Achieved commercial operation for a long-term photovoltaic generating facility power purchase agreement coupled with an 8 MW battery energy storage system.

Evaluation, Measurement & Verification Studies

Engineering analysis programs are the basis for energy savings and incentive calculations. Victorville relies upon the Technical Reference Manual for energy savings estimates.

TABLE VMUS-1. Energy Efficiency Program Results by End Use

Summary by End Use	Resource Savings Summary								Cost Test Results		
End Use	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Lighting - Indoor	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

TABLE VMUS-2. Energy Efficiency Program Results by Sector

Summary by Sector	Resource Savings Summary								Cost Test Results		
Sector	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Industrial	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

TABLE VMUS-3. Energy Efficiency Program Results by Building Type

Summary by Building Type	Resource Savings Summary								Cost Test Results		
Building Type	**Gross Peak Savings (kW)**	**Gross Annual Energy Savings (kWh)**	**Gross Lifecycle Energy Savings (kWh)**	**Net Peak Savings (kW)**	**Net Annual Energy Savings (kWh)**	**Net Lifecycle Energy Savings (kWh)**	**Net Lifecycle GHG Reductions (Tons)**	**Total Utility Cost**	**PAC**	**TRC**	**Utility ($/kWh)**
Manufacturing Light Industrial	0	0	0	0	0	0	0	$0			0.000
Energy Efficiency	0	0	0	0	0	0	0	$0			0.000
EE, Low Income and Electrification	0	0	0	0	0	0	0	$0			0.000
C&S and T&D								$0			
Utility Total	0	0	0	0	0	0	0	$0			0.000

Appendix B

ESPLabs™

Calculation Reference

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Cost Benefit Calculations

The Cost/Benefit calculations in ESP are based on the Cost/Benefit tests described in the California Standard Practice Manual. ESP calculates all the tests described in that manual. The following describes the process used to calculate these and the other results in ESP.

Load Shape Assignment

The default Load Shape for a Measure is determined using a process that involves multiple fields in the Measure:

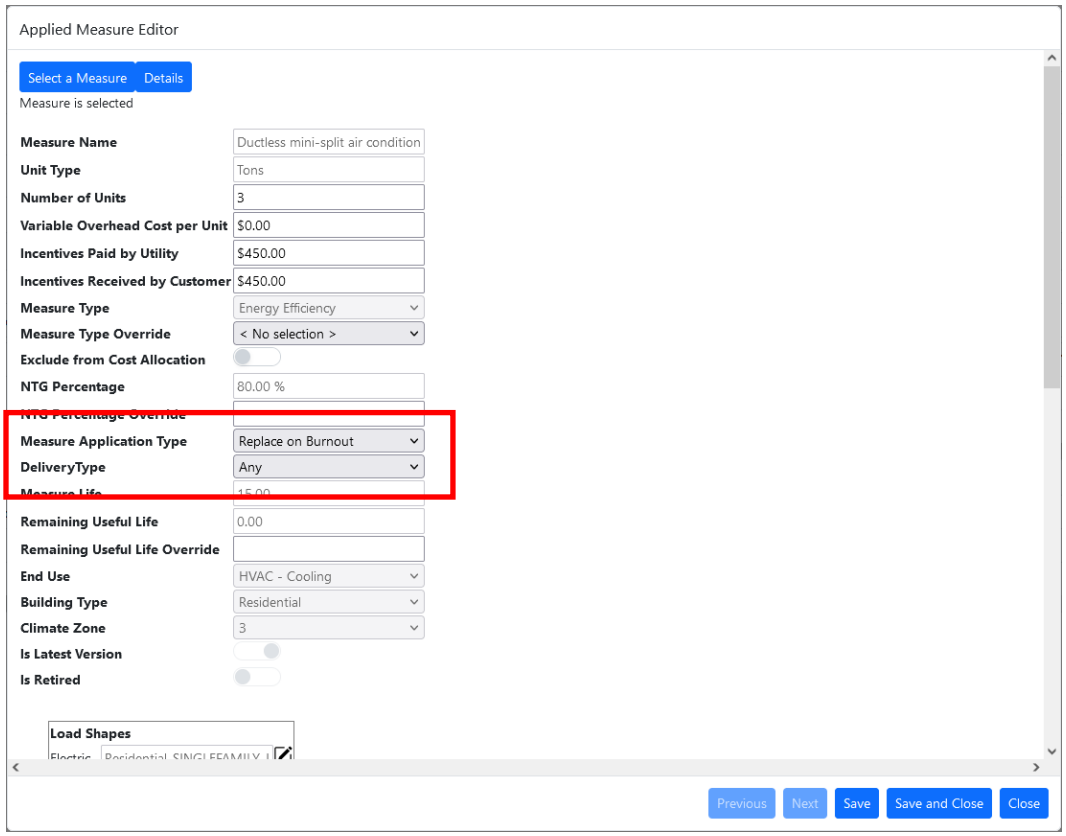
- Current version of the Load Shape
- Load Shape is either local to the organization or "Shared"
- The following attributes of the Load Shape match the same attribute of the Measure:
    - Climate Zone, or "All"
    - Building Type, or "All"
    - End Use
    - Sector, or "All"
- If an IOU is defined for the Load Shape, then the IOU for the Load Shape must match the IOU for the organization
    - If no IOU is defined for the Load Shape, the Load Shape is available to all Measures

