

**BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA**

Joint Application of Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy for approval of their 2027-2046 integrated resource plan, 2027-2029 Action Plan and 2027-2029 Energy Supply Plan.

Docket No. 26-05 \_\_\_\_

**VOLUME 35 OF 41**

**TECHNICAL APPENDIX  
DEMAND SIDE MANAGEMENT PLAN**

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# **DSM-5**

## DSM-5: Scenario Analysis for GSR-C Capacity Resource Rate

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As discussed in Section 9 of the DSM Plan Narrative, the GSR-C tariff rider is a compensation rider that can be leveraged as specified by any Commission-approved load flexibility program. Further details about the specifics of the GSR-C proposed tariff rider, including definitions for important terminology, can be found in the Advice Letter Filings 557 and 684-E (Docket Nos. 25-10012 and 25-100013).

This Technical Appendix provides the results of scenario analysis that NV Energy conducted to understand the impact of various Capacity Resources Rate (“CRR”) levels on future program budgets and cost-effectiveness. Additionally, this Technical Appendix provides more detail on the estimates used for the Annually Qualified Capacity (“AQC”) parameter for each program.

NV Energy is proposing a 60% CRR (0.60) for most residential and commercial customer programs, which is referred to in this technical appendix as the “Base Case”. The Base Case is representative of the Company proposal in this filing.<sup>1</sup> This is a balanced proposal leveraging the concept of a hybrid “first-in” and “last-in” Effective Load Carrying Capability (“ELCC”<sup>1</sup> approach).<sup>2</sup> This value represents demonstrated program capacity contribution at peak. This estimate is similar in magnitude to the <sup>2</sup> for Demand Response in PJM, when considering seasonal availability over critical hours.<sup>3</sup> NV Energy has also evaluated a “Low Scenario” with a CRR of 30% and a “High Scenario” with a CRR of 85%.

The Low (0.30) and High (0.85) scenarios explore alternative CRR assumptions. A higher CRR indicates greater avoided cost pass-through to customers, higher capacity contribution to resource adequacy, lower program costs, or a combination of those factors. For example, a CRR of 0.85 means 85% of avoided costs are shared with customers, implying a higher ELCC contribution and lower program costs.

Conversely, a CRR of 0.30 means 30% of avoided costs are shared with customers, implying a lower ELCC contribution or higher program costs. This would be the case in certain programs with higher load diversity where the loads are not all running at the same time as the net system peak, such as agricultural or industrial loads.

The below Table 1 provides an overall summary of the results of the scenario analysis in terms of budget impacts for NV Energy’s demand response portfolio, including total expenditures for utility administrative costs, M&V costs, implementation costs, and the GSR rebates. The Low and High scenarios for Nevada Power differ by roughly -9% and +7% respectively from the Base scenario across the program years. The Sierra scenarios have greater variance, ranging from -15% to -13%

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<sup>1</sup> “First-in” ELCC method measures the ability of a resource to shave the gross peak, absent of other resources on the system. “Last-in” ELCC method measures the ability of a resource to provide capacity, assuming all other resources are on the system. CAISO, *RA Track 2: Demand Response Valuation: Load Impact Protocol Profile Informed Effective Load Carrying Capability*, February 2022, <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/caiso-e3-presentation---lip-informed-elcc---implementation-track-phase-ii.pdf>

<sup>2</sup> PJM rated Demand Response as 69% ELCC in 2026/2027 when considering the availability of Demand Response within a performance window. PJM, 2025 PJM Effective Load Carrying Capability and Reserve Requirement Study (ELCC/RRS), October 2025, <https://www.pjm.com/-/media/DotCom/planning/res-adeq/elcc/2025-pjm-elcc-rrs.pdf>

for the Low scenario and +11% to +9% for the High scenario across program years, largely driven by Sierra’s Residential DR Manage program, as discussed below.

**DSM-5, TABLE 1 – SUMMARY RESULTS OF BUDGET IMPACTS (\$M/yr)**

Service Area	2027 DR Budget			2028 DR Budget			2029 DR Budget		
	Low	Base	High	Low	Base	High	Low	Base	High
<b>Nevada Power</b>	\$27.1	\$29.8	\$32.2	\$29.0	\$31.9	\$34.3	\$31.3	\$34.4	\$36.9
<b>Sierra</b>	\$5.4	\$6.4	\$7.2	\$7.3	\$7.8	\$9.3	\$8.5	\$9.8	\$10.8
<b>Total</b>	<b>\$32.5</b>	<b>\$36.3</b>	<b>\$39.4</b>	<b>\$36.3</b>	<b>\$39.7</b>	<b>\$43.6</b>	<b>\$39.8</b>	<b>\$44.1</b>	<b>\$47.7</b>

On a program level, the Residential DR Manage program for Sierra shows the largest budget differences across scenarios, with the Low budget at 75% and the High budget at 121% relative to the Base budget in 2027. This is due to historically higher annually qualified capacity and a higher percentage of customers assumed to participate through Bring Your Own Device (“BYOD”), where annual capacity credits apply and are impacted by changes to the CRR, in the Sierra service area relative to Nevada Power.

As shown below in Table 5 through Table 7, the NTRC 2.0 ratios for these DR programs are above 1.0 across all scenarios, with the exception of Low Income and Commercial DR Build in Sierra.

Because these GSR rebates act as a transfer payment within the NTRC 2.0 (see Table DSM-28), it is also important to consider the impacts on the UCT cost effectiveness test and overall customer incentive levels. These results are shown in Table 8 below.

As shown in Table 9 below, the annual capacity credits for customers are similar to or greater than NV Energy’s current annual rebates across all DR programs and scenarios.

### **Annually Qualified Capacity (AQC) Additional Detail**

A key parameter that must be estimated for scenario analysis to project the capacity credit earned by a participating resource is its AQC across Qualified Events. For purposes of this analysis, AQC is defined as the expected Average Event Capacity by a resource delivered over a two-hour dispatch of that particular resource under Qualified Event conditions.

A program-specific AQC was developed for each Demand Side Management program based on technology capabilities and program participation requirements. Table 2 below summarizes the AQC values and the key underlying assumptions used for each program.

**DSM-5, TABLE 2 – PLANNING ESTIMATES AND RATIONALE FOR GSR-C AQC  
PARAMETER AS PROPOSED**

Program	AQC (kW/device)		Rationale/Basis
	Nevada Power	Sierra	
Residential DR Manage	0.82	0.98	Weighted average load reduction of available devices over a two-hour event for single- and multi-family customers, based on the 2025 Residential Demand Response M&V Report. The analysis incorporates observed DRMS performance, device availability, participation behavior, and response decay for smart thermostats as the predominant participating device type, recognizing that second-hour performance is often significantly lower than first-hour response (see Table 3 below for more information).
Residential DR Build	0.82	0.98	
Battery Storage	4.11	4.11	Based on capacity (kWh) and saturation of currently deployed residential battery storage units by brand / model over a two-hour event, with adjustments for the state of charge limitations and time-of-use (TOU) self-consumption usage (see Table 4 below).
Low Income DR Build	0.70	0.66	Average load reduction of available devices over a two-hour event for multi-family customers, based on the 2025 Residential Demand Response M&V Report (see Table 3 below). The analysis incorporates observed DRMS performance, device availability, participation behavior, and response decay for smart thermostats as the predominant participating device type, recognizing that second-hour performance is often significantly lower than first-hour response.
Commercial DR Manage	0.60	1.30	Weighted average load reduction of available devices over a two-hour event for small/medium commercial customers, based on observed DRMS performance and response decay for Pelican thermostats as the predominant participating device type.  Sierra Commercial DR Manage: Includes weighted average impacts for Agriculture DR Build customers becoming Manage for 1.71 kW in 2028 and 2.03 kW in 2029.
Commercial DR Build	0.60	1.30	
Schools DR Build	0.60	1.30	
Agriculture DR	-	39.83	Nevada Power: Not applicable  Sierra: Estimated from the average water pump size of a Sierra IS-2 rate customer of 114 kW times an estimated 35% diversity factor (i.e. assumed percentage of pumps that would be operating at the same time as a net peak DR event).

**DSM-5, TABLE 3 – AQC PLANNING ESTIMATES – RESIDENTIAL BUILD, MANAGE, AND LOW INCOME DR**

Residential DR (Smart Thermostats)	2025 M&V kW Factor	Response Decay Factor from DRMS	kW Factors Adjusted by Response Decay Factor		2-hr Avg	3-hr Avg
	1st Hr		2nd Hr	3rd Hr		
Nevada Power Single-Family	1.18	0.42	0.49	0.21	0.84	0.63
Nevada Power Multi-Family (Low-Income)	0.98	0.42	0.41	0.17	0.70	0.52
<b>Nevada Power Weighted Avg Single-/Multi-Family</b>	<b>1.15</b>	<b>0.42</b>	<b>0.48</b>	<b>0.20</b>	<b>0.82</b>	<b>0.61</b>
Sierra Single-Family	1.26	0.59	0.74	0.44	1.00	0.82
Sierra Multi-Family (Low-Income)	0.83	0.59	0.49	0.29	0.66	0.54
<b>Sierra Weighted Avg Single-/Multi-Family</b>	<b>1.23</b>	<b>0.59</b>	<b>0.73</b>	<b>0.43</b>	<b>0.98</b>	<b>0.80</b>

**DSM-5, TABLE 4 – AQC PLANNING ESTIMATE – RESIDENTIAL BATTERY STORAGE**

CURRENTLY DEPLOYED FLEET						
Brand / Model	Chemistry	Capacity (kWh)	Power (kW cont.)	% Deployed	Revised Capacity 2 hr (kW)	Revised Capacity 3 hr (kW)
Tesla Powerwall 2	NMC Li-ion	13.5	7.00	77%	5.40	3.60
LG RESU Prime 10H	NMC Li-ion	9.6	7.00	11%	3.84	2.56
Enphase IQ 5P	LFP	5.0	3.84	12%	2.00	1.33

Revised Capacity based on Capacity (kWh) x Max Battery Charge/Discharge Rate divided by the number of hours (either 2 or 3 hours).

ASSUMPTIONS		
Max Battery Charge/Discharge Rate	80%	← typical usable State of Charge range
TOU Discount Factor	15%	← estimated capacity lost to TOU self-consumption

WEIGHTED DR CAPACITY FOR CURRENTLY DEPLOYED FLEET	
Weighted Available Capacity — 2-hr event (kW)	4.11
Weighted Available Capacity — 3-hr event (kW)	2.74

Weighted Average Capacity based on % Deployed x Revised Capacity x (1 - TOU Discount Factor)

**Capacity Resource Rate (CRR) Additional Detail**

The CRR works in tandem with AQC to translate grid value into fair customer incentives that represent the portion of avoided capacity costs shared with customers—considering that other programs costs (e.g., program administration, EM&V, and implementation costs) must also be covered by avoided cost benefits—for an equivalent amount of traditional supply-side capacity that counts toward resource adequacy.

As discussed in Section 9, NV Energy selected a proposed value of 60% for the CRR for the Base scenario for residential and commercial programs. This reflects an ELCC-informed value balanced by the selection of the Qualified Event 2-hour average method with consideration for other program costs and consideration of the need to attract and retain more customers into demand response programs.

For the Low scenario, NV Energy analyzed a lower CRR of 30%, which was the default rate specified in the Advice Letters 557 and 684-E grid service tariff riders filing, unless otherwise published in a Statement of Rates associated with the rider, or established in a participation agreement. The Low scenario is intended to show program budgets and cost-effectiveness at a CRR of 30%, and attempts to ensure that long standing customers in thermostat programs receive at least as much annual compensation as they have in the past for average load flexibility event performance and participation levels. as initially proposed under the tariff.

While the Base CRR scenario assumes a 60% CRR for industrial and agricultural customers for the purposes of assessing conservative budget impacts, the 30% CRR is the base proposal for industrial and agricultural customers in the format of a minimum installed capacity payment (i.e. to reserve their capacity to be called during a reliability event) due to higher load diversity. Prior experience with IS-2 load control at Sierra indicates water pumping loads have a peak coincidence factor in the range of 30%-40%. Upon more detailed examination of the load types and their coincidence factors, these customers would have the opportunity to adjust their CRR up to a maximum of 60%.

For the High scenario, NV Energy analyzed a higher CRR of 85%, which could reflect a case where the resource is providing maximal value to the utility, lower than expected program costs, or there are other program or policy goals where stakeholders are seeking to stimulate program growth through higher incentives. Based upon the recommended methodologies for the other key GSR parameters in this 2026 IRP and the modeling approach utilized, NV Energy does not recommend this High CRR scenario as it could be considered as overvaluing the capacity contribution of these resources during typical phased dispatch reliability and economic events; however, it is provided for reference and recognition of the very high value of DR dispatch during emergency events.

## **Scenario Results**

Table 5 through Table 7 provide a summary of the associated budgetary and cost-effectiveness impacts across the modeled scenarios. The program budgets include total expenditures for utility administrative costs, M&V costs, implementation costs, and the GSR rebates. Cost-effectiveness is shown using the NTRC 2.0 discussed in Section 4.

The Low and High scenarios assume the utility administrative costs, M&V costs, and implementation costs stay the same as in the Base scenario, with only the total expenditures and GSR rebates changing across the scenarios. The Low, Base, and High budgets are consistent for Low Income DR Build and Schools DR Build because these programs are assumed to be entirely Direct Install, where customers start receiving annual capacity payments in year 4 of continuous enrollment (see Section 9), thus the CRR adjustments are not reflected in the program’s initial capacity payments.

**DSM-5, TABLE 5 – GSR SCENARIO RESULTS FOR 2027**

<b>2027</b>	<b>Service Area</b>	<b>Low CRR - 30%</b>		<b>Base CRR - 60%</b>		<b>High CRR - 85%</b>	
		<b>Budget</b>	<b>NTRC 2.0</b>	<b>Budget</b>	<b>NTRC 2.0</b>	<b>Budget</b>	<b>NTRC 2.0</b>
Residential DR Manage	Nevada Power	\$12,482,718	4.55	\$14,776,000	4.54	\$16,687,067	4.53
	Sierra	\$1,734,485	5.11	\$2,325,000	5.06	\$2,817,096	5.03
Residential DR Build	Nevada Power	\$7,793,775	3.09	\$8,073,000	3.09	\$8,305,686	3.08
	Sierra	\$1,928,266	2.98	\$2,008,000	2.97	\$2,074,445	2.97
Battery Storage	Nevada Power	\$1,018,533	2.12	\$1,158,000	2.12	\$1,274,223	2.12
	Sierra	\$341,030	2.61	\$403,000	2.61	\$454,642	2.61
Low Income DR Build	Nevada Power	\$140,000	1.10	\$140,000	1.10	\$140,000	1.10
	Sierra	\$92,000	0.50	\$92,000	0.50	\$92,000	0.50
Commercial DR Manage	Nevada Power	\$818,078	4.88	\$884,000	4.87	\$938,936	4.87
	Sierra	\$498,371	4.83	\$609,000	4.80	\$701,192	4.78
Commercial DR Build	Nevada Power	\$440,928	2.66	\$443,000	2.66	\$444,726	2.66
	Sierra	\$170,509	0.82	\$171,000	0.82	\$171,409	0.82
Schools DR Build	Nevada Power	\$4,375,000	2.43	\$4,375,000	2.43	\$4,375,000	2.43
	Sierra	\$0	—	\$0	—	\$0	—
Agriculture DR	Nevada Power	\$0	—	\$0	—	\$0	—
	Sierra	\$675,994	1.34	\$814,000	1.34	\$929,005	1.34
<b>Totals</b>	<b>Nevada Power</b>	<b>\$27,068,032</b>	—	<b>\$29,849,000</b>	—	<b>\$32,165,638</b>	—
	<b>Sierra</b>	<b>\$5,440,655</b>	—	<b>\$6,422,000</b>	—	<b>\$7,239,789</b>	—
	<b>Total</b>	<b>\$32,508,687</b>	—	<b>\$36,271,000</b>	—	<b>\$39,405,427</b>	—

**DSM-5, TABLE 6 – GSR SCENARIO RESULTS FOR 2028**

<b>2028</b>	<b>Service Area</b>	<b>Low CRR - 30%</b>		<b>Base CRR - 60%</b>		<b>High CRR - 85%</b>	
		<b>Budget</b>	<b>NTRC 2.0</b>	<b>Budget</b>	<b>NTRC 2.0</b>	<b>Budget</b>	<b>NTRC 2.0</b>
Residential DR Manage	Nevada Power	\$13,239,590	4.47	\$15,613,000	4.46	\$17,590,841	4.45
	Sierra	\$2,000,968	4.88	\$2,627,000	4.85	\$3,148,693	4.82
Residential DR Build	Nevada Power	\$8,573,101	3.10	\$8,880,000	3.09	\$9,135,781	3.09
	Sierra	\$2,121,479	3.03	\$2,209,000	3.31	\$2,281,934	3.02
Battery Storage	Nevada Power	\$612,022	2.29	\$705,000	2.29	\$782,482	2.29
	Sierra	\$217,144	2.92	\$264,000	3.13	\$303,046	2.92
Low Income DR Build	Nevada Power	\$140,000	1.11	\$140,000	1.11	\$140,000	1.11
	Sierra	\$92,000	0.51	\$92,000	0.51	\$92,000	0.51
Commercial DR Manage	Nevada Power	\$1,576,083	5.71	\$1,691,000	5.71	\$1,786,764	5.70
	Sierra	\$946,966	3.36	\$1,106,000	3.72	\$1,238,529	3.34
Commercial DR Build	Nevada Power	\$484,234	2.85	\$487,000	2.85	\$489,305	2.85
	Sierra	\$187,345	0.92	\$188,000	0.92	\$188,546	0.92
Schools DR Build	Nevada Power	\$4,375,000	2.44	\$4,375,000	2.44	\$4,375,000	2.44
	Sierra	\$938,000	1.54	\$938,000	1.54	\$938,000	1.54
Agriculture DR	Nevada Power	\$0	—	\$0	—	\$0	—
	Sierra	\$825,592	1.49	\$1,003,000	1.49	\$1,150,840	1.49
<b>Totals</b>	<b>Nevada Power</b>	<b>\$28,999,030</b>	<b>—</b>	<b>\$31,891,000</b>	<b>—</b>	<b>\$34,299,173</b>	<b>—</b>
	<b>Sierra</b>	<b>\$7,329,494</b>	<b>—</b>	<b>\$8,427,000</b>	<b>—</b>	<b>\$9,341,588</b>	<b>—</b>
	<b>Total</b>	<b>\$36,328,524</b>	<b>—</b>	<b>\$40,318,000</b>	<b>—</b>	<b>\$43,640,761</b>	<b>—</b>

**DSM-5, TABLE 7 – GSR SCENARIO RESULTS FOR 2029**

<b>2029</b>	<b>Service Area</b>	<b>Low CRR - 30%</b>		<b>Base CRR - 60%</b>		<b>High CRR - 85%</b>	
		<b>Budget</b>	<b>NTRC 2.0</b>	<b>Budget</b>	<b>NTRC 2.0</b>	<b>Budget</b>	<b>NTRC 2.0</b>
Residential DR Manage	Nevada Power	\$13,913,157	4.48	\$16,388,000	4.46	\$18,450,370	4.45
	Sierra	\$2,255,245	4.59	\$2,890,000	4.56	\$3,418,962	4.53
Residential DR Build	Nevada Power	\$9,430,645	3.11	\$9,768,000	3.11	\$10,049,129	3.10
	Sierra	\$2,333,689	3.05	\$2,430,000	3.04	\$2,510,259	3.03
Battery Storage	Nevada Power	\$612,022	2.31	\$705,000	2.31	\$782,482	2.31
	Sierra	\$217,144	2.95	\$264,000	2.95	\$303,046	2.95
Low Income DR Build	Nevada Power	\$140,000	1.11	\$140,000	1.11	\$140,000	1.11
	Sierra	\$92,000	0.51	\$92,000	0.51	\$92,000	0.51
Commercial DR Manage	Nevada Power	\$2,286,063	6.11	\$2,454,000	6.10	\$2,593,948	6.10
	Sierra	\$1,507,341	3.32	\$1,740,000	3.31	\$1,933,883	3.30
Commercial DR Build	Nevada Power	\$533,234	2.79	\$536,000	2.79	\$538,306	2.79
	Sierra	\$206,345	0.88	\$207,000	0.88	\$207,546	0.88
Schools DR Build	Nevada Power	\$4,375,000	2.46	\$4,375,000	2.46	\$4,375,000	2.46
	Sierra	\$938,000	1.55	\$938,000	1.55	\$938,000	1.55
Agriculture DR	Nevada Power	\$0	—	\$0	—	\$0	—
	Sierra	\$976,140	1.29	\$1,193,000	1.29	\$1,373,716	1.29
<b>Totals</b>	<b>Nevada Power</b>	<b>\$31,289,121</b>	—	<b>\$34,366,000</b>	—	<b>\$36,929,235</b>	—
	<b>Sierra</b>	<b>\$8,525,905</b>	—	<b>\$9,754,000</b>	—	<b>\$10,777,412</b>	—
	<b>Total</b>	<b>\$39,815,026</b>	—	<b>\$44,120,000</b>	—	<b>\$47,706,647</b>	—

Because these GSR rebates act as a transfer payment within the NTRC 2.0 (see Table DSM-28), it is also important to consider the impacts on the UCT and overall customer incentive levels. Table 8 presents the results of the UCT cost effectiveness test.