If more than one Load Shape matches the above criteria, ESP uses the following additional process to determine the Load Shape for the Measure:

- ESP gives precedence to the following:
    - Load Shapes local to your organization (as opposed to shared Load Shapes)
    - Specific Building Type over "All"
    - Specific Sector over "Non-Residential" or "All"
    - Specific Climate Zone over "All"

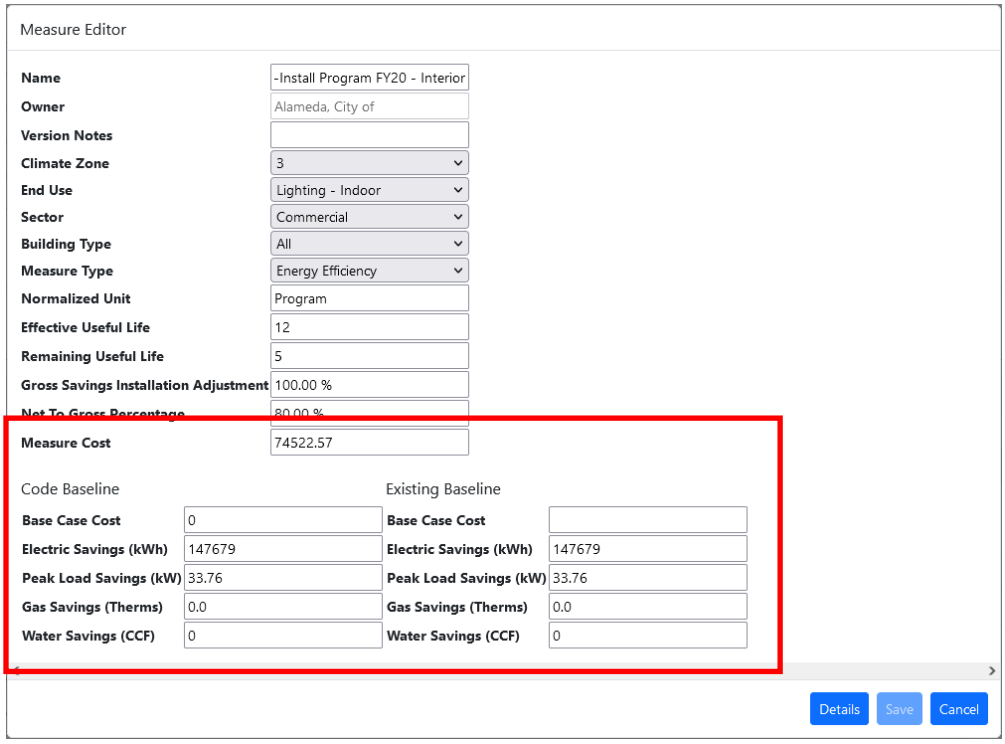
Dual Baseline Savings, Cost, and Measure Life

The calculations for Gross Savings, Cost, and Measure Life in ESP depend on the selection of Measure Application Type and Delivery Type in the Applied Measure Editor.