**DSM-5, TABLE 8 – UCT COST EFFECTIVENESS RESULTS**

Program	Service Area	UCT - 2027			UCT - 2028			UCT - 2029		
		Low	Base	High	Low	Base	High	Low	Base	High
Residential DR Manage	Nevada Power	1.82	2.16	1.89	2.60	2.15	1.88	2.60	2.15	1.88
	Sierra	2.12	1.55	1.23	2.18	1.62	1.30	2.20	1.70	1.37
Residential DR Build	Nevada Power	2.63	1.70	1.52	1.96	1.69	1.51	1.96	1.68	1.51
	Sierra	1.92	1.63	1.43	1.95	1.74	1.46	1.95	1.65	1.46
Battery Storage	Nevada Power	1.38	1.26	1.09	1.47	1.33	1.14	1.48	1.35	1.15
	Sierra	1.71	1.44	1.27	1.86	1.62	1.36	1.88	1.57	1.37
Low Income DR Build	Nevada Power	0.75	0.72	0.69	0.76	0.72	0.69	0.76	0.73	0.70
	Sierra	0.31	0.29	0.28	0.31	0.30	0.28	0.31	0.30	0.29
Commercial DR Manage	Nevada Power	3.27	2.90	2.70	4.15	3.75	3.48	4.48	4.05	3.76
	Sierra	2.85	2.34	2.02	2.24	2.04	1.71	2.29	1.98	1.78
Commercial DR Build	Nevada Power	2.34	2.29	2.26	2.50	2.45	2.41	2.44	2.40	2.36
	Sierra	0.70	0.68	0.66	0.78	0.75	0.73	0.75	0.73	0.71
Schools DR Build	Nevada Power	1.79	1.71	1.65	1.79	1.72	1.65	1.80	1.71	1.65
	Sierra	-	-	-	1.08	1.14	0.93	1.09	1.15	0.94
Agriculture DR	Nevada Power	-	-	-	-	-	-	-	-	-
	Sierra	0.96	0.80	0.70	1.06	0.87	0.76	0.90	0.74	0.64

Table 9 illustrates the annual capacity credits delivered to customers in 2027 under each scenario as incentive dollars per device per year.

**DSM-5, TABLE 9 – ANNUAL CAPACITY CREDITS FOR 2027 (\$/device)**

	Low Nevada		Base Nevada		High Nevada	
	Power	Sierra	Power	Sierra	Power	Sierra
Residential DR Manage	\$36	\$49	\$71	\$97	\$101	\$137
Residential DR Build	\$36	\$49	\$71	\$97	\$101	\$137
Battery Storage	N/A	N/A	N/A	N/A	N/A	N/A
Low Income DR Build	N/A	N/A	N/A	N/A	N/A	N/A
Commercial DR Manage	\$26	\$64	\$52	\$129	\$74	\$182
Commercial DR Build	\$26	\$64	\$52	\$129	\$74	\$182
Schools DR Build	N/A	N/A	N/A	N/A	N/A	N/A
Agriculture DR	N/A	\$1,972	N/A	\$3,943	N/A	\$5,586

As discussed above, annual capacity credits do not apply to the Low Income DR Build and Schools DR programs in 2027 under the delivery model of Direct Install. Battery Storage customers are assumed to take the upfront Multiple Year Capacity payment, in lieu of annual capacity credits during the Multiple Year Capacity commitment years, plus an additional upfront \$300 per device in recognition of potential future grid service value, for a total upfront Multiple Year Capacity payment per device in the 2027 Base scenario of \$1,628 in Nevada Power and \$1,811 in Sierra.

# **DSM-6**



# 2025 DSM Update Report Walk-Through (Q3 DSM Collaborative)

8/11/2025

# Testimony Summary

## Volume 1

- **Patricia Rodriguez:**
  - DSM Collaborative and stakeholder engagement
  - DR goal consensus stakeholder status
  - DSMore/ Ace Guru overview
  - DSMore transition to primary cost-effectiveness model
- **Adam Grant:**
  - 2025-2026 marketing strategy
  - 2025- 2026 portfolio program budgets and savings targets
  - DR goal consensus
  - Incremental DR budgets inclusion into portfolio budget
- **Robert Oliver:**
  - M&V methodology and activities
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- **Yvette Sanders:**
  - Summary of 2024 M&V results
  - Results of the low-income expenditure spend
  - Directive compliance from Docket Nos. 24-05041
- **Ali Sheikh:**
  - Overview of 2024 program year
  - Overview of 2026 program year

# Narrative Summary

## Volume 1

Section 1:  
Overview and  
Request for  
Approval

Section 2: DSM  
Marketing Strategy

Section 3: 2024  
Program Year and  
Prior Program  
Years Results

Section 4: 2025  
Program Year  
Goals and Targets

Section 5:  
Proposed 2026  
DSM Portfolio

Section 6:  
Education Services  
Programs

Section 7:  
Residential  
Services Programs

Section 8: Non-  
residential Services

# Section 1- 5: DSM Update Report Narrative

- 2024 Program Year Results Summary

**Table DSM-9: 2024 DSM Portfolio Financial Results and Savings Achieved**

Nevada Power	
Actual Expenditures (\$)	45,703,895
2024 Retail Sales Estimate (kWh)	22,115,080,000
1.1% Target (kWh)	243,265,880
Energy Savings Achieved (kWh)	233,247,123
<b>% Energy Savings to Retail Sales</b>	<b>1.05%</b>
Sierra	
Actual Expenditures (\$)	12,573,346
2024 Retail Sales Estimate (kWh)	9,135,310,851
1.1% Target (kWh)	100,488,419
Energy Savings Achieved (kWh)	47,297,220
<b>% Energy Savings to Retail Sales</b>	<b>0.52%</b>
NV Energy	
Actual Expenditures (\$)	58,277,241
2024 Retail Sales Estimate (kWh)	31,250,390,851
1.1% Target (kWh)	343,754,299
Energy Savings Achieved (kWh)	280,544,343
<b>% Energy Savings to Retail Sales</b>	<b>0.90%</b>

# Section 1- 5: DSM Update Report Narrative

- 2024 Program Year Results Summary

Table DSM-10: 2024 DSM Programs Financial Results

Programs	Authorized Budget (\$)	Actual Expenditures (\$)	Variance Over (Under) %
<b>2024</b>			
<b>NV Energy</b>			
Energy Education	760,000	661,438	(13)
Energy Reports	1,355,100	1,303,062	(4)
Online Energy Assessments	805,900	679,565	(16)
Program Development	1,070,000	1,026,151	(4)
<b>Education Services Total</b>	<b>3,991,000</b>	<b>3,670,216</b>	<b>(8)</b>
Residential Equipment and Plug Loads	7,845,000	7,975,690	2
Residential Codes and New Construction	1,885,000	1,504,950	(20)
Low Income	4,911,000	3,411,367	(31)
Direct Install and Home Improvements	1,410,000	1,021,090	(28)
Residential DR - Manage	9,500,000	8,305,291	(13)
Residential DR - Build	9,734,955	9,508,836	(2)
In-Home Energy Assessments	1,838,000	2,091,098	14
<b>Residential Services Total</b>	<b>37,123,955</b>	<b>33,818,321</b>	<b>(9)</b>
Energy Smart Schools	2,120,000	2,497,904	18
Business Energy Services	19,700,000	16,470,136	(16)
Commercial DR - Manage	1,400,000	1,082,723	(23)
Commercial DR - Build	1,386,049	772,177	(44)
<b>Non-Residential Services Total</b>	<b>24,606,049</b>	<b>20,822,939</b>	<b>(15)</b>
Payroll Accrual	-	(46,045)	-
IRP Planning	-	11,810	-
<b>NV Energy Total</b>	<b>65,721,004</b>	<b>58,277,241</b>	<b>(11)</b>

# Section 1- 5: DSM Update Report Narrative

- 2024 Program Year Results Summary

Table DSM-7: 2024 DSM Programs in Order of Verified Energy Savings

Line No.	DSM Programs	Verified Energy Savings (kWh)
1	Business Energy Services	130,963,143
2	Energy Smart Schools	35,232,640
3	Residential DR - Manage	33,441,153
4	Energy Reports	29,968,729
5	Residential Equipment and Plug Loads	23,350,364
6	Residential Codes and New Cons.	6,045,599
7	Commercial DR - Manage	6,035,211
8	Residential DR - Build	6,024,283
9	In-Home Energy Assessments	4,187,354
10	Direct Install and Home Improvements	2,275,685
11	Online Energy Assessments	1,560,731
12	Low Income	711,552
13	Energy Education	700,189
14	Commercial DR – Build	47,710
15	Program Development	-
<b>NV Energy Portfolio Total Verified Energy Savings</b>		<b>280,544,343</b>

# Section 1- 5: DSM Update Report Narrative

- 2024 Program Year Results Summary

**Table DSM-12: 2024 DSM Programs NTRC Benefits/Costs Results- Ace Guru**

Programs	Benefits (\$)	Costs (\$)	Net Benefits (\$)	NTRC B/C Ratio
<b>NTRC</b>				
<b>NV Energy</b>				
Energy Education	400,916	661,438	(260,522)	0.61
Energy Reports	3,849,494	1,303,062	2,546,431	2.95
Online Energy Assessments	206,324	679,565	(473,241)	0.30
Program Development	-	-	-	-
<b>Education Services Total</b>	<b>4,456,733</b>	<b>2,644,065</b>	<b>1,812,668</b>	<b>1.69</b>
Residential Equipment & Plug Loads	13,647,757	12,121,731	1,526,026	1.13
Residential Codes & New Construction	3,950,710	3,563,325	387,385	1.11
Low Income	515,221	3,411,367	(2,896,145)	0.15
Direct Install & Home Improvements	1,029,477	1,021,090	8,387	1.01
Residential DR - Manage	147,372,664	33,392,744	113,979,920	4.41
Residential DR – Build	44,337,804	16,501,344	27,836,460	2.69
In-Home Energy Assessments	1,051,943	2,091,098	(1,039,154)	0.50
<b>Residential Services Total</b>	<b>211,905,576</b>	<b>72,102,699</b>	<b>139,802,878</b>	<b>2.94</b>
Energy Smart Schools	7,869,666	3,823,126	4,046,541	2.06
Business Energy Services	58,613,103	30,768,662	27,844,441	1.90
Commercial DR - Manage	10,730,537	3,256,367	7,474,171	3.30
Commercial DR - Build	1,708,215	1,126,418	581,797	1.52
<b>Non-Residential Services Total</b>	<b>78,921,522</b>	<b>38,974,573</b>	<b>39,946,949</b>	<b>2.02</b>
<b>NV Energy Total</b>	<b>295,283,831</b>	<b>113,721,336</b>	<b>181,562,494</b>	<b>2.60</b>

# Section 1- 5: DSM Update Report Narrative

- 2024 Program Year Results Summary

Table DSM-13: 2024 DSM Programs NTRC Benefits/Costs Results- DSMore

Programs	Benefits (\$)	Costs (\$)	Net Benefits (\$)	NTRC	
				NTRC	NTRC B/C Ratio
<b>NV Energy</b>					
Energy Education	399,034	661,438	(262,404)		0.60
Energy Reports	3,845,707	1,303,062	2,542,645		2.95
Online Energy Assessments	205,537	679,565	(474,028)		0.30
Program Development	-	-	-		-
<b>Education Services Total</b>	<b>4,450,278</b>	<b>2,644,065</b>	<b>1,806,212</b>		<b>1.68</b>
Residential Equipment & Plug Loads	13,594,158	12,121,731	1,472,427		1.12
Residential Codes & New Construction	3,940,832	3,563,325	377,507		1.11
Low Income	513,458	3,411,367	(2,897,908)		0.15
Direct Install & Home Improvements	1,002,382	1,021,090	(18,708)		0.98
Residential DR - Manage	147,378,475	33,392,744	113,985,731		4.41
Residential DR – Build	44,331,134	16,501,344	27,829,790		2.69
In-Home Energy Assessments	1,048,922	2,091,098	(1,042,176)		0.50
<b>Residential Services Total</b>	<b>211,809,360</b>	<b>72,102,699</b>	<b>139,706,662</b>		<b>2.94</b>
Energy Smart Schools	7,734,136	3,823,126	3,911,011		2.02
Business Energy Services	56,812,457	30,768,662	26,043,795		1.85
Commercial DR - Manage	10,724,920	3,256,367	7,468,553		3.29
Commercial DR - Build	1,708,206	1,126,418	581,788		1.52
<b>Non-Residential Services Total</b>	<b>76,979,720</b>	<b>38,974,573</b>	<b>38,005,147</b>		<b>1.98</b>
<b>NV Energy Total</b>	<b>293,239,357</b>	<b>113,721,336</b>	<b>179,518,021</b>		<b>2.58</b>

# Section 1- 5: DSM Update Report Narrative

- 2026 Budget (Without Incremental Increase for DR)

Table DSM-2: 2026 Proposed DSM Portfolio Budgets and Savings Targets without Directive 15 Budget Increase

Programs	Proposed Budget (\$)	2026		Annual Energy Savings (kWh)
		Annual Demand Savings (kW)		
<b>NV Energy</b>				
Energy Education	782,000	-	-	-
Energy Reports	1,323,000	7,064		34,000,000
Program Development	500,000	-		-
<b>Education Services Total</b>	<b>2,605,000</b>	<b>7,064</b>		<b>34,000,000</b>
Home Energy Saver	3,665,000	2,689		13,000,000
Residential HVAC and Heat Pumps	4,180,000	3,495		6,775,000
Residential Codes & New Construction	1,633,000	1,415		7,000,000
Low Income QAR	4,605,000	222		813,000
Residential DR - Manage	8,647,000	141,000		32,500,000
Residential DR - Build	9,148,501	26,000		6,000,000
Energy Assessments and Direct Install	3,500,000	3,108		10,000,000
<b>Residential Services Total</b>	<b>35,378,501</b>	<b>177,929</b>		<b>76,088,000</b>
Energy Smart Schools	1,987,502	2,970		23,500,000
Business Energy Services	22,890,000	16,432		162,600,000
Commercial DR - Manage	1,600,001	11,800		7,700,000
Commercial DR - Build	1,260,000	833		1,115,000
<b>Non-Residential Services Total</b>	<b>27,737,503</b>	<b>32,035</b>		<b>194,915,000</b>
<b>NV Energy Total</b>	<b>65,721,004</b>	<b>217,028</b>		<b>305,003,000</b>

# Section 1- 5: DSM Update Report Narrative

- 2026 Budget Incremental Increase for DR only

Table DSM-3: 2026 Proposed Directive 15 Allocations for DR- Build Portfolio

Programs	Proposed Budget (\$)	Annual Demand Savings (kW)	Annual Energy Savings (kWh)
<b>Nevada Power</b>		<b>2026</b>	
Residential DR - Build	1,696,248	4,241	1,210,136
Commercial DR - Build	163,752	164	262,003
Standalone Low-Income DR	140,000	459	24,069
<b>Nevada Power Total</b>	<b>2,000,000</b>	<b>4,864</b>	<b>1,496,208</b>
<b>Sierra</b>		<b>2026</b>	
Residential DR - Build	679,171	679	226,390
Commercial DR - Build	228,829	83	28,604
Standalone Low-Income DR	92,000	129	17,575
<b>Sierra Total</b>	<b>1,000,000</b>	<b>891</b>	<b>272,568</b>
<b>NV Energy</b>		<b>2026</b>	
Residential DR - Build	2,375,419	4,920	1,436,526
Commercial DR - Build	392,581	247	290,607
Standalone Low-Income DR	232,000	588	41,644
<b>NV Energy Total</b>	<b>3,000,000</b>	<b>5,755</b>	<b>1,768,776</b>

# Section 1- 5: DSM Update Report Narrative

- 2026 Budget (With Incremental Increase for DR)

Table DSM-4: 2026 DSM Portfolio Budgets and Savings Targets with Directive 15 Budget Increase

Programs	Proposed Budget (\$)	Annual Demand Savings (kW)	Annual Energy Savings (kWh)
<b>2026</b>			
<b>NV Energy</b>			
Energy Education	782,000	0	0
Energy Reports	1,323,000	7,064	34,000,000
Program Development	500,000	0	0
<b>Education Services Total</b>	<b>2,605,000</b>	<b>7,064</b>	<b>34,000,000</b>
Home Energy Saver	3,665,000	2,689	13,000,000
Residential HVAC and Heat Pumps	4,180,000	3,495	6,775,000
Residential Codes & New Construction	1,633,000	1,415	7,000,000
Low Income (with Directive 15)	4,837,000	810	854,644
Residential DR - Manage	8,647,000	141,000	32,500,000
Residential DR - Build (with Directive 15)	11,523,920	30,920	7,436,526
Energy Assessments and Direct Install	3,500,000	3,108	10,000,000
<b>Residential Services Total</b>	<b>37,985,921</b>	<b>183,437</b>	<b>77,566,170</b>
Energy Smart Schools	1,987,502	2,970	23,500,000
Business Energy Services	22,890,000	16,432	162,600,000
Commercial DR - Manage	1,600,001	11,800	7,700,000
Commercial DR - Build (with Directive 15)	1,652,581	1,080	1,405,607
<b>Non-Residential Services Total</b>	<b>28,130,084</b>	<b>32,282</b>	<b>195,205,607</b>
<b>NV Energy Total</b>	<b>68,721,004</b>	<b>222,783</b>	<b>306,771,776</b>

# Section 6: Education Services Programs

- Education Services Overview
  - Energy Education Program, Energy Reports Program
    - 2024 Overall Results, Lessons Learned and Recommendations
    - 2025 Program Plan and Program Changes
    - 2026 Proposed Plan, Implementation and Enhancements
    - Location of M&V and Input and Output Sheets (Ace Guru/DSMore)
  - Online Energy Assessments Program
    - 2024 Overall Results, Lessons Learned and Recommendations
    - 2025- 2026 included in new program, Energy Assessments and Direct Install program
    - Location of M&V and Input and Output Sheets (Ace Guru/DSMore)
  - Program Development
    - 2024 Overall Results and Activities
    - Location of 2024 Field Trial Reports
    - 2025 Program Plan and Program Changes
    - 2026 Proposed Field Trials, Implementation and Plan Enhancements

# Section 7: Residential Services Programs

- Residential Services Overview
  - Home Energy Saver Program, Residential Codes and New Construction Program, Low Income Program, Residential DR Program- Build/Manage
    - 2024 Overall Results, Lessons Learned and Recommendations
    - 2025 Program Plan and Program Changes
    - 2026 Proposed Plan, Implementation and Enhancements
    - Location of M&V and Input and Output Sheets (Ace Guru/DSMore)
  - Residential AC and Heat Pumps Program, Energy Assessments & Direct Install Program
    - 2025 Program Plan and Program Changes
    - 2026 Proposed Implementation and Plan Enhancements
    - Location of Input and Output Sheets (Ace Guru/DSMore)
  - In-Home Energy Assessments Program, Direct Install & Home Improvements Program
    - 2024 Overall Results, Lessons Learned and Recommendations
    - 2025- 2026 included in new program, Energy Assessments and Direct Install program
    - Location of M&V and Input and Output Sheets (Ace Guru/DSMore)

# Section 8: Non-Residential Services Programs

- Non-Residential Services Overview
  - Energy Smart Schools Program, Business Energy Services Program, Commercial DR Program- Build and Manage
    - 2024 Overall Results, Lessons Learned and Recommendations
    - 2025 Program Plan and Program Changes
    - 2026 Proposed Plan, Implementation and Enhancements
    - Location of M&V and Input and Output Sheets (Ace Guru/DSMore)

# Summary of Technical Appendices

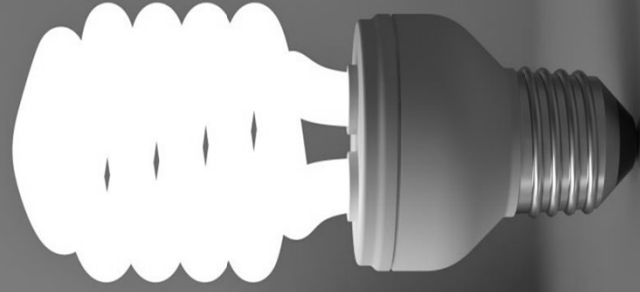
- **Volume 2**
  - DSM-1 Ace Guru User Guide
  - DSM-2 2024 Ace Guru Input/Output Sheets
  - DSM-3 2026 Ace Guru Input/Output Sheets
  - DSM-4 DSMore User Manual
  - DSM-5 2024 DSMore Output Sheets
  - DSM-6 2026 DSMore Output Sheets
- **Volume 3**
  - DSM-7 DSM Collaborative Meeting Slides
  - DSM-8 M&V Process
  - DSM-9 M&V Technical Appendix 1
  - DSM-10 Energy Education Program-2024 M&V Eval Report
  - DSM-11 Energy Reports Program 2024 M&V Eval Report
  - DSM-12 Energy Assessments Program 2024 M&V Eval Report
- **Volume 4**
  - DSM-13 Home Energy Savings Program 2024 M&V Eval Report
  - DSM-14 Residential Codes and New Construction Program 2024 M&V Eval Report
  - DSM-15 Low Income Program-2024 M&V Eval Report
  - DSM-16 DI and Home Improvements Program 2024 M&V Eval Report
  - DSM-17 Residential DR Program 2024 M&V Eval Report
- **Volume 5**
  - DSM-18 Energy Smart Schools Program 2024 M&V Eval Report Confidential
  - DSM-19 Business Energy Services-2024 M&V Eval Report
- **Volume 6**
  - DSM-20 Commercial DR Program 2024 M&V Eval Report
  - DSM-21 2024 Program Development - Field Trial Reports
  - DSM-22 2024 Low Income Expenditure Tracking

# NVEnergy®



# Q4 DSM Collaborative Meeting

November 18, 2025



# AGENDA

- Welcome & Introductions
- Key Developments
- 2025 Gas IRP Overview
- 2025 DSM/C&EE Program Updates
- Upcoming IRP
- NV Energy/Google Collaboration
- IRP Planning Open Discussion
- Measurement & Verification
- Next Steps/Questions

# Q4 Key Developments

- Docket No. 25-10003 2025 Natural Gas Integrated Resource Plan Filed
- Docket No. 25-10012 NPC Advice Letter 557 filed (OLM-AS, GSR-E and GSR-C tariffs)
- Docket No. 25-11 \_\_\_ -Joint Informational Demand Reduction Filing (DR Consensus Goal) filed
- Docket No. 25-08029 2025 Distributed Resources Plan Update Stipulation
- Daily Demand / Program Design for upcoming 2026 Integrated Resource Plan
- Rule 15 Update Workshops have concluded, and team is currently compiling feedback

# 2025 Natural Gas IRP Overview

4

# 2025 Natural Gas IRP

- Docket No. 25-10003
- Submitted: October 1, 2025
- Highlights:
  - Gas Energy Education program
    - 5 program components- Energy Education (residential and commercial), In-home Energy Assessment, Online Energy Assessment, Home Energy Reports
    - 2026 budget reflects partial year allocation due to C&EE programs ending mid-year and the subsequent launch of Gas IRP programs.
    - Proposal for M&V budget (\$50,000 per program year).
    - Home Energy Reports deemed savings proposed as a placeholder and will be revised based on future M&V results, if M&V budget is approved.

Program	Proposed Budget, Goals, and Targets			3-Year Totals
	2026	2027	2028	
Gas Energy Education Proposed Budget (\$)	216,500	383,000	383,000	982,500
Gas Energy Education Proposed Participant Goals	37,280	74,560	74,560	186,400
Gas Energy Education Proposed Savings Targets (Therms)	610,020	1,220,040	1,220,040	3,050,100

# 2025 YTD Demand Side Management Program Highlights and C&EE Program Updates

6

# Education Programs

- Energy education:
  - Energy Theatre Program: Delivered Peter Pan in Nevada and Wattage of Oz to **29,000+ Nevada elementary students**, along with robotics, STEM lessons, and teacher trainings.
  - Community Engagement: Powershift staff represented programs at major statewide events including **Black History Month Festival, Las Vegas Pride, Senior Support events, ArtTown, Asian & Latin Chamber Luncheons, Nevada Day at Springs Preserve, and multiple Veteran-focused** events.
  - Program Presentations: Provided program overviews at senior resource fairs, chambers of commerce, schools, festivals, rotary clubs, and other community meetings statewide.
- Qualified Appliance Replacement:
  - Successfully transitioned to in-house program administration, improving agility in decision-making and enhancing data quality.
  - Achieved a significant increase in applications, reflecting stronger customer engagement. (**1,843 applications as of Sep 30th**)
  - Expanded participation in community events focused on low-income households, veterans, and seniors.
  - Added new appliance offerings, including dishwashers and heat pump dryers.

# Residential Programs

- New Construction & Codes:
  - Despite a late program start (due to contract negotiations), the program has processed **3,987 measures** over 7.5 months, averaging **~530 measures per month**.
  - Homes built **17–24% above code** have increased by **98 homes year-to-date** compared to last year.
  - The program is on track to exceed last year's total for homes built 25% above code and higher, currently within 7 homes of last year's count with more projects expected.
- Home Energy Saver:
  - Currently forecasting to reach **121% for the target 9,000,000 kwh**
- Residential DR:
  - In Sierra Pacific Power, the residential Demand Response program exceeded the demand reduction target of **3 MW by 20%**.
  - The demand reduction programs have achieved an attrition rate of **under 4%** despite the large number of move outs in 2025.

# Commercial Programs

- Commercial DR:
  - The Sierra Pacific Power pilot measure for large agricultural demand response was able to reduce and average of **1.2 MW between 3 farms**.
  - Several private school campuses enrolled into the smart thermostat program in the Nevada Power territory.
- Business Energy Services:
  - The Program has attended **232 events** to date.
  - The Program has achieved **3,641 in-person community engagements** and performed **975 in-person visits / inspections**.
  - The Program has made or attempted contact with 90%+ of Nevada Power and Sierra managed account customers.
- Energy Smart Schools:
  - Forecasted to exceed energy savings goals in south.

# C&EE Gas Programs

- Residential and Commercial Customer Education:
  - Northern Nevada Residential Customer Outreach- 96,002
  - Northern Nevada Commercial Customer Outreach- 4,105
- Home Energy Report:
  - 65,798 paper reports mailed
  - 337,334 emails sent with open rate of 59.9%
- In-home Energy Assessments:
  - Completed 774 assessments YTD, averaging 86 per month.
- Online Energy Assessments:
  - Completing 465 assessments from June through October.

PROGRAM NAME	Budget	Expenditures
Energy Education Residential - SPPC	\$47,000	\$22,336
Energy Education Commercial - SPPC	\$18,000	\$13,461
Home Energy Reports - SPPC	\$108,100	\$62,623
In-Home Energy Assessments - SPPC	\$110,000	\$79,869
Online Energy Assessments - SPPC	\$49,900	\$52,203
<b>Total</b>	<b>\$333,000</b>	<b>\$230,492</b>

# Upcoming Integrated Resource Plan

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# Integrated Resource Plan Progress

- Integrated Energy Services is working on a proposed portfolio (programs, budget, goals).
- Transitional Portfolio (actual date of filing will determine how transformative portfolio could be)
- Slightly Reduced kWh
- Slightly Increased kW – Integrate new flexible load program and/or measures

# NV Energy/ Google Collaboration

# Google Large Customer Offsite DSM

- In Docket 24-05041, Google proposed a program to allow large, fully bundled customers with a minimum peak demand of >5MW to make voluntary contributions to Offsite DSM in return for bill credits
  - Increase DSM funding without increasing customer funding
  - Allow investment in solutions that may not align with traditional CBA Analysis
- Commission Order
  - Commission declined to adopt proposal due to lack of detail
  - Encouraged Google and NV Energy to continue discussions and refile with more detail in future proceeding

## Project Update

- Google and NV Energy are collaborating on a potential program design with a goal to include program proposal in 2026 IRP
- Interested in soliciting feedback from DSM Collaborative prior to filing

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# IRP Planning Open Discussion

16

# Measurement and Verification Updates

17

# Residential DR M&V Methodology

- ADM conducted an updated analysis of the energy savings values using data from PY2019 - PY2025.
- Usage data from 2020 was excluded from the analysis due to the atypical conditions resulting from the COVID pandemic.
- Devices installed in 2020 were not excluded.
- Therms savings were not evaluated as part of this deemed savings update

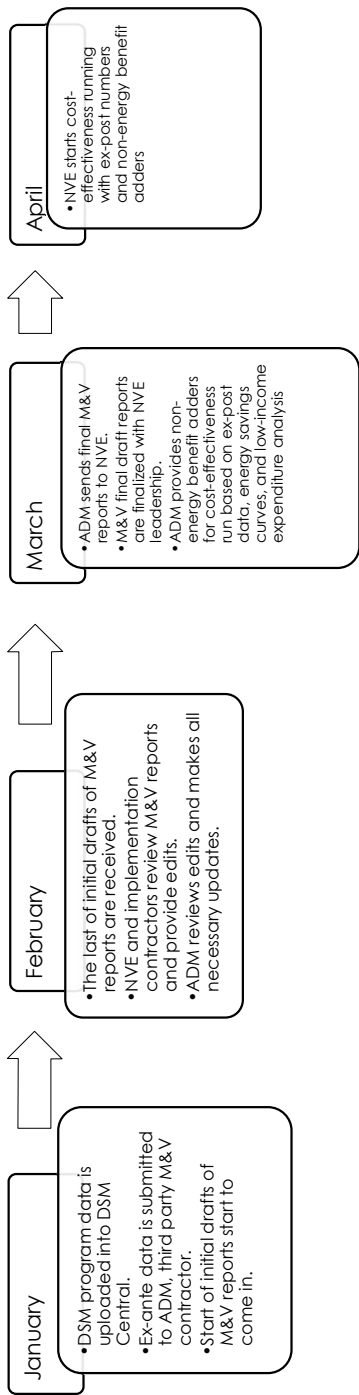
*2024 Deemed Annual Energy Savings for NV Energy's Residential DR Program.*

Territory	Annual Energy Savings
NPC	445 kWh 17 Therms
SPPC	199 kWh 48 Therms

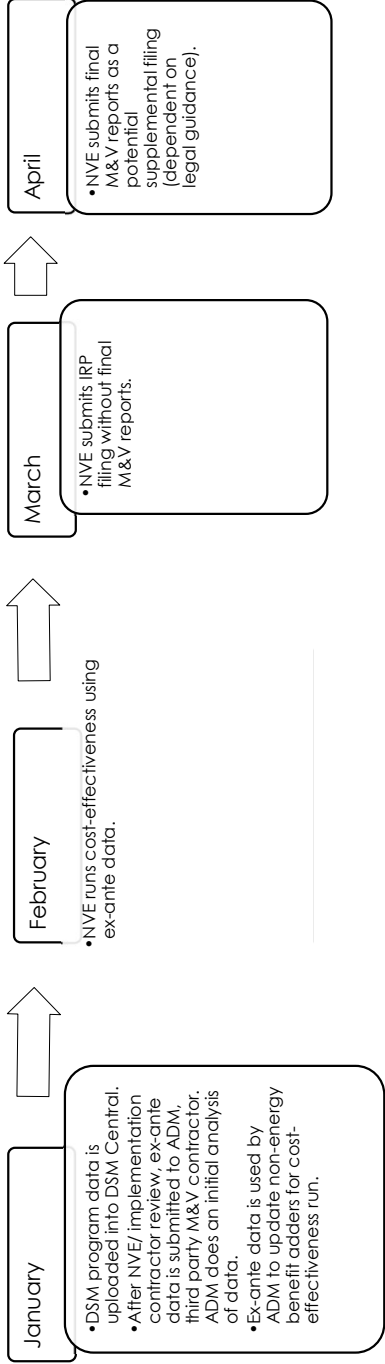
*2025 Deemed Annual Energy Savings for NV Energy's Residential DR Program.*

Territory	Annual Energy Savings
NPC	294 kWh 17 Therms
SPPC	208 kWh 48 Therms

# M&V Reports



Typical M&V timeline:

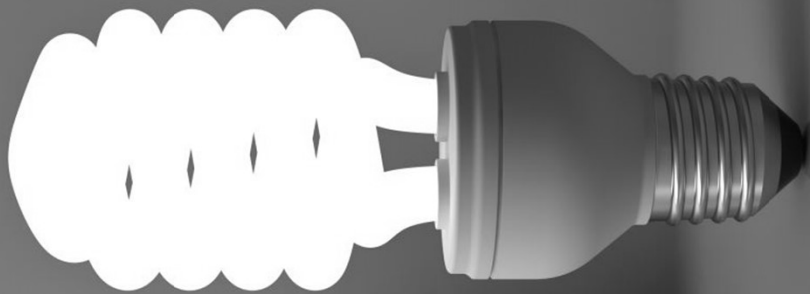


Potential expedited M&V timeline:

# Next Steps for DSM Collaborative

- File Rule 15 Update & AB 458 Tariff
- Schedule Q1 Collaborative
- Potential topics for Q1
- Upcoming stakeholder meetings

# Thank You



# Q1 DSM Collaborative Meeting

January 27, 2026

# AGENDA

- Welcome & Introductions
- 2025 End of Year Ex-Ante Program Summaries (Electric and Gas)
- 2025 End of Year DSM and C&EE Program Highlights
- 2026 DSM Program Budgets and Targets
- 2026 Program Development
- Upcoming IRP Updates and CBA Changes
- NV Energy/ Google Collaboration Update
- Next Steps/ Questions

# 2025 End of Year Ex- Ante Program Summaries (Electric and Gas)

3

# 2025 NPC DSM Summary

NEVADA POWER					
Program	Budget	Year End Actuals*	Annual Energy Savings (kWh)	Ex-Ante Year End Savings (kWh)*	
Energy Education	\$434,000	\$414,443	-	-	-
Home Energy Reports Program	\$809,000	\$597,310	25,000,000		26,124,500
Program Development	\$300,000	\$325,325	-	-	-
<b>Subtotal - Education Services</b>	<b>\$1,543,000</b>	<b>\$1,337,078</b>	<b>25,000,000</b>		<b>26,124,500</b>
Energy Assessments & Direct Install	\$2,512,000	\$2,466,427	8,000,000		3,603,009
Residential Codes & New Construction	\$1,588,000	\$1,261,075	7,000,000		5,261,632
Low Income Program	\$3,490,000	\$2,412,462	600,000		625,243
Air Conditioning	\$3,255,000	\$2,337,486	7,000,000		5,440,004
Home Energy Saver	\$2,595,000	\$2,802,103	9,000,000		10,212,303
Residential DR Program - Manage	\$7,855,000	\$8,139,277	27,000,000		32,890,500
Residential DR Program - Build	\$7,008,501	\$7,299,404	5,000,000		3,549,000
<b>Subtotal - Residential Services</b>	<b>\$28,303,501</b>	<b>\$26,718,234</b>	<b>55,600,000</b>		<b>61,581,691</b>
Schools Program	\$1,410,000	\$1,365,931	20,000,000		20,094,380
Business Energy Services Program	\$17,000,000	\$13,744,870	125,600,000		102,584,074
Commercial DR Program - Manage	\$960,000	\$957,759	5,500,000		4,282,000
Commercial DR Program - Build	\$625,000	\$620,269	1,000,000		3,744,437
<b>Subtotal - Business Services</b>	<b>\$19,995,000</b>	<b>\$16,688,829</b>	<b>152,100,000</b>		<b>130,704,891</b>
<b>NPC DSM Totals</b>	<b>\$49,841,501</b>	<b>\$44,744,141</b>	<b>240,700,000</b>		<b>218,411,082</b>

# 2025 SPPC DSM Summary

SIERRA PACIFIC POWER					
Program	Budget	Year End Actuals*	Annual Energy Savings (kWh)	Ex-Ante Year End Savings (kW)*	Ex-Ante Year End Savings (kW)*
Energy Education	\$348,000	\$236,286	-	-	-
Home Energy Reports Program	\$514,000	\$535,324	9,000,000	4,284,545	4,284,545
Program Development	\$200,000	\$218,776	-	-	-
<b>Subtotal – Education Services</b>	<b>\$1,062,000</b>	<b>\$990,386</b>	<b>9,000,000</b>	<b>4,284,545</b>	<b>4,284,545</b>
Energy Assessments & Direct Install	\$1,000,000	\$996,593	2,000,000	611,452	611,452
Residential Codes & New Construction	\$45,000	\$17,221	-	-	-
Low Income Program	\$1,090,000	\$1,062,594	213,000	221,031	221,031
Air Conditioning	\$950,000	\$576,205	775,000	491,825	491,825
Home Energy Saver	\$1,070,000	\$1,081,230	5,000,000	4,232,351	4,232,351
Residential DR Program - Manage	\$780,000	\$849,269	3,000,000	5,411,000	5,411,000
Residential DR Program - Build	\$2,140,000	\$2,126,556	1,000,000	1,002,000	1,002,000
<b>Subtotal – Residential Services</b>	<b>\$6,075,000</b>	<b>\$6,709,668</b>	<b>9,988,000</b>	<b>13,000</b>	<b>13,000</b>
Schools Program	\$577,503	\$792,834	3,500,000	5,654,211	5,654,211
Business Energy Services Program	\$5,890,000	\$4,992,213	37,900,000	33,282,192	33,282,192
Commercial DR Program - Manage	\$640,000	\$308,927	1,500,000	2,100,000	2,100,000
Commercial DR Program - Build	\$635,000	\$423,079	115,000	135,479	135,479
<b>Subtotal - Business Services</b>	<b>\$7,742,503</b>	<b>\$6,517,053</b>	<b>43,015,000</b>	<b>41,171,882</b>	<b>41,171,882</b>
<b>SPPC DSM Totals</b>	<b>\$15,879,503</b>	<b>\$14,217,107</b>	<b>64,003,000</b>	<b>57,426,086</b>	<b>57,426,086</b>

# 2025 C&EE Gas Summary

PROGRAM NAME	Budget	Expenditures
Energy Education Residential - SPPC	\$47,000	\$28,897
Energy Education Commercial - SPPC	\$18,000	\$19,060
Home Energy Reports - SPPC	\$108,100	\$63,811
In-Home Energy Assessments - SPPC	\$110,000	\$93,679
Online Energy Assessments - SPPC	\$49,900	\$54,824
<b>Total</b>	<b>\$333,000</b>	<b>\$260,271</b>

# 2025 Demand Side Management Program Highlights and C&EE Program Highlights

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# Education Programs

- Energy education:
  - Energy Theatre Program: Delivered Peter Pan in Nevada and Wattage of Oz to **29,000+ Nevada elementary students**, along with robotics, STEM lessons, and teacher trainings.
  - Community Engagement: Powershift staff represented programs at major statewide events including **Black History Month Festival, Las Vegas Pride, Senior Support events, ArtTown, Asian & Latin Chamber Luncheons, Nevada Day at Springs Preserve, and multiple Veteran-focused events.**
- Qualified Appliance Replacement:
  - Successfully transitioned to in-house program administration, improving agility in decision-making and enhancing data quality.
  - Achieved a significant increase in applications, reflecting stronger customer engagement.
  - Expanded participation in community events focused on low-income households, veterans, and seniors.
  - Added new appliance offerings, including dishwashers and heat pump dryers.

# Residential Programs

- New Construction & Codes:
  - Despite a late program start (due to contract negotiations), the program has processed **3,987 measures** over 7.5 months, averaging **~530 measures per month**.
  - Homes built **17-24% above code** have increased by **98 homes year-to-date** compared to last year.
  - The program is on track to exceed last year's total for homes built 25% above code and higher, currently within 7 homes of last year's count with more projects expected.
- Home Energy Saver:
  - Currently forecasting to reach **121% for the target 9,000,000 kwh**
- Residential DR:
  - In Sierra Pacific Power, the residential Demand Response program exceeded the demand reduction target of **3 MW by 20%**.
  - The managed portion of the demand reduction programs achieved an attrition rate of **under 4%**.