> *Note: Non-zero Values for both Code Baseline and Existing Baseline are required for the Measure to support Dual Baseline calculations.*

Each Measure contains the following fields used to calculate the Baseline values:



ESP calculates the actual 1st and 2nd Baseline values used in the calculations from these fields. The derivation of 1st and 2nd Baseline values depends on the Delivery Type and Measure Application Type selected in the Applied Measure.

Each Delivery Type selected in the Applied Measure belongs to either Group 1 or Group 2:

ESP Name	eTRM Name	Group
Upstream Prescriptive Rebate	PreRebUp	Group 1
Downstream Prescriptive Rebate	PreRebDown	Group 1
Non-upstream	NonUpStrm	Group 1
Building Design Incentive	BldgDesInc	Group 1
Custom Incentive	CustIncent	Group 1
Downstream Custom Incentive	CustIncentDown	Group 1
On-line Audit	OnLineAudit	Group 1
On-site Audit	OnSiteAudit	Group 1
Prescriptive Rebate	PreReb	Group 1
Any	Any	Group 1
Direct Install	DirInstall	Group 2
Direct Install Prescriptive Rebate	PreRebDI	Group 2

Based on the following Delivery Type "Group" and the selected Measure Application Type, the following describes the first and second baseline savings, cost, and years for single and dual baseline.

Delivery Type	Measure Application Type	1st Baseline	2nd Baseline	1st Baseline Costs	2nd Baseline Costs	1st Baseline Years	2nd Baseline Years
Group 1	Early retirement	Existing	Code	MC	MC – BC	RUL	EUL – RUL
	Replace on Burnout	Code	n/a	MC – BC	n/a	EUL	n/a
	New Construction	Code	n/a	MC – BC	n/a	EUL	n/a
	Retro-Commissioning	Existing	n/a	MC	n/a	EUL	n/a
	Retrofit	Existing	Code	MC	MC – BC	RUL	EUL – RUL
	Retrofit Add-on	Existing	n/a	MC	n/a	EUL	n/a
Group 2	Early retirement	Existing	Code	MC	MC – BC	RUL	EUL – RUL
	Replace on Burnout	Existing	n/a	MC	n/a	EUL	n/a
	New Construction	Existing	n/a	MC	n/a	EUL	n/a
	Retro-Commissioning	Existing	n/a	MC	n/a	EUL	n/a
	Retrofit	Existing	Code	MC	MC – BC	RUL	EUL – RUL
	Retrofit Add-on	Existing	n/a	MC	n/a	EUL	n/a

MC = Measure Costs

BC = Base Costs

RUL = Remaining Useful Life (years)
EUL = Estimated Useful Life (years)

If the Measure is dual Baseline, the cost/benefit calculation engine uses the first Baseline savings and costs for the first years of the Measure life, and the second Baseline savings and costs for the remaining years.