# Commercial Programs

- Commercial DR:
  - The Sierra Pacific Power pilot measure for large agricultural demand response was able to reduce and average of **1.2 MW between 3 farms**.
  - Several private school campuses enrolled into the smart thermostat program in the Nevada Power territory.
- Business Energy Services:
  - The Program has attended **232 events** to date.
  - The Program has achieved **3,641 in-person community engagements** and performed **975 in-person visits / inspections**.
  - The Program has made or attempted contact with 90%+ of Nevada Power and Sierra managed account customers.
- Energy Smart Schools:
  - Exceeded energy savings goals in southern Nevada.

# C&EE Gas Programs

- Residential and Commercial Customer Education:
  - Northern Nevada Residential Customer Outreach- 104,225
  - Northern Nevada Commercial Customer Outreach- 4,105
- Home Energy Report:
  - 30,748 participants provided home energy reports
- In-home Energy Assessments:
  - Completed 871 assessments
- Online Energy Assessments:
  - Completed 576 assessments

# 2026 DSM Program Budgets and Targets

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# 2026 NPC DSM Budgets & Targets

Program	NEVADA POWER		
	Budget	Annual Energy Savings (kWh)	Dispatchable Demand Savings (kW)
Energy Education	\$434,000	-	-
Home Energy Reports Program	\$809,000	25,000,000	-
Program Development	\$300,000	-	-
<b>Subtotal - Education Services</b>	<b>\$1,543,000</b>	<b>25,000,000</b>	
Energy Assessments and Direct Install	\$2,500,000	8,000,000	-
Residential HVAC & Heat Pumps	\$3,255,000	6,000,000	-
Home Energy Saver	\$2,595,000	8,000,000	-
Residential Codes & New Construction	\$1,588,000	7,000,000	-
Low Income Program	\$3,630,000	600,000	459
Residential DR Program - Manage	\$7,867,000	29,000,000	130,000
Residential DR Program - Build	\$8,888,501	6,234,205	34,000
<b>Subtotal - Residential Services</b>	<b>\$30,323,501</b>	<b>64,834,205</b>	<b>164,459</b>
Energy Schools Program	\$1,410,000	20,000,000	-
Business Energy Services Program	\$17,000,000	125,100,000	-
Commercial DR Program - Manage	\$960,000	6,000,000	10,500
Commercial DR Program - Build	\$605,000	1,262,003	4,000
<b>Subtotal - Business Services</b>	<b>\$19,975,000</b>	<b>152,362,003</b>	<b>14,500</b>
<b>NPC DSM Totals</b>	<b>\$51,841,501*</b>	<b>242,196,208</b>	<b>178,959</b>

\* Includes the \$2,000,000 increase in budget for DR.

# 2026 SPPC DSM Budgets & Targets

Program	SIERRA PACIFIC POWER		
	Budget	Annual Energy Savings (kWh)	Dispatchable Demand Savings (kW)
Energy Education	\$348,000	-	-
Home Energy Reports Program	\$514,000	9,000,000	-
Program Development	\$200,000	-	-
<b>Subtotal – Education Services</b>	<b>\$1,062,000</b>	<b>9,000,000</b>	-
Energy Assessments and Direct Install	\$1,000,000	2,000,000	-
Residential HVAC & Heat Pumps	\$925,000	775,000	-
Home Energy Saver	\$1,070,000	5,000,000	-
Residential Codes & New Construction	\$45,000	-	-
Low Income Program	\$1,207,000	213,000	129
Residential DR Program - Manage	\$780,000	3,500,000	11,000
Residential DR Program - Build	\$2,948,000	1,226,390	9,000
<b>Subtotal – Residential Services</b>	<b>\$7,975,000</b>	<b>12,714,390</b>	<b>20,129</b>
Energy Smart Schools Program	\$577,502	3,500,000	-
Business Energy Services Program	\$5,890,000	37,500,000	-
Commercial DR Program - Manage	\$640,001	1,700,000	1,300
Commercial DR Program - Build	\$735,000	143,604	6,000
<b>Subtotal - Business Services</b>	<b>\$7,842,503</b>	<b>42,843,604</b>	<b>7,300</b>
<b>SPPC DSM Totals</b>	<b>\$16,879,503</b>	<b>64,557,994</b>	<b>27,429</b>

\* Includes the \$1,000,000 increase in budget for DR.

# 2026 Program Development

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# Program Development – proposed 2026 investigations

Project	Rollover elements	Objectives
Cost-Effective HVAC Measures	No rollover – new investigation	<p>Benchmark cost-effective HVAC measures of the industry against existing NV Energy programs, including demand management</p> <p>Propose modifications or addition of new measures to existing NV Energy HVAC Programs based on benchmark findings.</p>
Edge Gateway and Alternatives Demand Management	<p>Edge gateway architecture and communication pathways</p> <p>Vutility transformer technology</p>	<p>Comparison of alternative methodologies to manage coincident peak of premises and service transformers.</p> <p>Determine integration feasibility for DERMS and/or non-wires alternative.</p>
Load Management with Panel Meter and Thermostats	No rollover – new investigation	Evaluate potential to reduce coincident demand of residential premises with two or more thermostats leveraging whole home meter.
Mini-split installation impacts	No rollover – new investigation	<p>Identify mini splits, within the NV Energy AC rebates program, that were installed in existing or newly added residential spaces.</p> <p>Determine if each type of installation had significant positive or negative impact on consumption and peak load.</p>

Note: These proposed projects ranked highest on prioritization framework

Provide project input by Friday, February 20  
Email Brett.Jenkins@nvenergy.com with project name & description

# Upcoming IRP Updates and Proposed Changes to Cost-Benefit Analysis

# Integrated Resource Plan Progress

- Submitted ex-ante tables to ADM for evaluation. Due to April filing date, NV Energy will proceed with the normal M&V process.
- NV Energy is continuing to work on financial reconciliation from the previous 2025 program year and is awaiting final internal budget approval for the 2027-2029 action plan period.
- Primary cost-effectiveness model, DSMore, will be run in line with what was completed in the 2025 DSM Update Report.
- Reviewing various cost-benefit analysis updates (discussed in more detail in the following slides).
- Portfolio is a mix of Traditional and Grid-Value portfolios provided in the 2024 IRP.
  - Program mix is dependent on internally approved budget.
- The Companies are looking to propose new programs and measures, such as Battery DR, Schools DR and Agricultural DR depending on the Companies' ability to come to an effective program design and budget.

# Option Value

- The Companies has been planning on including option value for DSM in the 2026 IRP.
- Option value is the insurance or extrinsic value of dispatchable DERs (e.g., DR Program option value), with stochastic simulation of the forecast variables (or risk factors such as energy prices) and ability to replicate the operational strategies and opportunities of the program technologies.
- IA, the contractor who developed DSMore, has been updating option value in DSMore with NV Energy-specific input and updates. The Companies are working to QA/QC the updates.

# Alignment with LNBA Adders

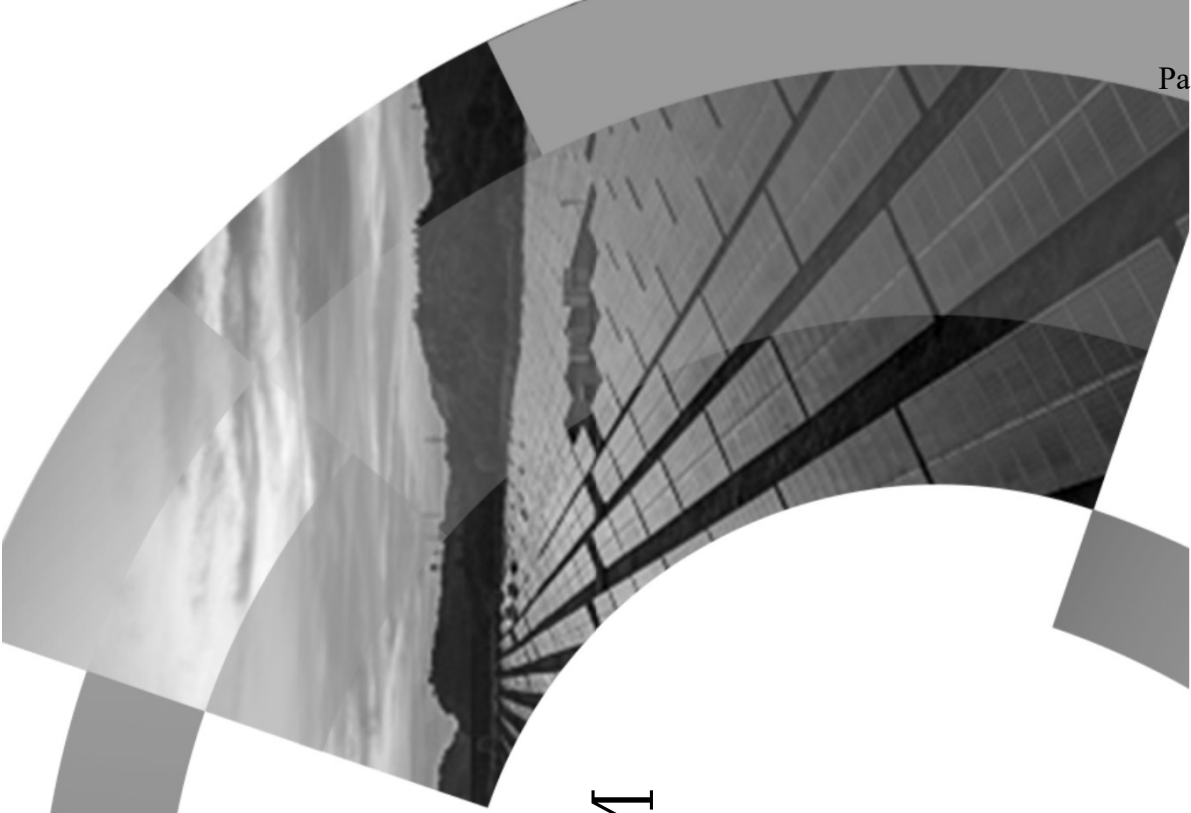
- The Companies would like to harmonize incorporation of LNBA across NWA and DSM, specifically for the Criteria Air Pollutants (“CAP”) and Greenhouse Gas Emissions (“GHG”) benefits. These were specific benefits that Brattle referenced in the LNBA workshops required by the 2024 DRP IRP order.
  - CAP is the value of avoided pollutants associated with particulate matter with 2.5-micron diameter (PM<sub>2.5</sub>), nitrous oxides (NOx), sulfur dioxide (SO<sub>2</sub>) on an annual basis.
  - GHG is the value of avoided GHG emissions on an hourly basis.
  - Methodologies for CAP and GHG was included in the LNBA Workshop 2 and LNBA Workshop 3

# DR Measure Level Analysis/Peak Timing

- DR measure-level cost-effectiveness
  - The Companies want to calculate DR cost-effectiveness at the measure-level, rather than program-level (as previously calculated)
- Net Peak vs Targeted Peak Hours (Investigating)
  - Modeling peak as 6-9pm for Net Peak = Native Load – Must-Take Solar
  - The Companies dispatch targeted events primarily at 4:30-6pm
  - The Companies also recognize that emergency events can occur at any time
- Targeted vs System-Wide Event Types (Investigating)
  - These different event types are achieving different outcomes – may look at presenting these differently in the results



# NV Energy/ Google Collaboration Progress



**CURRENT**  
ENERGY GROUP

# Large Customer Offsite DSM Program

January 2026



# Background

- PUCN’s December 2024 Order in NV Energy’s 2025-2044 IRP (Docket No. 24-05041):
  - “However, the Commission encourages Google, NV Energy, and any interested stakeholder to continue discussions around the proposed Large Customer Offsite DSM Program and refile any proposal for such a program, with the Commission for consideration, with additional detail and evidentiary support, in a future IRP or IRP amendment proceeding.
- Throughout 2025, Google and NVE have held informal discussions on further development of a Large Customer Offsite DSM Program in SPPC territory.
- Google has also engaged:
  - Current Energy Group to provide technical support on program design
  - The Brattle Group to conduct additional analysis on technical potential

# General Framework Gaining Traction



- “Bring Your Own Distributed Capacity” has emerged as a practical solution for addressing large load customer needs in a timely and cost-effective manner
- Alliance to Save Energy framework components:
  1. Geographically- and Technology-targeted Solution Portfolio
  2. Risk Transfer and Capital Commitment
  3. Targeted Deployment
  4. Capacity Accreditation
  5. System and Site Benefits



Alliance to Save Energy report (2026) (Google funded)



## Similar Efforts in Other Jurisdictions

- **Kansas & Missouri** : The Kansas Corporation Commission and the Missouri Public Service Commission both adopted a new large load tariff that creates a Clean Energy Choice Rider, which enables customers to directly support the procurement of distributed energy resources, including demand-side management, energy efficiency, and battery storage in exchange for appropriate credit. These tariffs apply to large load customers of Energy Kansas, Evergy Missouri, and Ameren Missouri.
- **Arizona**: Salt River Project also working with Google on a “Bring Your Own Distributed Capacity” program with aims to deploy in 2026
- Other programs in development and likely to be announced later in 2026

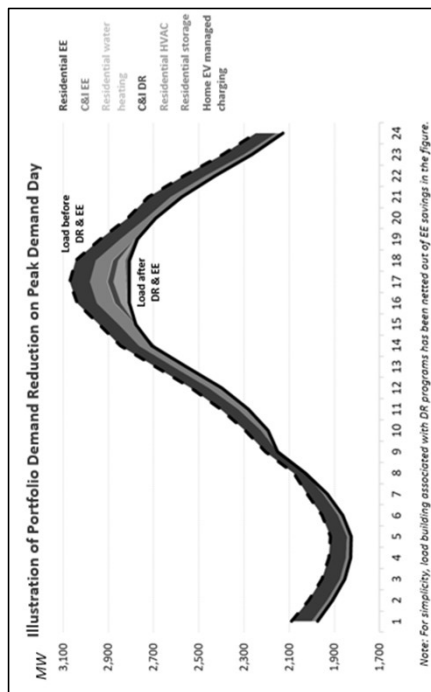
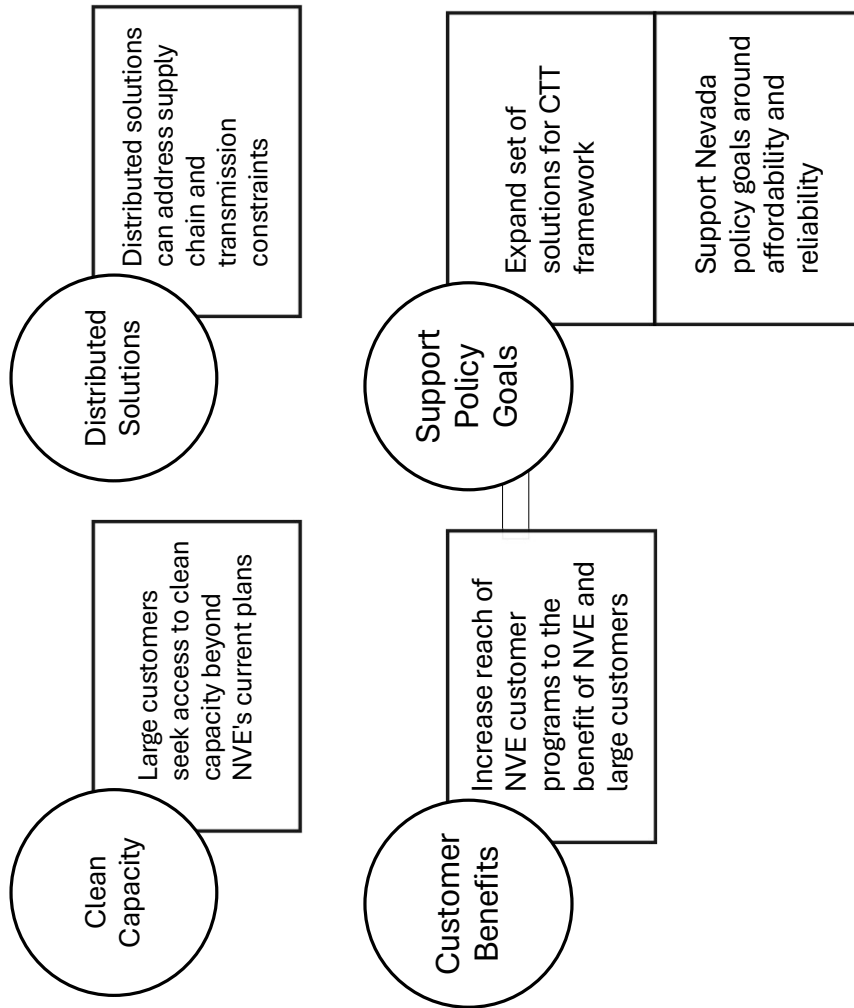


## Offsite DSM Advantages:

- Low cost versus alternative capacity resource options
  - Assists with affordability goals
- Can provide “clean firm” contribution to assist with reliability as solar penetration increases
- Short deployment timeline versus other capacity resources (i.e., annual program cycle vs. multi-year development cycle)
- Investment can provide shared benefits for local communities where data centers are located



# Objectives for a New NV Program



Source: The Brattle Group



# Criteria for Success

Scalability:  
Deliver 5+MW

Cost:  
Competitive \$/kw

Speed: Established  
path to deploy  
resources quickly

Carbon: Ideally  
carbon-free

Community Benefit:  
E.g., Assist LMI  
community, schools,  
and nonprofits



# Program Goals and Opportunity

- Brattle Study for SPPC estimates between 230-490 MW of incremental potential available by 2030
  - Significant opportunities in residential energy efficiency and behind-the-meter battery storage
- Large customer supplemental funding can expand deployment by stretching SPPC incentive budgets beyond traditional limits
  - Supplemental contributions can be used to exceed historic budget caps that limit program plans
  - Supplemental contributions can be used to overcome traditional cost-effectiveness barriers (while avoiding harm to non-participants).

# Preliminary Proposed Program Framework for SPPC

- Large Customer contributes towards expansion of SPPC DSM portfolio
  - Monies supplement existing DSM program budget and will be used to offer enhanced incentives for existing measures and/or new measures/programs
  - Initial proposed focus on current programs gaps including in alignment with Brattle findings: 1) residential HVAC (targeting LMI customers) and 2) behind-the-meter battery storage.
- Proposing a pilot program of approximately \$5 million/year for three years, with a goal of 5-15 MW of incremental savings each year (15-45 MW cumulative)
- Google receives capacity and energy benefit from its funding based on standard EM&V process.
  - Available for incremental capacity needs to serve new data centers or credited towards existing data center if system is short on capacity.
- If program braids funding, savings attributed based on percentage of total program funding from each entity.
- Large customer funding excluded from cost-benefit and other analysis



## Next Steps

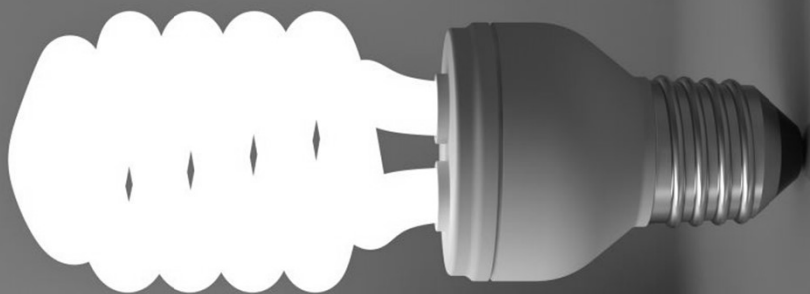
- Continued coordination with NV Energy on program framework development
- Seeking additional feedback from DSM Collaborative.
- Working towards full proposal for upcoming IRP proceeding (spring 2026)

# Next Steps for DSM Collaborative

- Schedule a follow up to Q1 Collaborative meeting (mid-late February/early March) to provide more concrete IRP updates and Q2 Collaborative
- Q1 Follow Up?
  - March 2: 9-10:30 AM
  - March 5: 9-10:30 AM
  - March 10: 9-10:30 AM
- Q2
  - What month works better- May or June?
  - Potential topics for Q2

**Thank You**

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# Q1 DSM Follow-Up Meeting

March 18, 2026

# AGENDA

Welcome &  
Introductions

Highlights of Major IRP  
Changes

IRP Progress

27-29 DSM Program  
Budgets/Targets

Google/NVE Progress

Next Steps/  
Questions

# Highlight of IRP Changes

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# 2027-2029 Action Plan Highlights

- Proposal of a multi-pronged energy savings goal inclusive of both kilowatt-hour (“kWh”) and kilowatt (“kW”) savings.
- Proposal of a small number of new programs and measures: Battery Storage DR, Schools DR, and Agricultural DR (Sierra only).
- The new GSR-E and GSR-C tariffs as they are proposed currently are incorporated into the budget.
- Residential Codes and New Construction will not be proposed.
- Online Marketplace may not be proposed.