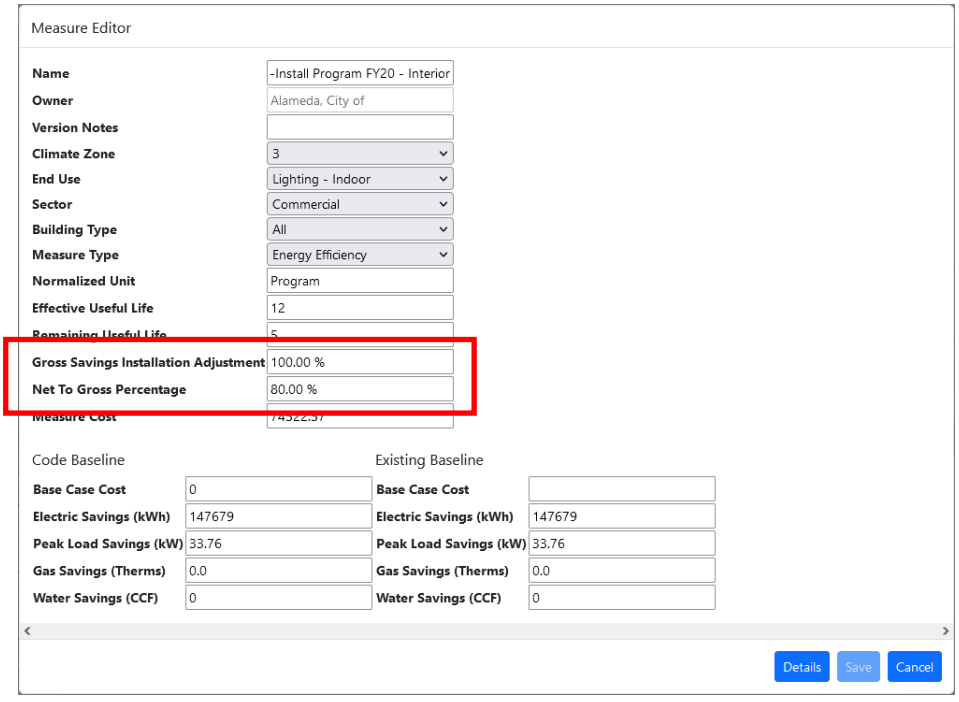
Total Cost Column

The Total Cost Column for Programs is a total of the Incremental Costs for each Applied Measure in the Program. The Increment Costs are calculated based on the Baseline Costs for the Applied Measure as described in the table above. This cost is a per unit cost and is not multiplied by the Number of Units.

Gross Savings, Adjusted Gross Savings, and Net Savings

ESP calculates 1st and 2nd Baseline Gross Savings values based on the Measure Application Type and Delivery Type (see table above).

Fields are available for the Measure for Gross Savings Installation Adjustment (GSIA) and Net to Gross Percentage in the Measure Editor.



GSIA is a factor typically used to account for the following impacts:

- In-Service Rate – number of actual units installed
- Realization Rate – differences between actual and Measure savings based on impact evaluation studies

Adjusted Gross Savings

The value for Adjusted Gross Savings is determined by the following formula:

Adjusted Gross Savings = Gross Savings * GSIA

The cost/benefit calculations use Adjusted Gross Savings to derive participant avoided costs.

Net Savings

The value for Net Savings is determined by the following formula:

Net Savings = Adjusted Gross Savings * Net to Gross Percentage

The cost/benefit calculations use Net Savings to derive utility avoided costs.

Annual Data Calculations

Cost/benefit calculations for full calendar years and are in U.S. dollars. For each hour of each year for the lifetime of the measure, ESP calculations the savings benefit using the following formulas.

Adjusted Gross Savings Benefit

1. Multiply annual Adjusted Gross Savings (unit = kWh, kW, etc.) by the Load Shape value which results in the Adjusted Gross savings for the hour.

Annual Savings (unit) * 8760 Fraction (unit) = Hourly Savings (unit)

2. Multiply the hourly Adjusted Gross Savings by the hourly Retail Rate to get the Adjusted Gross hourly benefit.

Hourly Savings (unit) * Retail Rate ($/unit) = Hourly Benefits ($)

3. Add up the Adjusted Gross hourly benefits for a year to get annual Adjusted Gross Benefit ($).

Net Savings Benefit

1. Multiply the annual Net savings by the Load Shape hourly value, which results in the Net savings for that hour.

Annual Savings (unit) * 8760 Fraction (unit) = Hourly Savings (unit)

2. Multiply the hourly Net savings by the hourly Avoided Cost rate to get the Net hourly benefit ($).

Hourly Savings(unit) * Avoided Cost Rate($/unit) = Hourly Benefit ($)

ESP treats each type of savings this way; Adjusted Gross Savings, Net Savings, Gas Savings, and Water Savings to get annual dollar benefit values.

Cost values in ESP are already annual dollar values and thus do not require 8760 hourly data or a rate for conversion.

In ESP, Retail Rate and Avoided Cost Rates in ESP are multi-year hourly values. As a result, each year of the calculation uses different hourly values throughout the measure lifetime.

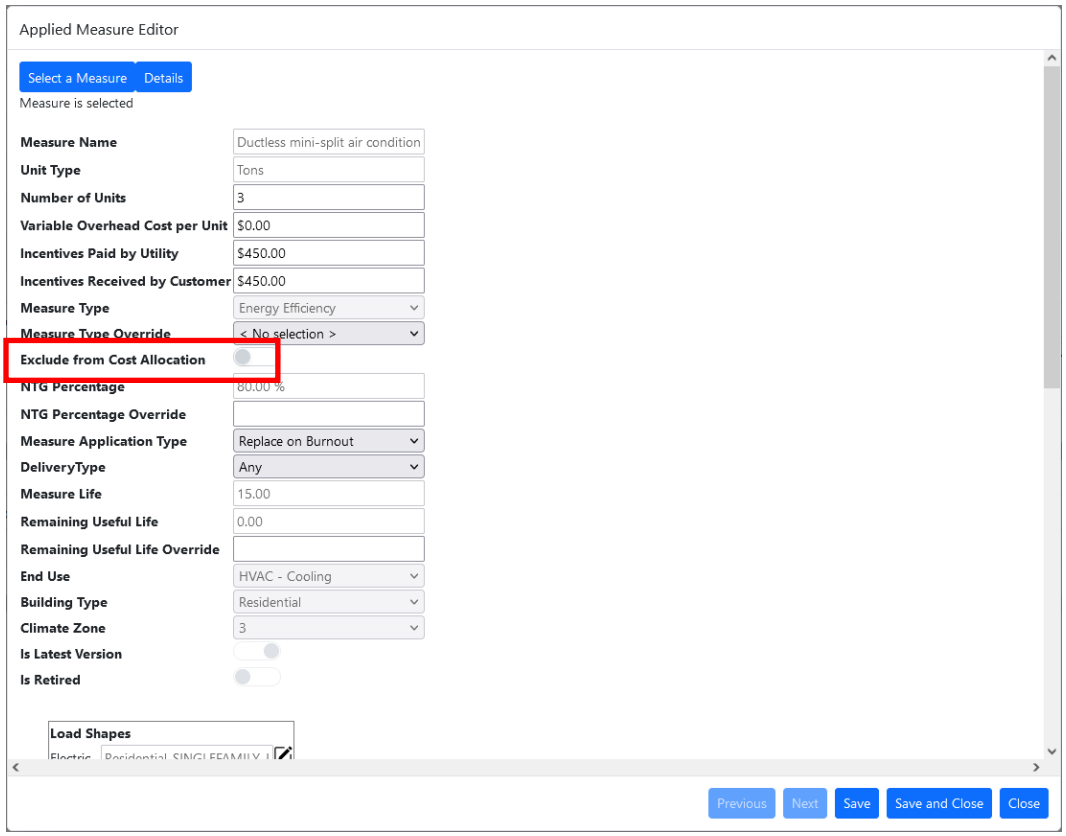
In ESP, each Load Shape resource contains one year of hourly data. As a result, each year of the calculation uses the same values for each year in the Measure lifetime.

Cost Allocation

ESP allocates Portfolio and Program costs down to the Applied Measure level according to the following rules. This allows the grouping of Applied Measures and their associated cost/benefit values in different ways for analysis.

- Allocates Portfolio overhead costs to each Applied Measure in the Portfolio in proportion to the Net Savings of the measure.
- Allocates Program overhead costs to each Applied Measure in the Program in proportion to the Net Savings of each measure.
- Allocates Sector overhead costs to each Applied Measure according to the Measure Sector setting, in proportion to the Net Savings of each measure.

Applied Measures have an option setting that prevents the allocation of any overhead costs to that Applied Measure.