# IRP Progress

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# Integrated Resource Plan Progress

- 2025 Measurement and Verification reports are almost finalized and will support the cost-effectiveness run in DSMore.
- The 2025 and 2027-2029 DSMore cost-effectiveness runs will begin in the next week.
- The team is finalizing the general narrative, program data sheets, and testimony is starting to be drafted.

# 2027-2029 DSM Program Budgets and Targets

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# 2027-2029 NPC DSM Budgets & Targets

Programs	Budget			kWH			kW (Dispatchable)		
	2027	2028	2029	2027	2028	2029	2027	2028	2029
Energy Education	\$400,000	\$400,000	\$400,000		-	-			
Home Energy Reports	\$680,000	\$781,000	\$860,000	17,500,000	17,500,000	17,500,000			
Program Development	\$300,000	\$300,000	\$300,000		-	-			
<b>Total Education</b>	<b>\$1,380,000</b>	<b>\$1,481,000</b>	<b>\$1,560,000</b>	<b>17,500,000</b>	<b>17,500,000</b>	<b>17,500,000</b>			
Energy Assessments and Direct Install	\$2,038,000	\$2,214,000	\$2,435,000	5,600,000	5,600,000	5,600,000			
Residential HVAC & Heat Pumps	\$2,620,000	\$2,882,000	\$3,171,000	4,200,000	4,200,000	4,200,000			
Home Energy Saver	\$2,089,000	\$2,298,000	\$2,528,000	5,600,000	5,600,000	5,600,000			
Low Income	\$3,541,000	\$3,914,000	\$4,323,000	450,000	450,000	450,000	450	450	450
Residential DR Build	\$8,073,000	\$8,880,000	\$9,768,000	4,530,000	4,983,000	5,481,000	22,000	24,000	26,000
Battery Storage DR	\$1,158,000	\$705,000	\$705,000				1,500	1,000	1,000
Residential DR Manage	\$16,702,000	\$17,324,000	\$17,939,000	30,645,000	31,658,000	32,977,000	187,000	189,000	193,000
<b>Total Residential</b>	<b>\$36,221,000</b>	<b>\$38,217,000</b>	<b>\$40,869,000</b>	<b>51,025,000</b>	<b>52,491,000</b>	<b>54,308,000</b>	<b>210,950</b>	<b>214,450</b>	<b>220,450</b>
Schools Program	\$1,135,000	\$1,419,000	\$1,774,000	14,000,000	14,000,000	14,000,000			
Schools DR	\$4,375,000	\$4,375,000	\$4,375,000	1,701,000	1,701,000	1,701,000	15,500	15,500	15,500
Business Energy Services	\$13,685,000	\$15,054,000	\$16,559,000	87,570,000	87,570,000	87,570,000			
Commercial DR Build	\$443,000	\$487,000	\$536,000	86,000	103,000	114,000	6,000	7,000	8,000
Commercial DR Manage	\$884,000	\$1,691,000	\$2,454,000	6,072,000	7,073,000	7,989,000	11,000	29,000	46,000
<b>Total Non-Residential</b>	<b>\$20,522,000</b>	<b>\$23,026,000</b>	<b>\$25,698,000</b>	<b>109,429,000</b>	<b>110,447,000</b>	<b>111,374,000</b>	<b>32,500</b>	<b>51,500</b>	<b>69,500</b>

# 2027-2029 SPPC DSM Budgets & Targets

	Budget			kWH			kW (Dispatchable)		
	2027	2028	2029	2027	2028	2029	2027	2028	2029
Energy Education	\$300,000	\$300,000	\$300,000						
Home Energy Reports	\$414,000	\$455,000	\$501,000	6,300,000	6,300,000	6,300,000			
Program Development	\$200,000	\$200,000	\$200,000						
<b>Total Education</b>	<b>\$914,000</b>	<b>\$955,000</b>	<b>\$1,001,000</b>	<b>6,300,000</b>	<b>6,300,000</b>	<b>6,300,000</b>			
Energy Assessments and Direct Install	\$805,000	\$886,000	\$974,000	1,400,000	1,400,000	1,400,000			
Residential HVAC & Heat Pumps	\$745,000	\$820,000	\$902,000	543,000	543,000	543,000			
Home Energy Saver	\$861,000	\$947,000	\$1,042,000	3,500,000	3,500,000	3,500,000			
Low Income	\$1,063,000	\$1,150,000	\$1,267,000	149,000	149,000	149,000	130	130	130
Residential DR Build	\$2,008,000	\$2,209,000	\$2,429,900	467,000	513,000	565,000	5,000	5,500	6,000
Battery Storage DR	\$403,000	\$264,000	\$264,000				700	530	530
Residential DR Manage	\$2,833,000	\$3,078,000	\$3,285,000	4,144,000	4,150,000	4,197,000	29,000	31,000	33,000
<b>Total Residential</b>	<b>8,718,000</b>	<b>9,354,000</b>	<b>\$10,163,900</b>	<b>10,203,000</b>	<b>10,255,000</b>	<b>10,354,000</b>	<b>34,830</b>	<b>37,160</b>	<b>39,660</b>
Schools Program	\$465,000	\$511,000	\$563,000	2,450,000	2,450,000	2,450,000			
Schools DR		\$937,500	\$937,500		291,600	291,600		2,700	2,700
Business Energy Services	\$4,741,000	\$5,216,000	\$5,737,000	26,250,000	26,250,000	26,250,000			
Commercial DR Build	\$171,000	\$188,000	\$207,000	15,000	16,000	18,000	600	700	700
Agricultural DR	\$1,232,000	\$2,196,000	\$625,000	524,000	613,000	212,000	15,000	25,500	7,300
Non-Residential DR Manage	\$609,000	\$1,625,000	\$3,472,000	1,446,000	1,588,000	2,007,000	7,000	21,500	47,900
<b>Total Non-Residential</b>	<b>\$7,218,000</b>	<b>\$10,673,500</b>	<b>\$11,541,500</b>	<b>30,685,000</b>	<b>31,208,600</b>	<b>31,228,600</b>	<b>22,600</b>	<b>50,400</b>	<b>58,600</b>

# NV Energy/ Google Collaboration Progress

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# Next Steps for DSM Collaborative

- Schedule the Q2 Collaborative meeting (May- June)
- Potential topics for Q2

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**Thank You**

# **DSM-7**

## 5. Evaluation, Measurement and Verification

### Introduction

Evaluation, measurement, and verification (“EM&V”) is a systematic approach for auditing program performance by using quantitative and qualitative data, measurements, and industry-accepted analytical methods to accurately determine the energy and peak demand savings achieved by the Companies’ energy efficiency and demand response programs.

The M&V component of the EM&V effort involves data collection, monitoring, and analysis that are directed at reliably calculating the energy and peak demand savings resulting from energy efficiency and demand response measures implemented at customers’ sites that participate in the Companies’ demand side management (“DSM”) programs. The M&V process ensures that the DSM programs report savings that are measurable, repeatable, and defensible to the regulators, ratepayers, and shareholders.

Evaluation – which may also be referred to as “process evaluation” – pertains to those activities that are aimed at determining what the effects of a DSM program were, why those effects occurred, and what can be done to improve existing programs and select future ones. The evaluation effort provides feedback enabling the Companies to continually improve the effectiveness and delivery of their DSM programs.

Specific objectives for the Companies’ EM&V efforts include:

- Documenting the programs’ energy savings, load reductions, and cost-effectiveness,
- Providing insight into how programs could be structured to increase market penetration, raise energy savings, and/or reduce costs,
- Identifying opportunities for program improvement or potential new programs,
- Providing data to improve load forecasting and resource planning efforts, and
- Providing a systematic reliability/performance evaluation of technology options.

To ensure that their EM&V objectives are met, the Companies use an independent third-party EM&V contractor whose process is based on accepted industry standards and procedures. The Companies have committed to using EM&V best practices for several reasons.

- M&V provides systematic measurement of the performance of energy efficiency and demand response programs and technologies.
- Evaluation provides objective data for assessing program performance rather than relying on anecdotal evidence and personal impressions.
- Engineering methods and technical data provide valid, reliable results that provide a basis for benchmarking and comparing the Companies’ energy efficiency programs against those of other utilities.

## Overall Approach for M&V Activities

The purpose of M&V activities is to collect and analyze data to calculate reliable estimates of the energy and demand savings resulting from the Companies' DSM program activities, which range from behavioral measures to demand response strategies to energy efficiency measures installed at participating customers' homes, schools, or commercial or industrial sites.

### Planning M&V Activities

The M&V process follows a collaborative approach for planning and designing M&V activities. The team includes M&V staff and the Companies' program managers, as well as staff from the various program implementation contractors. For each energy efficiency program, a program-specific team is formed that defines the M&V objectives for the program, including the identification of program milestones and target goals. Drawing on the results of these program-specific planning activities, the Companies' M&V contractor prepares program-specific M&V plans with protocols and procedures that are based on industry standards.

In preparing the program-specific M&V plans, the M&V contractor takes account of differences among the energy efficiency programs with respect to factors such as types of customers targeted, expected number of participants, types of measures being installed, expected demand (or kW) reductions and energy (or kWh) savings associated with those measures, and variability of savings among participants. Because of the differences across programs and with a given overall budget, it is important to prepare plans that allocate resources efficiently and cost-effectively while maintaining a balance in M&V effort among the programs.

### Choosing Approach to Estimate Savings

Conceptually, determining energy savings involves comparing baseline energy consumption (i.e., energy usage before the program caused a given measure to be installed or implemented) to post-implementation<sup>1</sup> energy consumption. However, estimating savings by simply subtracting post-implementation energy use from baseline energy use does not account for the impacts of other factors such as differences in weather or occupancy. Adjustments must be made for factors such as weather and other usage factors. In general terms,

$$\text{Savings} = (\text{Baseline energy use}) - (\text{Post-installation energy use}) + \text{Adjustments}$$

The "adjustments" term brings energy use in the two time periods to the same set of conditions; adjustments are generally made to restate baseline consumption under post-retrofit conditions.

Choosing an approach for calculating estimates of program-level energy savings and demand reductions is an important consideration in planning the M&V activities for a program. Following the taxonomy provided in the *Energy Efficiency Program Impact Evaluation Guide*, there are three main approaches for calculating estimates of energy savings and demand reductions:

1. A site-specific M&V approach involves (1) selecting a representative sample of customers or sites that participated in a program; (2) determining the savings for each

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<sup>1</sup> "Post-implementation may" also be referred to as "post-installation."

customer or site in the sample, usually by using one or more of M&V Options defined in the International Performance Measurement and Verification Protocol (“IPMVP”); and (3) applying the results of estimating the savings for the sample to the entire population in the program. IPMVP Options that can be used are summarized in Table DS-60. Full descriptions of these Options are provided in *IPMVP Core Concepts*.

2. A deemed savings approach involves using stipulated savings for energy conservation measures for which savings values are well known and documented. For example, this approach may be acceptable for lighting retrofits for customers’ spaces (e.g., offices) where there is general agreement on the hours of use for such spaces.
3. A large-scale data analysis approach involves estimating energy savings and demand reductions by applying one or more statistical methods to measured energy consumption – which is typically utility billing data or interval meter data for participating customers – and independent variable data. This approach usually (a) involves analysis of a census of program sites (rather than a sample) and (b) does not involve onsite data collection for model calibration. However, a sample of customers or sites may be selected and visited to confirm that the energy conservation measures were properly installed and are still operating. Large-scale data analysis often includes a control (or comparison) group of customers with similar pre-study characteristics who did not receive an energy efficiency measure or behavioral intervention.

**Table DS-60:  
IPMVP M&V Options**

<b>IPMVP Option</b>	<b>How Savings Are Calculated</b>
<b>Option A: <u>Retrofit Isolation – Key Parameter Measurement</u></b> Based on measured equipment performance, measured or stipulated operational factors, and annual verification of potential to perform	Engineering calculations using short-term measured data and stipulations
<b>Option B: <u>Retrofit Isolation – All Parameter Measurement</u></b> Based on periodic or continuous measurements taken at the device or system level	Engineering calculations using measured data
<b>Option C: <u>Whole Facility</u></b> Based on whole building or facility-level utility meter or sub-metered data adjusted for weather and/or other factors	Analysis of utility meter data
<b>Option D: <u>Calibrated Simulation</u></b> Based on computer simulation of building or process	Compare pre- and post-simulation models with calibrated measured data

In choosing which approach to specify for estimating savings for a given program, the Companies’ M&V contractor takes account of several factors:

- There are differences between residential and commercial/industrial energy efficiency programs in the numbers and characteristics of participants. Programs for residential customers usually have larger numbers of participants, who can be expected to show a fair degree of homogeneity. For such programs, the large-scale data analysis approach

is often feasible and appropriate. Conversely, programs for commercial/industrial customers usually have smaller numbers of participants, and some of the customers who do participate can be relatively large with unique operations, making it difficult to perform meaningful statistical comparisons across participating customers. The site-specific M&V approach is therefore often more appropriate for commercial/industrial programs, with more reliance placed on using site-specific engineering analysis and end-use metering as methods to estimate savings.

- The magnitude of expected savings from a measure affects the choice of a savings estimation approach, in that analysis of participating customers' energy consumption data may not be sufficient to detect savings of small magnitudes.
- The number and complexity of the measures and technologies being promoted through a program is a factor in determining the savings estimation approach. For example, if multiple measures can be installed at a single customer site, there may be overlapping and/or interactive effects among the measures. Identifying the effects of individual measures therefore requires using a savings estimation approach that can account for the impact of interrelated measures.
- Costs associated with the various approaches are different and therefore are also considered in choosing the savings estimation approach.

More than one method of estimating savings may be used for a program. For example, suppose large-scale data analysis may be chosen as the primary approach for estimating savings for a given program. However, it may also be appropriate to select a sample of customers from the program to perform site-specific M&V. Employing more than one method can potentially improve the accuracy of the savings estimation.

### **Choosing Participant Samples for M&V Activities**

The M&V work to assess the savings impacts of the energy efficiency programs is performed under a budget constraint that creates the need for a trade-off between measurement accuracy and statistical precision. That is, within a given budget, collecting more data (or more detailed data) to provide greater accuracy of measurement for individual sites may mean collecting data for fewer sites, thus decreasing the statistical precision of the results. Accordingly, in considering the sampling requirements for each program, the M&V contractor considers sampling approaches that balance these measurement and statistical considerations.

It is normal in conducting M&V of energy efficiency programs to use statistical sampling techniques to limit data collection and analysis to a sample (i.e., a relatively small subset) of the program population. Examples of statistical sampling approaches include the following methods:

- Census,
- Simple Random Sampling, and
- Stratified Random Sampling.

The choice of a statistical sampling approach depends on the characteristics of the energy savings for customers participating in the program, the uncertainty about these savings, and the variability of energy savings estimates. To illustrate the role of these factors, consider the simple random

sampling approach. For this approach, the following equations are used to determine the sample size. The first equation establishes the sample size for a relatively large population, while the second equation applies a finite population correction factor to determine an adjusted sample size for a relatively small population.<sup>2</sup>

$$n_0 = \frac{z^2 cv(y)^2}{p^2}$$

$$n = n_0 \left( \frac{1}{1 + \frac{n_0}{N}} \right)$$

where:

- $n_0$  is the required sample size for a relatively large population,
- $z$  is the abscissa of the standard normal curve for a specified level of confidence (e.g., 1.645 for 90 percent confidence level),
- $cv(y)$  is the coefficient of variation for the variable to be estimated (e.g., hours of use),
- $p$  is the required precision level (e.g.,  $\pm 10.0$  percent),
- $n$  is the adjusted sample size after applying the finite population correction factor, and
- $N$  is the total population size.

For some types of programs, particularly those that are targeted at commercial and industrial customers and facilities, it is often found that a small number of sites account for the majority of total program savings. In such cases, stratified random sampling can be more appropriate. For example, one effective sampling plan is to select sites with large savings with certainty and to take a probability (e.g., simple random) sample of the other sites that participated in the program.

The sampling approach also needs to take into consideration that the M&V effort will be occurring in real time while programs are being implemented. Sites participating in a program will accumulate over time as a program is implemented. The sampling plan is therefore designed to have a predetermined sample size requirement for achieving certain analytical goals, but with the expectation that adjustments to the sampling plan will occur over time as data for additional participants become available.

Sample selection is thus spread over the entire implementation period. A near real-time process is used whereby a portion of the sample is selected each quarter (or more frequently for a DSM program with a large population of participants) as participants accumulate in the program. The information used for making this selection is developed from tracking system data that the Companies and their implementation contractors maintain for the programs. Participants are sampled as they become available. The progress of this sample selection process is monitored by looking at the additions to the participant population, then comparing cumulative population totals

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<sup>2</sup> The finite population correction factor is generally used when  $[n_0 \div N]$  is greater than 10 percent.

and cumulative sample totals to the corresponding values that were predicted by the initial sampling analysis. If appropriate, the sampling rates are adjusted to accommodate major changes in the size or characteristics of the population of a given program.

M&V sampling protocols are designed to achieve program-level statistical precision of  $\pm 10$  percent at the 90 percent confidence level (also called “90/10 confidence”).

The M&V contractor may achieve better than 90/10 confidence by oversampling, which is not an unusual occurrence for a stratified random sampling approach in which real-time M&V efforts cause sampling to be concurrent with program implementation. In other words, given that program participation accumulates concurrently during ongoing M&V sampling, the final sampling frame will inevitably differ from the original M&V sampling plan. Knowing in advance that the final sampling frame will differ from the original sampling plan, it is prudent for the M&V contractor to oversample to minimize the possibility that final statistical precision could fall short of the 90/10 confidence requirement.

The M&V contractor can also achieve better than 90/10 confidence by analyzing program data for a census of participants. The census (in lieu of sampling) is applicable only for programs for which the large-scale data analysis approach is the most efficient and cost-effective M&V approach. When a census is appropriate, it provides significantly better statistical precision than  $\pm 10$  percent at the 90 percent confidence level. That is, to evaluate a census of participants is to evaluate the entire population of participants, whereas sampling is a statistical construct through which the M&V contractor selects and analyzes program results for a subset of participants that are determined to be representative of the entire population of participants.

### **Preparing Program-Specific M&V Plans**

For each energy efficiency program, the M&V contractor prepares an M&V Plan that contains details on the following:

- What will be done and when it will be done (schedule),
- How performance of energy conservation measures, behavioral measures, demand response measures, and other measures implemented through program activities will be measured and verified, and who will conduct these M&V activities,
- Specifications for statistically valid and cost-effective sample sizes,
- How the energy savings and load impacts will be calculated, and
- How M&V will be adjusted to account for variables.

### **Performing M&V Activities**

The M&V activities that are performed for a program will depend on which savings estimation approach is chosen, be it the Site-Specific M&V Approach or the Large-Scale Data Analysis Approach.

#### ***M&V Activities with Site-Specific M&V Approach***

For programs where the site-specific M&V approach is used, the following activities are performed at each customer site that is in the sample selected for the program.

- *Determine the IPMVP Option specific to the site.* This determination may be made through a site inspection; stipulations by the evaluator; program value of the Energy Conservation Measure (“ECM”); the expectations of desired confidence and accuracy; and site-specific factors such as ECM complexity, type of ECM technologies involved, and ECM interrelated or interactive effects.
- *Perform a Pre-Installation Site Survey.* When feasible, a pre-installation site survey is performed to establish the baseline and to identify and document physical and operating characteristics that will affect M&V. This step may include pre-installation monitoring to establish the baseline.
- *Develop a Site-Specific M&V Plan.* The information collected during the pre-installation site survey is typically used to develop a site-specific M&V plan which addresses the site-specific nature of the following elements:
  - Overview of chosen IPMVP Option,
  - Specification of approach to calculating savings,
  - Identification of corresponding variables and specification of assumptions,
  - Identification of data sources or collection techniques or both,
  - Specification of data collection (i.e., sampling, site inspection, and monitoring plan), if required, and
  - Identification and resolution of any other M&V issues.
- *Conduct Pre-Installation M&V Activities.* If required, metering activities are conducted in accordance with the site-specific M&V plan. Baseline metering or a pre-installation survey is conducted for the time interval needed to acquire data on the operating conditions of affected systems.
- *Conduct Post-Installation M&V Activities.* After completing the program installation, a post-installation survey is conducted along with any required post-installation metering. As may have been identified in the M&V Plan for the site, post-installation metering may be conducted for the time interval needed to acquire data on the operating conditions of affected systems.
- *Prepare Post-Installation Report.* A post-installation report is prepared that includes the following:
  - Pre-installation survey information,
  - Post-installation survey information,
  - Metering data, and
  - Estimates of actual energy savings achieved, both on an annual basis and on a first-year or partial-year basis for energy savings that occur during the calendar year in which the subject ECMs were installed.

After the M&V work has been accomplished for all sites in the sample for a program, a Gross Realization Rate (“GRR”) is calculated to determine the energy (or kWh) savings and peak demand

(or kW) reduction for the entire population of sites participating in the program for the given year. The GRR is defined as the ratio of the sum of the ex-post verified savings from the M&V sample to the sum of the ex-ante claimed savings that were recorded in the program tracking database for the same sample.

Essentially, the GRR is used in an application of ratio estimation to calculate an estimate of total program savings.<sup>3</sup> The following formula is used to make the calculation:

$$\text{Estimated Project Savings} = \left( \frac{\sum_{\text{sample}} \text{Ex-post verified savings}_i}{\sum_{\text{sample}} \text{Ex-ante claimed savings}_i} \right) \sum_{\text{Population}} \text{Expected Savings}_i$$

where:

- Achieved Savings<sub>i</sub> is an estimate calculated for each site in the M&V sample,
- Expected Savings<sub>i</sub> is the ex-ante expected savings for each site as recorded in the tracking database for the program, and
- GRR is given by the term in brackets.

### ***M&V Activities with Large-Scale Data Analysis Approach***

A Large-Scale Data Analysis approach may be used for some programs. With this approach, regression analysis is applied to energy consumption data for participants in the program. The energy consumption data may be monthly billing data or interval meter data obtained from the Companies' customer account records. The monthly billing data or interval meter data are pre-processed to ensure that all needed data are identified and included in the analysis. Data for each participant are screened to identify anomalous observations that may incorrectly bias the estimates of average behavior.

After the monthly billing data or interval meter data for each participant in a program have been cleaned and verified, a regression analysis is used that will allow normalizing the meter data for the effects of weather and other conditions that may differ between the baseline period and the participation period. The following equation illustrates the general formulation for the regression analysis.

$$AEC_t = \beta_0 + \beta_1HDD_t + \beta_2CDD_t + \beta_3POST + \beta_4POSTHDD_t + \beta_5POSTCDD_t + E_t$$

where:

- AEC<sub>t</sub> is average daily (or hourly) electricity use for billing period t for the site (determined by dividing billing period electricity usage by number of days in billing period),
- HDD<sub>t</sub> is the average daily heating degree days for billing period t for the site (heating degree hours may be used in place of HDD),
- CDD<sub>t</sub> is the average daily cooling degree days for billing period t for the site (cooling degree hours may be used in place of CDD),

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<sup>3</sup> For a discussion of the ratio estimation approach, see Cochran, W.G. *Sampling Techniques, 3rd Ed.*, John Wiley & Sons, 1977, Chapter 6.

- POST is a binary (0-1) variable with a value of 1 for post-participation months,
- $POSTHDD_t$  is an interaction term between POST and HDD,
- $POSTCDD_t$  is an interaction term between POST and CDD,
- $\beta_0$  is the intercept term,
- $\beta_1$  is a coefficient showing the change in electricity use that occurs for a change in the HDD variable,
- $\beta_2$  is a coefficient showing the change in electricity use that occurs for a change in the CDD variable,
- $\beta_3$  is a coefficient showing the change in electricity use after participation in the program,
- $\beta_4$  is a coefficient showing the change in electricity use that occurs for a change in the heating degree day variable after participation in the program,
- $\beta_5$  is a coefficient showing the change in electricity use that occurs for a change in the cooling degree day variable after participation in the program, and
- $E_t$  is an error term.

Time-series regression techniques are applied to the electricity usage data for each participant to estimate the coefficient values. For the baseline period, up to 24 months of data will be used. All available monthly data for the post-participation period will be used for up to 36 months. Two types of regression analysis are applied for each site.

- First, the data for each site are used individually in single equation regression estimation. Because of the time dimension in the billing data for each site, there may be autocorrelation in such data, and techniques for correcting for such autocorrelation are incorporated into the regression analysis.
- Second, the data for all sites are used in combination in a “Seemingly Unrelated Regression” analysis.<sup>4</sup> This technique allows account to be taken of possible correlations among the regression error terms across sites, thereby improving the efficiency with which coefficients are estimated for the individual sites.

The billing data for the participants in a program are also analyzed using a least square dummy variable (“LSDV”) regression analysis applied to a “pooled” data set.<sup>5</sup> In this approach, a binary dummy variable is created for participants in the analysis sample, and the full set of these dummy

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<sup>4</sup> See Kmenta, J., *Elements of Econometrics*, 2nd Edition, Macmillan Publishing Company, 1986 (and 1997), pp. 635-648. (*Elements of Econometrics* is a classic text from which copies of referenced pages can be provided. For a similar discussion, see <http://home.iitk.ac.in/~shalab/econometrics/Chapter18-Econometrics-SUREModels.pdf>.)

<sup>5</sup> For a discussion of this approach, see Kmenta, J., *Elements of Econometrics*, 2nd Edition, Macmillan Publishing Company, 1986, pp. 630-635.

variables is included in the regression analysis. This covariance approach has the advantage of bringing all sample information together in a consistent manner for estimation purposes.

For all estimation procedures, standard statistical tests and regression diagnostics are used to evaluate the performance of the models and to screen regression models for implausible results. The statistical tests and diagnostics include evaluating the t-statistics for estimated coefficients and the  $R^2$  for equation fit and examining residuals from the fitted models.

After determining the best model and data set for a site, that model and data are used to calculate “weather normalized” baseline and post-participation electricity use for program participants. This weather normalization is performed so that the effects of changes in weather conditions are not included in the estimates of savings. To calculate baseline and post-participation electricity usage that are normalized for possible differences in weather conditions, long-run averages of the climatological variables (heating degree days or “HDD;” and cooling degree days or “CDD”) and the appropriate values for the binary variable are inserted into the chosen model. The long-run weather data will be for the area in which the participants are located and may be taken from data supplied by the National Oceanic and Atmospheric Administration (“NOAA”). Electricity savings for program participants are calculated as the difference between the baseline and post-participation weather-normalized estimates of electricity use.

### **Documenting M&V Activities**

For each energy efficiency program, the Companies’ M&V contractor prepares an annual M&V report. Each report includes the following:

- Executive summary,
- Background or introduction,
- Discussion of approaches and methods used for sampling and calculating estimates of energy savings and demand reductions,
- Presentation and discussion of impact evaluation findings,
- Recommendations, and
- Appendices (which may include a bibliography and reference list, supporting documentation and data source references, and documentation of any electronic databases).

### **Overall Approach for Evaluation Activities**

For some programs, the M&V contractor will conduct evaluations that are aimed at determining the effects of a program, why those effects occurred, and what can be done to improve existing programs and select future ones. The evaluation effort for a program has three main aspects.

- To evaluate the energy savings algorithms and criteria that the Companies used in developing the program and deciding what measures to include,
- To assess how effective the program has been and what changes can be made to improve its effectiveness, and

- If process evaluation is included in the M&V contractor's scope of work, to assess and evaluate the procedures for administering and managing the program.

### **Evaluate Energy Savings Algorithms and Criteria**

As a first aspect of the evaluation of a program, the M&V contractor will evaluate the energy savings algorithms and criteria that the Companies' used in developing the program and deciding what measures to include. This aspect of the program evaluation includes the following:

- Making recommendations on how to improve the methods used to estimate electric demand and electric consumption savings,
- Recommending modifications or updates to the energy-savings assumptions,
- Evaluating the validity of the energy efficiency measures and technologies for which the Companies offer incentives through the program, and
- Using findings from the M&V work on the program to identify and present training opportunities for the Companies' program staff.

The M&V contractor reviews the analyses and calculations that were used to develop the deemed or stipulated savings values for the measures that are being promoted through the program and evaluates the analysis for each type of measure according to the degree to which the savings calculations are supported and defensible and documentation is adequate. This review considers (1) whether the methodology used for the calculation was appropriate, (2) whether assumptions used were reasonable and appropriate, and (3) whether savings calculations were performed correctly. The M&V contractor identifies any deficiencies pertaining to the reasonableness of the given assumptions, the adequacy of the given documentation, and the appropriateness of the given methodology, and prepares recommendations to the Companies regarding changes to the savings calculations or values.

### **Assessing Program Effectiveness**

As a second aspect of evaluating a program, the M&V contractor may assess how effective the program has been and what changes can be made to improve its effectiveness. The work related to this aspect of the evaluation may include:

- Investigating participation levels for the program and making recommendations on how to improve participation levels,
- Evaluating the overall effectiveness of the program in terms of reducing electric demand and electric savings, and
- Comparing the program to similar programs offered by other utilities in terms of validity of electric energy savings and program management.

To investigate participation levels for the program, the M&V contractor conducts a quantitative analysis using data that the implementation contractor collects and uploads to the Companies' DSM Central database. This data will be used to develop quantitative indicators of how participation in the program varies according to key identifiable factors. If process evaluation is included in the EM&V scope of work, the M&V contractor collects qualitative information from participants and non-participants via surveys and/or interviews with participating and non-

participating trade allies. These surveys and interviews are used to identify factors that are important in affecting the decisions to participate in the program.

If process evaluation is included in the M&V contractor's scope of work, information obtained from the analysis of tracking data and from the interviews with trade allies can be used to assess the effectiveness of marketing strategies and messaging for the program and of the communication efforts among the various parties involved (i.e., the Companies' program staff, implementation contractor staff, and trade allies). The goal is to identify areas in which communication and outreach efforts can be enhanced and more properly targeted to improve levels of participation in the program. The assessment determines the extent to which marketing, outreach, and communication efforts are reaching the desired audience and desired sectors. In addition, the information could be used to assess the structure and effectiveness of allocating responsibilities between the Companies and the implementation contractor. This analysis provides information on where future opportunities may exist and whether the program is effectively targeting appropriate decision-makers. The workings of the program are also assessed by comparing the program to similar programs offered by other entities.

### **Assess and Evaluate Procedures for Administering and Managing Programs**

A third aspect of the evaluation effort is to assess and evaluate administrative procedures and management for a program. The work effort for this aspect includes the following:

- Evaluating the administrative process for the program and making recommendations on how to improve the administration and management of the program,
- Evaluating the administrative costs incurred to manage the program and making recommendations on how to improve the costs of implementing and managing the program, and
- Investigating whether the program as offered was successful by evaluating the reactions and expectations of the marketplace and Commission.

If process evaluation is included in the M&V contractor's scope of work, the M&V contractor would obtain information for assessing the management of the program by (1) reviewing program documentation and (2) interviewing the Companies' staff and their implementation contractor. The interviews with trade allies also provide information for this aspect of the evaluation.

- The document and database reviews are used to evaluate how well data collection and storage procedures are serving the information needs of staff and other involved parties. This effort includes gathering and analyzing tracking system data and conducting interviews concerning the operation of the tracking system.
- The Companies' program staff and implementation contractor staff are interviewed, and the information gathered through these interviews is used to compare actual program implementation and delivery to the program plan, and to identify areas in which the program is working well and areas where changes could be made to improve the program's efficiency and efficacy. The information is also used to assess the effectiveness of internal program communications and communications between program staff and trade allies. This assessment will include reviewing the quality

control (“QC”) and quality assurance (“QA”) processes that are currently in place and making recommendations for improvements.

If process evaluation is included in the M&V contractor’s scope of work, the M&V contractor uses the information gathered through the document review and interviews to describe the program theory and “logic model,” which is used to accomplish the following:

- Summarizing the key elements of the program process,
- Explaining the rationale behind process activities,
- Clarifying the difference between the activities and the intended outcomes of the processes, and
- Showing the cause-and-effect relationships between activities and outcomes (i.e., which activities are expected to lead to which outcomes).

The logic model for the program is used to identify gaps in the program, to develop measures for assessing progress, to identify critical issues that need attention, and to communicate with stakeholders about the program and their outcomes. Developing the logic model and using it to evaluate program processes allows principal issues pertaining to the administration and success of the program to be identified systematically. Essentially, the logic model allows structuring the evaluation work to show what the process is supposed to achieve, with whom and why.

If process evaluation is included in the M&V contractor’s scope of work, the M&V contractor would also use the logic model for a program to address how its procedures and processes compare in structure and effectiveness to those used in other programs. The program logic model is used to determine where the processes for the program differ from those of other programs, and where resources or activities employed by other programs can be utilized to improve the subject program’s processes. The bottom line for evaluating the process is to determine what important outcomes the process has produced (i.e., what results/changes have occurred because of the processes utilized by the subject program).

## References

American Society of Heating, Refrigeration and Air Conditioning Engineers (“ASHRAE”). *Guideline 14-2023: Measurement of Energy, Demand and Water Savings*.<sup>6</sup>

*M&V Guidelines: Measurement and Verification for Performance-Based Contracts Version 4.0*, U.S. Dept. of Energy Federal Energy Management Program (“FEMP”). November 2015.<sup>7</sup>

International Performance Measurement and Verification Protocol (“IPMVP”). *IPMVP Core Concepts*, Efficiency Valuation Organization. October 2016.<sup>8</sup>

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<sup>6</sup> See [https://store.accuristech.com/standards/ashrae-guideline-14-2023-measurement-of-energy-demand-and-water-savings?product\\_id=2569793](https://store.accuristech.com/standards/ashrae-guideline-14-2023-measurement-of-energy-demand-and-water-savings?product_id=2569793).

<sup>7</sup> This FEMP document is available at [www.energy.gov/sites/prod/files/2016/01/f28/mv\\_guide\\_4\\_0.pdf](http://www.energy.gov/sites/prod/files/2016/01/f28/mv_guide_4_0.pdf).

<sup>8</sup> *IPMVP Core Concepts*, Efficiency Valuation Organization, Oct. 2016. ([www.evo-world.org](http://www.evo-world.org); or the similar 2012 IPMVP is available at [www.eperformance.org/uploads/8/6/5/0/8650231/ipmvp\\_volume\\_i\\_2012.pdf](http://www.eperformance.org/uploads/8/6/5/0/8650231/ipmvp_volume_i_2012.pdf)).

*Energy Efficiency Program Impact Evaluation Guide*, State and Local Energy Efficiency Action Network. December 2012.<sup>9</sup>

Protocols for evaluating, measuring and verifying savings for selected energy efficiency measures, published through the Uniform Methods Project (<https://www.energy.gov/cmei/buildings/uniform-methods-project-determining-energy-efficiency-savings-specific-measures>) sponsored by the U.S. Department of Energy (ongoing).<sup>10</sup>

*National Standard Practice Manual (“NSPM”) for Assessing Cost-Effectiveness of Energy Efficiency Resources*, National Efficiency Screening Project. August 2020.<sup>11</sup>

*SEE Action Guide for States: Evaluation, Measurement, and Verification Frameworks—Guidance for Energy Efficiency Portfolios Funded by Utility Customers*, State and Local Energy Efficiency Action Network, January 2018.<sup>12</sup>

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<sup>9</sup> The Energy Efficiency Program Impact Evaluation Guide is available at the following location: <https://www.energy.gov/sites/default/files/2021-09/emv-ee-program-impact-summary.pdf>.

<sup>10</sup> The protocols are available at <https://www.energy.gov/cmei/buildings/uniform-methods-project-determining-energy-efficiency-savings-specific-measures>.

<sup>11</sup> This NSPM document is available at <https://naseo.org/nesp/nspm>.

<sup>12</sup> See [https://www.energy.gov/sites/default/files/2021-07/EMV-Framework\\_Jan2018.pdf](https://www.energy.gov/sites/default/files/2021-07/EMV-Framework_Jan2018.pdf); this EM&V guidance document succeeds and contains references to the California Public Utilities Commission’s June 2004 California Evaluation Framework.

# **DSM-8**

# **M&V Technical Appendix 1**

## **M&V Topics:**

### **Calculation Methodology for Critical Peak Demand (kW) Savings and Monthly Energy (kWh) Savings per Rate Class**

**March 29, 2026**

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## Appendix I: Calculation Methodology, Critical Peak Demand (kW) Savings

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### I.1. Methodology for Determining Critical Peak Demand (kW) Savings

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This chapter provides a description of analytical steps employed to determine critical peak demand (kilowatt (“kW”)) savings per month per rate class for NV Energy’s 2025 energy efficiency programs (“Programs”). For the reader’s convenience, the following phrases in this document are synonymous:

- critical peak demand (kW) savings
- kW savings
- critical peak demand (kW) reduction
- kW reduction

For measurement and verification (“M&V”) reporting for the 2025 Programs, the monthly kW reduction per rate class is determined using the same methodology that is used to disaggregate annual energy (kilowatt-hour (“kWh”)) savings into monthly kWh savings per rate class. The following section provides a detailed description of the methodology used to determine energy (kWh) savings per month per rate class.

Typically, all energy efficiency measures (“EEMs”) implemented by NV Energy’s Programs were installed during the 2025 program year<sup>1</sup>. Hypothetically, a Program may have installed a given EEM by January 1, 2025, and if so, that EEM contributed kW savings for the entire 2025 calendar year. However, most – if not all – EEMs implemented by Programs were installed after January 1, 2025, and only contributed kW savings for the remaining portion of 2025 calendar year. For example, an EEM installed on the last day of 2025 essentially contributed no kW savings for the 2025 calendar year.

Thus, for the demand impacts achieved by the Programs, the M&V Program reports generally depict kW reduction for the 2026 calendar year; this approach adheres to best industry practices. An exception is made for behavioral EEMs such as Continuous Energy Improvement (“CEI”) or Strategic Energy Management (“SEM”). Behavioral EEM life is stipulated to be one year, because M&V is performed annually for all CEI or SEM participants. For behavioral EEMs such as CEI or SEM, the M&V reports depict kW reductions that were achieved during the 2025 calendar year. The 2025 kW reduction for behavioral EEMs represents a reasonable estimate for subsequent annual kW reduction for the same (or substantially similar) population of CEI or SEM participants.

Each program’s M&V report provides a table of critical peak kW savings per month and per rate class.

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<sup>1</sup> NV Energy’s program year is the same as the corresponding calendar year, e.g., the 2025 program year includes January 1, 2025 through December 31, 2025.

## I.2. Analytical Steps at the Measure Level

At the measure level, for every individual record or individual measure in NV Energy’s official program tracking database, the Evaluator assigns a specific, optimal, normalized 8,760-hour energy savings curve.<sup>2</sup> A normalized energy savings curve is comprised of 8,760 hourly fractions summing to exactly 1 (unity).<sup>3</sup> For each measure, the Evaluator determines ex-post annual kWh savings, which is then multiplied by each of the 8,760 hourly fractions to disaggregate the annual kWh into 8,760 hourly kW bins.

## I.3. Analytical Steps at the Program Level

To determine program-level kW reduction for a given hourly bin, the Evaluator sums the hourly kW bins across all measures in the Program. For example, the program-level kW reduction for the hour ending at 5:00 PM on day 200 of the year is the sum of the kW reduction, per measure, for all measures in the Program during that hour and day.

To determine monthly critical peak demand (kW) reduction for a given program, the Evaluator inspects program-level kW reduction during the critical peak demand hour(s) that is defined for each month of the year. Table I-1 below provides the monthly critical peak demand periods that the Evaluator determined by analyzing NV Energy’s system-level hourly load data for calendar years 2016 through 2024. Regarding months for which Table I-1 indicates two or three adjacent hours, each of these hours is equally viable as the peak demand hour due to their nearly identical historical peak system load.