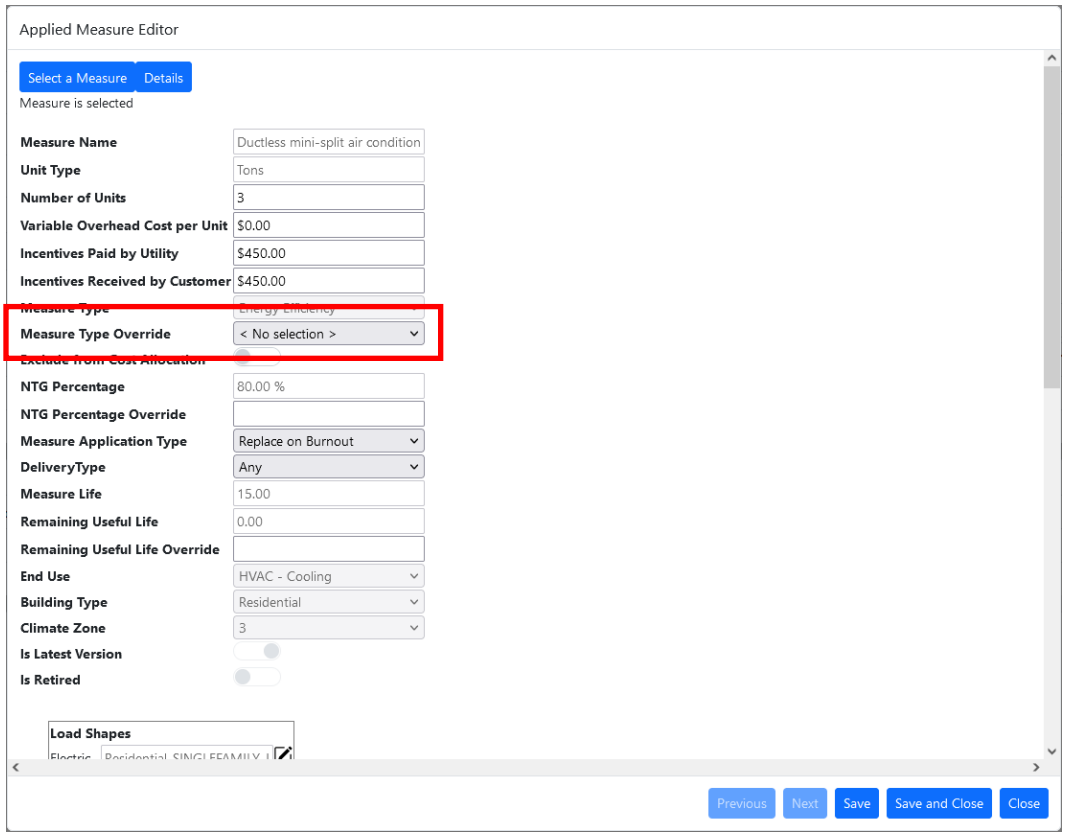
Cost Benefit calculations will not run if it cannot allocate a cost to any Applied Measures. For example, if you enter a cost in the Sector Overhead Residential field, but there are no Residential Measures to allocate the overhead costs, the cost benefit calculation will not run. This also applies to Portfolio Overhead and Program Overhead costs.

Costs are applied to Low Income Applied Measures just like any other Applied Measure even though they are presented separately from the main Portfolio in the results.

Low-Income

Low income Applied Measures results are separate from the main Portfolio results. So are Transmission & Distribution, Codes & Standards, and Electrification Applied Measures.

Use the “Measure Type Override” option in the Applied Measure to set the Applied Measure as low income, even if its underlying Measure is not of type Low Income. This option also allows you to override the Measure Type with any of the other Measure Type options.



> ***Note:*** *Participant Test and Ratepayer Impact Measure Test are only run if a Retail Rate is selected for the Applied Measure.*

Cost Benefit Calculations

ESP supports the following cost/benefit tests:

- Participant Test
- Ratepayer Impact Measure Test (RIM)
- Total Resource Cost Test (TRC)
- Modified Resource Cost Test (MTRC)
- Societal Test
- Program Administrator Cost Test (PA)

ESP calculates the cost/benefit tests using elements that correspond to the specific costs and benefits in each of the tests. Each Element has an Element Type that describes it in the context of the California Standard Practice Manual.

Element Type	TRC	MTRC	PAC	RIM	PCT	SCT
BR_BillReductionsGross					Benefit	
EmissionsCostSavingsNet						Benefit
FR_FreeRiderCost	Cost					Cost
INC_IncentivesPaidByUtilityGross			Cost	Cost		
INC_IncentivesReceivedByCustomerGross					Benefit	
PC_ParticipantCostsGross					Cost	
PCN_ParticipantCostsNet	Cost	Cost				Cost
PRC_ProgramAdministratorCosts	Cost	Cost	Cost	Cost		Cost
RL_RevenueLossNet				Cost		

Element Type	TRC	MTRC	PAC	RIM	PCT	SCT
UAC_UtilityAvoidedCostsNet	Benefit	Benefit	Benefit	Benefit		Benefit

Net Present Value Calculations

Formulas in the California Standard Practice Manual use a divisor of $(1+d)^{t-1}$, which equals 1 in the first year. In other words, the application of the discount rate should not happen in the first year. This is the implementation of the calculation in ESP.

Important Note: Many spreadsheet cost benefit calculations, including the original CMUA CET, use the Excel NPV function to calculate net present values. The NPV function in Microsoft Excel assumes that payments occur at the end of the term, which means the application of the discount rate is to first year costs and benefits. This approach is technically incorrect.