Table I-1. Critical Peak Demand Period per Month, NV Energy

Month	Critical Peak Period, Nevada Power Company		Critical Peak Period, Sierra Pacific Power Company	
	Hour (of '1-24' hours)	Ending at:	Hour (of '1-24' hours)	Ending at:
January	18, 19, or 20	18:00, 19:00 or 20:00	18 or 19	18:00 or 19:00
February	19 or 20	19:00 or 20:00	19 or 20	19:00 or 20:00
March	20	20:00	20 or 21	20:00 or 21:00
April	20	20:00	21	21:00
May	17 or 18	17:00 or 18:00	21	21:00
June	17 or 18	17:00 or 18:00	17 or 18	17:00 or 18:00
July	16, 17, or 18	16:00, 17:00 or 18:00	17 or 18	17:00 or 18:00
August	16 or 17	16:00 or 17:00	17 or 18	17:00 or 18:00
September	17	17:00	17 or 18	17:00 or 18:00
October	18 or 19	18:00 or 19:00	19 or 20	19:00 or 20:00
November	18 or 19	18:00 or 19:00	18 or 19	18:00 or 19:00
December	18 or 19	18:00 or 19:00	18 or 19	18:00 or 19:00

<sup>2</sup> The Evaluator has developed a library of normalized energy savings curves that are appropriate for northern and southern Nevada. Many of the commercial energy savings curves were derived from NV Energy program-specific data; others were derived from data provided in the California eTRM or Database of Energy Efficiency Resources.

<sup>3</sup> A typical year has 8,760 hours, i.e., 365 days times 24 hours per day equals 8,760 hours (other than Leap Years, which have an additional 24 hours on February 29, or a total of 8,784 hours per Leap Year).

For example, the critical peak demand period for Nevada Power Company (“NPC”) during September is the seventeenth hour of the day, which begins at 16:00:01 or 4:00:01 PM and ends at 17:00:00 or 5:00:00 PM. To determine program-level critical peak kW savings for NPC in September, the Evaluator inspects the average hourly kW reduction during the seventeenth hour of the day (i.e., 4:00:01 PM to 5:00:00 PM) for every day in September; the highest value represents the critical peak kW savings for September. The same process is followed for each month of the year. Summer critical peak demand savings refers to the reduction in critical peak kW during a system peak hour in either July or August. This is based on historical data that demonstrates that the annual peak system load in NPC and Sierra Pacific Power Company (“SPPC”) territories consistently occurs during July or August.

To determine monthly kW reduction per rate class, each program-level monthly critical peak kW savings value is disaggregated into rate class bins. Monthly kW savings per EEM are correlated to its assigned customer rate class as listed in NV Energy’s official program tracking database.

Calculations for energy (kWh) savings – and for demand (kW) reduction – per month, per rate class, require complex algorithms that were originally executed in massive Excel files, which are also known as *kW guru*<sup>TM</sup> files. In recent years, the Evaluator transitioned *kW guru*<sup>TM</sup> algorithms into the statistical software *R*, which performs the *kW guru*<sup>TM</sup> calculations more efficiently, while providing identical results as the Excel-based algorithms.

#### **I.4. Analysis of System-Level Critical Peak Demand Periods**

To determine critical peak demand hours for M&V reporting, the Evaluator analyzed NV Energy’s statewide system-level hourly load data, which encompassed calendar years 2016 through 2024. The Evaluator determined that the 2016–2024 hourly load data was consistent and systematic.

The Evaluator also found that NV Energy’s system load characteristics vary by season. To account for seasonal variability, the Evaluator’s analysis defined the most likely hour of peak system load during each month. The Evaluator determined that a one-hour critical peak demand period per month is appropriate unless the load for the hour before or after the peak is nearly identical to peak load, in which case two or three adjacent hours may be equally viable critical peak demand hours.

The final determination of the appropriate peak demand hour(s) per month, per territory, is provided above in Table I-1. NV Energy’s hourly system load data demonstrated well-defined peaks during summer months, which are the months in which NV Energy experiences its highest peak loads. The summer peak typically occurs during the sixteenth hour (hour ending at 4:00 PM), the seventeenth hour (ending at 5:00 PM), or the eighteenth hour (ending at 6:00 PM) as depicted in Table I-1 above. The designated critical peak demand hours per month, per territory, were utilized for M&V analyses of program year 2025 (“PY2025”) Programs.<sup>4</sup> The Evaluator will periodically update analyses of system-level hourly load data and anticipates doing so during 2026.

<sup>4</sup> The Evaluator has previously performed similar analyses of critical peak demand hour per month per territory that have been utilized for M&V analyses and M&V reports since 2011.

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## **Appendix II: Determining Monthly Energy (kWh) Savings per Rate Class**

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This section provides a detailed description of the Evaluator’s analytical steps for determining the energy (kWh) savings per month by rate class values that are provided in the PY2025 M&V reports.

### **II.1. Apportionment of Annual Energy Savings by Rate Class**

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NV Energy’s Programs generally include populations of customers from more than one rate class. NV Energy tracks the rate class for each identifiable customer participating in Programs. However, participant information is not known for certain Program delivery mechanisms, such as upstream or midstream, in which incentives are provided through contractual arrangements with manufacturers or distributors for rebated measures. For Programs that participant information is unknown, the Evaluator collects information through customer surveys to identify the proportions of participants per rate class.

### **II.2. Apportionment of Annual Energy Savings by Month**

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The Evaluator developed a methodology that utilizes energy savings curves to calculate the portion of annual energy savings which occurs during each month of the year. An energy savings curve describes the temporal nature of energy savings. For example, on any given day the energy savings achieved by a light emitting diode (“LED”) exit sign (which is on all the time, i.e., it is a constant load) are approximately 1/365 of the verified annual energy savings for that LED exit sign. On the other hand, an efficient air conditioner may not save energy during January but may achieve 35 percent of its annual energy savings during July, with August savings nearly as high as July. The Evaluator constructed appropriate energy savings curves from data collected while performing M&V activities for the Programs. Data includes customer billing data, calibrated DOE-2 simulations<sup>5</sup>, and engineering calculations. The energy savings curves were matched with project implementation dates, on a record-by-record basis, to produce accurate determinations of the energy savings achieved for each month of the year.

### **II.3. Summary of the Evaluator’s Calculation Methodology**

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Monthly energy (kWh) savings for each Program were calculated by applying an appropriate hourly or daily energy savings curve to each Program participant’s ex-post verified energy savings, then aggregating kWh savings for each month. The energy savings curve distributes a participant’s energy savings over time. Its shape is therefore dependent on not only the measure installed, e.g., lighting vs. Heating, Ventilation, and Air Conditioning (“HVAC”), but also on the building type (e.g., residential vs. commercial) and location (NPC vs. SPPC).

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<sup>5</sup> DOE-2 is described in 12-06052, Volume 2 of 8, page 127 of 329 (Oliver Q&A number nine).

The overall process by which the Evaluator calculated monthly kWh savings was to (1) download all program tracking data (e.g., ex-ante expected kWh savings, measure type, measure completion date, rate class, etc.) from NV Energy’s official program tracking database; (2) calculate ex-post savings values per participant; (3) assign an energy savings curve to each participant’s ex-post savings to distribute ex-post energy savings, by rate class over each of the 8,760 hours in a year; and (4) aggregate ex-post verified savings by month and by rate class.

The Evaluator also calculated first-year kWh savings for each program by combining the measure startup date (from NV Energy’s official program tracking database) with steps described in Appendix I above. A detailed description of the steps involved in tabulating first-year kWh savings is provided in section II.5 below.

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## II.4. Energy Savings Curves

### II.4.1 Definition

The phrase ‘energy savings curve’ is used to describe the temporal dependence of energy savings. The curves are typically hourly ( $1 \times 8760$  array), daily ( $1 \times 365$  array), or monthly ( $1 \times 12$  array). Each energy savings curve is normalized to exactly one (unity) (i.e., the sum of all its array elements is unity; when normalized, each element describes the fraction of annual savings that is expected to occur during a given hour, day, or month).

### II.4.2. Nomenclature

If the terms ‘load shape’ (or ‘load curve’) are encountered in the spreadsheets which are used to tally monthly energy savings by Program and rate class, the terms are synonymous with ‘energy savings curve’ as described herein. The terms ‘load shape’ (or ‘load curve’) may be used in the context of a given energy savings curve for the following reasons:

- A given energy savings curve is a differential load shape that describes the *difference in an electricity load* resulting from the implementation of the corresponding EEM. In other words, an energy savings curve indicates the shape across time of the amount of electricity that is saved (or not used) after implementing the EEM.<sup>6</sup>
- An energy savings curve for a measure may or may not be synchronous with the load shape of the baseline or base case technology against which savings are determined.
  - There are EEMs for which the normalized savings curve is synchronous and proportional to the normalized load shape or curve of the base case technology. Examples of such EEMs include LEDs versus incandescent lights if it is assumed that (1) interactive effects are null or negligible, and (2) pre-retrofit and post-retrofit usage schedules are identical. If an EEM’s energy savings curve is synchronous

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<sup>6</sup> A Megawatt of electricity that is not used due to energy efficiency actions may be called a “Negawatt,” representing the negative form of a Megawatt that would have been used if the energy efficiency actions had not occurred.

- with its base case technology's load shape or curve, then their shapes are identical.
- Certain EEM's energy savings curves are asynchronous with the load curves of the respective base case technologies. Examples of EEMs with asynchronous energy savings curves include economizers, occupancy sensors, and control systems; for each of those EEMs, the shape of its energy savings curve significantly differs from the load shape of its base case technology.

For each EEM, the Evaluator determines whether to use a normalized energy savings curve that is synchronous or asynchronous with the load shape of the base case technology.

## **II.5. Tabulating Monthly Energy (kWh) Savings per Rate Class**

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Normalized daily energy savings curves are utilized to tabulate monthly energy (kWh) savings per rate class. A normalized daily energy savings curve is comprised of 365 daily fractions summing to exactly one (unity). For each EEM, the Evaluator determines its ex-post annual kWh savings, which is then multiplied by each of the 365 daily energy savings curve fractions to disaggregate annual kWh into 365 daily kWh bins.

### **II.5.1. First-Year kWh Savings**

First-year kWh savings are savings that occur during the same calendar year in which a Program was implemented. For NV Energy, a program year is the same as a calendar year; for an EEM installed during 2025, the first-year kWh savings is equal to the savings achieved during the 2025 calendar year. The following calculations are performed to tabulate first-year kWh savings attributable to each specific customer rate class, for any given Program:

- For each rate class, for each day of 2025, identify all EEMs that have been implemented (or installed or started up) by the end of the prior day.
- For each rate class, for each day of 2025, for all EEMs that have been installed by the prior day, multiply the ex-post verified typical-year kWh savings<sup>7</sup> for each EEM, by its daily kWh bin (i.e., multiply the measure-level annual kWh by the measure-level daily bin from the appropriate energy savings curve).
- For each rate class, tally all measure-level daily kWh savings to determine program-level daily kWh savings.
- For each rate class, for any given month during the 2025 calendar year, tally all measure-level daily kWh savings occurring during each month to determine program-level monthly kWh savings.
- For each rate class, the first-year kWh savings is the program-level monthly kWh savings for that rate class summed for the entire 2025 calendar year.<sup>8</sup>

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<sup>7</sup> Typical-year kWh savings is 365 consecutive days of savings attributed to an EEM that provides energy savings for multiple years.

<sup>8</sup> An EEM installed in 2025 normally provides kWh savings starting on its installation date; first-year savings is the savings occurring from the installation date through December 31, 2025, inclusive.

### II.5.2. Typical-Year Energy (kWh) Savings

Typical-year energy (kWh) savings represents 365 consecutive days of energy savings attributed to an EEM or Program that ex-post verified savings will occur over multiple years.<sup>9</sup>

The following calculations are performed to tabulate typical-year energy (kWh) savings attributable to each specific customer rate class. For a given Program, all EEMs would typically have been implemented or installed during the 2025 calendar year – although there are occasionally exceptions for measures installed near the end of the previous calendar year.

- For each rate class, for each hour (or day) of the following year (i.e., 2026) and subsequent years, multiply ex-post verified typical-year energy (kWh) savings for each EEM by its hourly or daily kWh bin (i.e., multiply the measure-level annual kWh by the measure-level hourly, or daily bin from the appropriate energy savings curve).<sup>10</sup>
- For each rate class, tally all measure-level hourly (or daily) kWh savings to determine program-level hourly (or daily) kWh savings.
- For each rate class, for any given month, sum all measure-level hourly (or daily) kWh savings occurring in that month to determine program-level monthly kWh savings.
- For each rate class, typical-year kWh savings is the program-level monthly kWh savings per rate class summed across 365 days of any non-Leap Year after the 2025 calendar year.
- For any given program, full-year kWh savings for a Leap Year are marginally greater than full-year kWh savings for a typical year or non-Leap Year. Thus, the Evaluator always uses a non-Leap Year to quantify typical-year kWh savings.

The following is an example of the determination of daily kWh savings generated by a hypothetical program that targets two EEMs: residential lighting and residential cooling. For this hypothetical program, Table II-1 below provides a simple comparison of the EEMs' respective:

- Typical year energy savings.
- Daily bin value in its energy savings curve for a specific day – February 1 – of any given year<sup>11</sup> after the EE measures were installed.

<sup>9</sup> The distinction between 'typical-year' and 'full-year' is that a typical year is a 365-day year, whereas a Leap Year is not typical because it includes 366 days. In M&V reports, the kWh savings tables that depict monthly savings per rate class usually have titles such as "First-Year 2025" and "Full-Year 2026."

<sup>10</sup> When tallying kWh savings per month per rate class, the use of hourly bins or daily bins is equally correct and accurate. The Evaluator may utilize daily bins – which are created from hourly bins – in the *kW guru*<sup>TM</sup> analyses, as the large quantity (potentially billions) of computations in a *kW guru*<sup>TM</sup> analysis can be processed more efficiently when the computations employ 365 daily bins per year instead of 8,760 hourly bins per year.

Hourly bins in *kW guru*<sup>TM</sup> files (i.e., the 8,760 hourly bins per typical calendar year) are utilized for the following purposes: 1) they are summed across the 24-hours of each day to create daily bins; and 2) they provide the hourly resolution enabling the Evaluator to analyze and report critical peak demand (kW) savings per month per rate class.

<sup>11</sup> The daily bin value for February 1 represents the February 1 daily fraction of typical-year annual kWh savings.

- Energy (kWh) savings during February 1 of any given year after EEM installation.

As depicted in Table II-1, the assumption is that 1,000,000 kWh of annual energy savings (typical-year savings, as reported in M&V reports) were achieved from program-sponsored LEDs. Additionally, 500,000 kWh of typical-year energy savings were achieved through implementation of high efficiency air conditioning (“AC”) measures. The energy (kWh) savings on February 1 are obtained by multiplying typical-year kWh savings by the entries corresponding to February 1 in the respective normalized energy savings curves. In this example, the daily bin for space cooling is zero, because no space cooling is expected to occur on February 1.

*Table II-1. Sample Calculation – Energy Savings on February 1 for a Hypothetical Program Targeting Residential Lighting and Space Cooling*

<b>Comparison for “Indoor Lighting” vs. “Space Cooling” Measures</b>	<b>EE Measure = “Indoor Lighting”</b>	<b>EE Measure = “Space Cooling”</b>
Typical-year energy savings (annual kWh)	1,000,000	500,000
February 1 daily bin value in each EE measure’s energy savings curve	0.0030	0.0000
February 1 energy (kWh) savings in a typical year	3,000	0

For each Program, calculations are performed for each rate class, energy savings curve, and hour or day. The hourly or daily results are aggregated at the monthly level.

### II.5.3. Leap Year Savings

If accounting for the extra day in February during Leap Years, one of the following methods listed below is used. Either method produces accurate and essentially equivalent ex-post verified energy savings determinations for Leap Years.

- Energy savings during the month of February in a Leap Year is taken to be equal to 29/28 of energy savings during the month of February in a typical non-Leap Year.
- Alternatively, energy savings on the day of February 29 during a Leap Year is assumed to be the same as energy savings on the previous day (February 28).

## **DSM-9**

***Energy Education Program  
NV Energy  
Program Year 2025***

***Measurement and Verification Report  
March 4, 2026***

***Prepared for:***



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# 1 EXECUTIVE SUMMARY

This Measurement and Verification (“M&V”) report provides verified ex-post energy and demand impacts achieved by the Energy Education Program (“Program”) that NV Energy offered Sierra Pacific Power Company and Nevada Power Company (“SPPC” and, collectively with “NPC,” “NV Energy”) customers during 2025. This M&V report is provided by the Evaluator, Qualus LLC (formerly ADM Associates Inc., which was acquired by Qualus LLC in July 2025), an independent, third-party contractor that provides evaluation and M&V services and reports for numerous electric and gas utility clients. For 2025, there were no energy savings goals, and therefore, there are no verified ex-post energy savings and demand impacts achieved by NV Energy’s 2025 Program for the SPPC and NPC service territories in Nevada. The Program in 2025 comprised of both Residential and Commercial Customer Energy Education components.

## 1.1 Residential and Commercial Customer Education

NV Energy educated residential and commercial customers about energy efficiency and its energy efficiency offerings through printed materials, and at in-person and online events. The number of individuals reached through educational activities are listed in Table 1-1 and Table 1-2.

*Table 1-1: Residential Customer Education Activities*

Event Type	Customers Educated NPC	Customers Educated SPPC
Booth	26,977	83,484
Booth & Other	500	NA
Booth & Presentation	13,250	10,000
Other	100	NA
Performance	20,067	8,800
Presentation	1,082	1,941
<b>Total</b>	<b>61,976</b>	<b>104,225</b>

*Table 1-2: Commercial Customer Education Activities*

Event Type	Customers Educated NPC	Customers Educated SPPC
Booth	5,650	2,000
Booth & Presentation	2,000	NA
E-Book	7,344	2,290
Event	215	NA
Other	350	100
Presentation	225	200
Training	26	NA
Webinar	1,446	789
Virtual Discussion	42	24
<b>Total</b>	<b>17,298</b>	<b>5,403</b>

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## 2 PROGRAM BACKGROUND

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The Program is designed to provide education on energy efficiency topics that would otherwise be undersupplied to NV Energy’s customers (teachers, students, builders, developers, realtors, and energy professionals). The overall goal of the Program is to empower NV Energy’s customers to engage in energy conservation activities in their homes and businesses. The Program consists of the following subprograms: Commercial Customer Education and Residential Customer Education. There were no energy savings goals for the program in 2025. Program components are described below.

### 2.1 Residential Customer Education

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The Residential Customer Education subprogram provides energy efficiency and conservation education for customers through school performances, media, community events, student competitions and curriculum, teacher professional development, and collateral distribution. Historically, the count of customers attending presentations and visiting event booths has been the primary metric for measuring the Program’s effectiveness in meeting its customer education objective.

NV Energy also continued to provide funding for the Desert Research Institute’s (“DRI”) EnergySmart Education Program (“ESE”) and Nevada Robotics Program. In 2025, the programs included six initiatives:

- EnergySmart PSA Contest: middle school students compete against each other with submissions of brief videos sharing why energy efficiency is important within their communities.
- Community Energy Ambassador Project (“CEAP”): under the guidance of DRI staff, high school and middle school students develop projects designed to address energy conservation and awareness.
- EnergySmart Green Boxes: STEM education kits that each contain 3 to 4 hands-on lessons.
- Outreach Events: events target young people in lower income areas and promote awareness on how to save energy at home in addition to interest in electrical engineering.
- Educator Professional Development: hands-on training opportunities (with salary time paid) for educators to learn about the free educational resources available through EnergySmart.
- B-Best Books and Bots – Energy Saving Tips Program: hands-on activities with robots to engage and educate about energy conservation.

## **2.2 Commercial Customer Education**

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The Commercial Customer Education subprogram is designed to provide technical and energy efficiency training to small business owners and facility operators, as well as industry professionals. The education and training provided to home builders and realtors emphasizes the benefits of building energy efficient, code-compliant homes utilizing emerging building science, as well as incorporating energy efficiency in existing buildings.

In 2025, the Commercial Customer Education subprogram included both informational booths (organized by NV Energy) at events as well as webinar trainings hosted by Green Builder Media (“GBM”). GBM also organized and distributed a variety of E-books covering related energy efficiency topics that were available for download.

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### **3 M&V METHODOLOGY**

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This chapter provides the plans for performing the M&V activities for the components that comprise the Program. The evaluation activities used to perform the M&V of these programs were selected based on the Evaluator's experience in evaluating Program over the past ten years, NV Energy's goals for the 2025 Program, and discussions with NV Energy staff.

#### **3.1 Evaluating the Residential Customer Education Subprogram**

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The main components of the evaluation of the 2025 Residential Customer Education component in Nevada included reviewing the report of Residential Customer Education events and presentations as well as program plans and quarterly reports from organizational partners.

NV Energy delivered to the Evaluator a report of all Residential Customer events and school performances at the end of the program year. The report served as a direct source for description of Residential Customer activity level details. Total attendance was recorded at Residential Customer events. NV Energy made all Residential Customer Education attendance records available to the Evaluator.

The Evaluator also gathered data via the other Residential M&V surveys on sources of program awareness to review how residential customer participation may be influenced by the educational events and services provided through the Residential Customer Education subprogram.

Finally, the Evaluator reviewed the information gathered throughout the evaluation activities and provided a comparison to industry best practices.

#### **3.2 Evaluating the Commercial Customer Education Subprogram**

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The main components of the evaluation of the 2025 Commercial Customer Education component included: reviewing participation counts for Commercial Customer training events and reviewing energy efficiency information dissemination activities and participation counts of Commercial Customer presentations.

Total attendance was recorded by NV Energy at Commercial Customer events and NV Energy made all Commercial Customer Education attendance records available to the Evaluator.

The Evaluator also gathered data via the Business Energy Services Program intake survey on sources of program awareness to review how commercial customer participation may be influenced by the educational events and services provided through the Commercial Customer Education component.

Finally, the Evaluator reviewed the information gathered throughout the evaluation activities and provided a comparison to industry best practices.

## 4 M&V RESULTS

### 4.1 Residential Customer Education

NV Energy delivered energy education to residential customers at the events reported in Table 4-1 and Table 4-2. The overall rate of engagement for the NPC residential events in 2025 (561 educated customers per event held) was similar to the average engagement rate from 2021-2024 (579 educated customers per event held). However, the overall engagement rate for SPPC residential events in 2025 was more than triple the 2021-2024 average (1,603 educated customers per event in 2025 compared to the historic average of 441).

*Table 4-1: NPC Residential Customer Education Activities*

Event Date	Event Type	Event Name	Customers Educated
1/23/2025	Booth	Just ONE project	50
2/3/2025	Performance	New Song Christian Academy	110
2/4/2025	Presentation	CCSD Teacher Community Outreach	71
2/4/2025	Performance	Eva M Wolfe Elementary School	450
2/4/2025	Performance	Matt Kelly Elementary School	321
2/5/2025	Performance	Arturo Cambeiro Elementary	500
2/5/2025	Performance	Vail Pittman Elementary	500
2/7/2025	Booth	Senior Resource Fair	400
2/8/2025	Presentation	Chief Science Officer Training	15
2/10/2025	Performance	Word of Life Christian Academy	125
2/10/2025	Performance	Omar Haikal Islamic Academy	220
2/11/2025	Performance	Marion Earl Elementary	400
2/11/2025	Performance	Coral Academy Centennial Hills	100
2/12/2025	Performance	Cahlan Elementary School	418
2/12/2025	Performance	Ulis Newton Elementary School	550
2/13/2025	Performance	Roger D. Gehring Academy of Science and Technology Elementary	620
2/13/2025	Performance	Gragson Elementary	70
2/14/2025	Performance	Wing & Lilly Fong Elementary	430
2/14/2025	Performance	Cyril Wengert Elementary School	120
2/15/2025	Booth	Black History Month Festival	4,000
2/25/2025	Booth	Green Builder Media Vision House Grand Opening	300
3/3/2025	Performance	Lewis E Rowe Elementary School	450
3/3/2025	Performance	Sue H. Morrow Elementary	160
3/4/2025	Booth	Indian Family Education Night	50
3/4/2025	Booth	CCSD Indian Education Opportunities Program	16
3/4/2025	Performance	Merryhill Elementary School	200

3/4/2025	Performance	Vegas Verdes Elementary	100
3/5/2025	Booth	Henderson Senior Resource Fair	100
3/5/2025	Performance	Frank Kim Elementary School	460
3/5/2025	Performance	Berkeley L Bunker Elementary	600
3/5/2025	Performance	Lomie G. Heard Elementary School	160
3/6/2025	Performance	Elaine Wynn Elementary School	400
3/6/2025	Performance	Richard C Priest Elementary School	200
3/7/2025	Performance	John F. Miller School	85
3/7/2025	Performance	Mabel Hoggard Elementary School	520
3/12/2025	Booth & Presentation	Veterans Stand Down Event	2,000
3/12/2025	Booth	Goolsby ES STEM Night	277
3/12/2025	Performance	Myrtle Tate Elementary	600
3/12/2025	Performance	D. L. Dickens Elementary School	343
3/13/2025	Performance	J. Marlan Walker Elementary	160
3/13/2025	Performance	Explore Knowledge Academy	60
3/14/2025	Performance	Pinecrest Academy Sloan Canyon	900
3/14/2025	Performance	Wayne N Tanaka Elementary School	500
3/22/2025	Booth	Earth Hour Celebration	2,000
4/2/2025	Booth	STEM Night	325
4/5/2025	Booth & Presentation	Nevada Clean Energy Fund Education Event	200
4/5/2025	Booth & Other	TEDxLasVegas	500
4/15/2025	Booth	Earth Day: Our Power/Our Planet	150
4/19/2025	Booth & Presentation	Earth Day Celebration	2,500
4/29/2025	Performance	James H. Bilbray Elementary School	215
4/29/2025	Performance	Tony Alamo Elementary School	150
4/30/2025	Booth & Presentation	Las Vegas Science and Technology Festival Energy Night	2,000
4/30/2025	Performance	St. Viator Parish School	150
4/30/2025	Performance	Clarence Piggott Academy Of International Studies	120
5/1/2025	Booth	May the Science Be With You	721
5/1/2025	Performance	William G Bennett Elementary School	300
5/2/2025	Performance	Nate Mack Elementary School	450
5/2/2025	Performance	Gwendolyn Woolley Elementary	350
5/3/2025	Booth	Las Vegas Science and Technology Expo	8,027
5/5/2025	Performance	John F. Mendoza Elementary School	400
5/5/2025	Performance	Richard H Bryan Elementary	125
5/6/2025	Performance	Carolyn S. Reedom Elementary School	200
5/6/2025	Performance	Roberta Cartwright Elementary School	150
5/7/2025	Performance	C.P. Squires Elementary School	250
5/7/2025	Performance	The Adelson School	70
5/8/2025	Performance	Dean La Mar Allen Elementary School	100
5/9/2025	Performance	Daniel F. Goldfarb Elementary School	500
5/9/2025	Performance	Robert L. Forbuss Elementary School	100

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5/19/2025	Performance	Andrew J. Mitchell Elementary School	300
6/4/2025	Other	GRC Consumer Session	50
6/4/2025	Other	GRC Consumer Session	50
6/5/2025	Booth	Resorts World Employee Education Event	200
6/7/2025	Booth	Neighborhood Housing Services Housing Fair	200
6/14/2025	Booth & Presentation	Southern Nevada Pride Festival	2,500
6/21/2025	Booth	Juneteenth Festival	2,000
7/10/2025	Booth & Presentation	Mayor pro Tem Scott Black Senior Gathering	50
7/26/2025	Booth	Back to School Bash	331
8/19/2025	Booth	Project Reach Senior Energy Expo	570
8/21/2025	Booth	Project Reach Senior Energy Expo	460
8/26/2025	Booth	Project Reach Senior Energy Expo	270
8/28/2025	Booth	Project Reach Senior Energy Expo	200
9/22/2025	Performance	Nate Mack Elementary School	400
9/22/2025	Performance	J. Marlan Walker Elementary	190
9/23/2025	Performance	Frank Kim Elementary School	430
9/23/2025	Performance	Sue H. Morrow Elementary	150
9/24/2025	Performance	Robert L. Forbuss Elementary School	170
9/25/2025	Performance	Lomie G. Heard Elementary School	180
9/26/2025	Performance	Andrew J. Mitchell Elementary School	300
9/26/2025	Performance	Matt Kelly Elementary School	350
9/29/2025	Performance	New Song Christian Academy	110
9/29/2025	Performance	Wayne N Tanaka Elementary School	450
9/30/2025	Performance	Lewis E Rowe Elementary School	350
9/30/2025	Performance	Arturo Cambeiro Elementary	400
10/1/2025	Performance	Vegas Verdes Elementary	105
10/2/2025	Booth	Senior Information Fair	100
10/2/2025	Performance	Piggott Academy of International Studies	120
10/2/2025	Performance	Diskin Elementary School	500
10/3/2025	Performance	Don E Hayden Elementary School	300
10/3/2025	Performance	Pinecrest Academy Sloan Canyon	800
10/4/2025	Booth	Armed Forces, Military Veteran's & First Responders Appreciation Day	500
10/18/2025	Booth	Las Vegas Pride Festival	2,500
10/27/2025	Booth	Trunk or Treat	300
10/29/2025	Booth	Trunk or Treat	300
10/31/2025	Booth & Presentation	Nevada Day Event	4,000
10/31/2025	Booth	Nevada Day at the Springs	630
11/8/2025	Booth	VetFest Business & Resource Expo	2,000
11/20/2025	Presentation	Books and Bots for Energy Saving Tips	996
<b>Total</b>			<b>61,976</b>

Table 4-2: SPPC Residential Customer Education Activities

Event Date	Event Type	Event Name	Customers Educated
1/28/2025	Presentation	Books and Bots - Energy Saving Tips Day	1,075
2/18/2025	Performance	Fremont Elementary School	100
2/18/2025	Performance	Diedrichsen Elementary School	200
2/20/2025	Performance	Double Diamond Elementary School	300
2/20/2025	Performance	Spanish Springs Elementary School	98
2/21/2025	Performance	The Kings Academy	28
2/21/2025	Performance	Bethlehem Lutheran School	150
2/24/2025	Performance	Desert Heights Elementary School	160
2/24/2025	Performance	Lemmon Valley Elementary School	215
2/25/2025	Performance	Empire Elementary School	500
2/25/2025	Performance	Smithridge S.T.E.M. Academy	170
2/27/2025	Performance	Sarah Winnemucca Elementary School	150
2/28/2025	Performance	Jessie Beck Elementary School	400
2/28/2025	Performance	Al Seeliger Elementary School	520
3/30/2025	Booth	Banff Film Festival	1,200
4/9/2025	Booth	UNR Wealth Fair	100
4/17/2025	Booth	Earth Day - Energy Saving Tips at TMCC	68
4/19/2025	Booth & Presentation	Earth Day Celebration	10,000
5/8/2025	Booth	Senior Celebration Expo	500
5/11/2025	Booth	Mother's Day Farmers Market	10,000
5/12/2025	Performance	E.C. Best Elementary School	300
5/12/2025	Performance	Battle Mountain Elementary School	450
5/13/2025	Performance	Legacy Christian Academy	75
5/13/2025	Performance	Mariposa Academy	195
5/14/2025	Performance	Mitchell Elementary School	350
5/15/2025	Performance	Echo Loder Elementary School	300
5/15/2025	Performance	Hunsberger Elementary	100
5/16/2025	Performance	Stead Elementary School	215
5/16/2025	Performance	Mater Academy of Northern Nevada	400
5/22/2025	Booth	Family Health Festival	500
5/22/2025	Booth	Reno Aces Days	8,996
7/1/2025	Booth	Art Town Opening Night	2,000
7/12/2025	Booth	Dancin' In the Streets	28,800
7/19/2025	Booth	Be My Neighbor Day	2,000
7/26/2025	Booth	Family Health Festival	500
7/31/2025	Booth	Art Town Closing Night	2,000
8/9/2025	Booth	FKY Backpack/Community	500
8/9/2025	Booth	Boys and Girls Club Day for Kids	451
8/9/2025	Booth	Back - to- school	1,205

8/27/2025	Booth	Feed the Camel	250
8/27/2025	Booth	Back to school	46
9/2/2025	Booth	Senior Fest	2,000
9/4/2025	Presentation	2025 NDE Early Childhood Summit (Teacher Conference)	37
9/6/2025	Booth	Reno Pride Festival	15,000
9/7/2025	Booth	Jewish Nevada Milk & Honey Cultural Festival	500
9/11/2025	Performance	Lovelock Elementary	314
9/12/2025	Performance	Sonoma Heights Elementary School	500
9/15/2025	Performance	Mamie Towles Elementary	280
9/15/2025	Performance	Natchez Elementary School	135
9/16/2025	Performance	Jessie Beck Elementary School	440
9/16/2025	Performance	George Westergard Elementary School	420
9/17/2025	Performance	Grass Valley Elementary School	300
9/17/2025	Performance	Imlay Elementary	10
9/18/2025	Performance	Alice Smith Elementary School	200
9/18/2025	Performance	Hunsberger Elementary	110
9/19/2025	Performance	Incline Village Elementary School	215
9/19/2025	Performance	Silver Lake Elementary School	500
9/20/2025	Booth	Asian Moon Festival	1,000
9/20/2025	Booth	Educator Expo	429
9/21/2025	Booth	Fiesta on Wells	1,500
9/25/2025	Booth	Great Basin College (Elko) Beats and Bites	67
10/7/2025	Booth	Family Health Festival	500
10/24/2025	Booth	Trunk or Treat	3,000
10/30/2025	Booth	Trunk or Treat	372
12/2/2025	Presentation	Books and Bots - Energy Saving Tips Day	829
<b>Total</b>			<b>104,225</b>

Table 4-3: Geographic Distribution of Residential Energy Education Events

<b>Territory</b>	<b>Location</b>	<b>Event Count</b>	<b>Customers Educated</b>
NPC	Boulder City	2	600
	Henderson	14	4,680
	Las Vegas	79	53,237
	Laughlin	1	300
	North Las Vegas	11	3,159
	<i>SubTotal</i>	<i>107</i>	<i>61,976</i>
SPPC	Battle Mountain	1	450
	Carson City	7	4,845
	Elko	1	67
	Fallon	1	300
	Imlay	1	10
	Incline Village	1	215
	Lovelock	1	314
	Reno	44	95,329
	Sparks	3	648
	Stateline	1	37
	Wadsworth	1	135
	Winnemucca	3	1,875
	<i>SubTotal</i>	<i>65</i>	<i>104,225</i>
<b>Total</b>		<b>172</b>	<b>166,201</b>

In 2025, Residential education events were held across a broad distribution of cities in both territories, with more events held in metropolitan areas (Table 4-3). For both NPC and SPPC’s residential Energy Education component, Bright Star Theater collaborated with NV Energy in support of the most events. Other organizations with high program involvement in 2025 are shown in Figure 4-1 and Figure 4-2. Overall, NV Energy collaborated with 30 organizations to facilitate educational events for NPC residential customers and 27 organizations to facilitate educational events for SPPC residential customers.

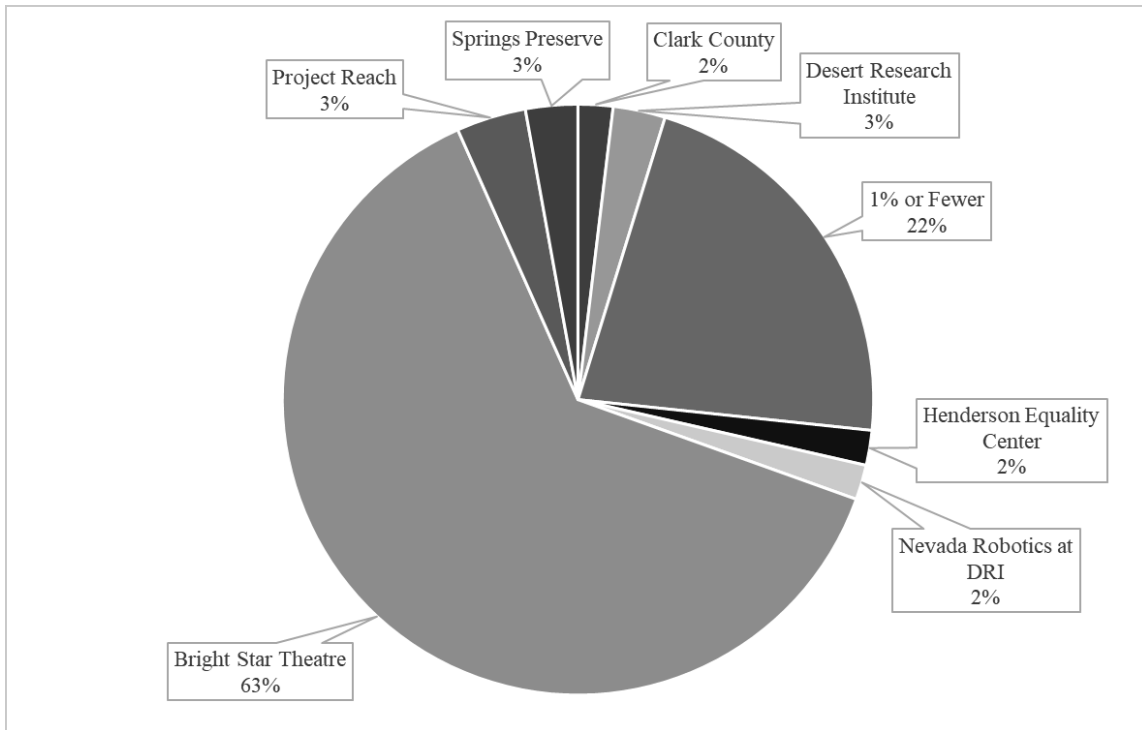


Figure 4-1: NPC Event Collaborations – Residential Component

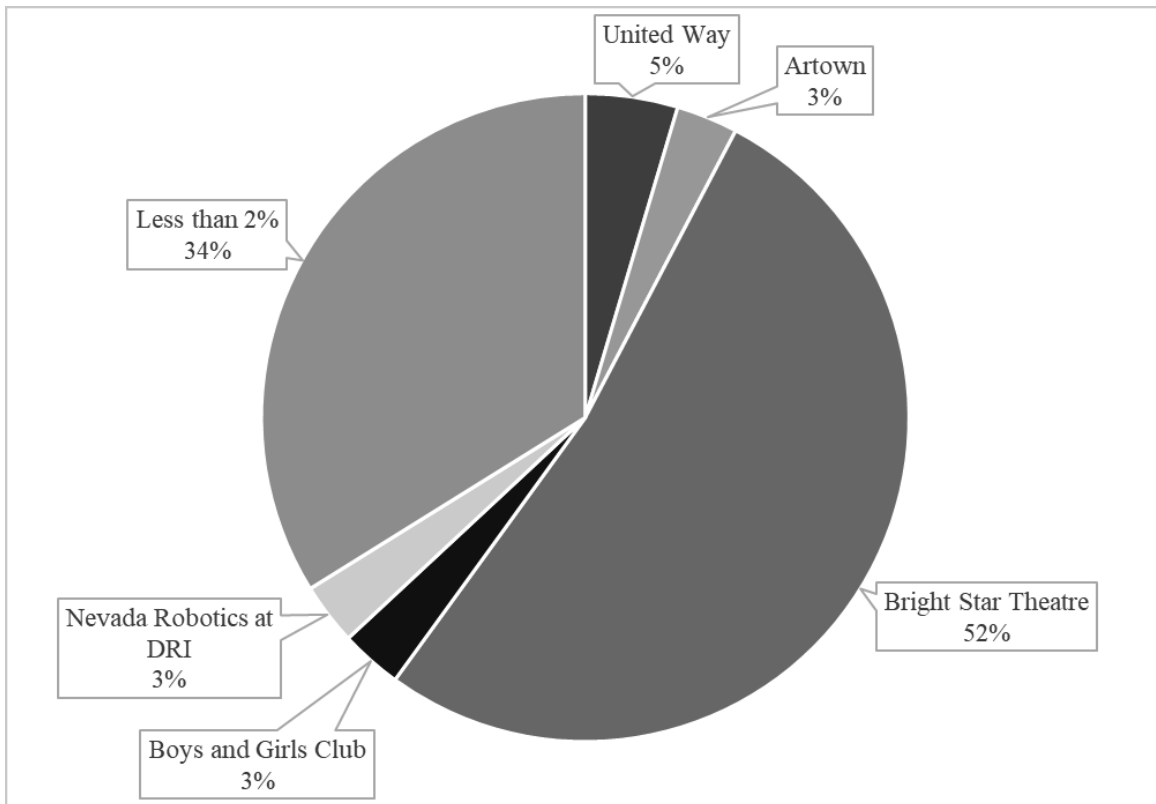


Figure 4-2: SPPC Event Collaborations – Residential Component

NV Energy shared scheduling details for a handful of events that the Evaluator could attend to observe in person. The Evaluator attempted to attend an event held on Nevada Day at the Springs Preserve, however, the evaluator could not find parking due to high turnout.

#### 4.1.1 DSM Program Awareness

As part of the Evaluator’s M&V evaluation of NV Energy’s DSM portfolio, program participant surveys were fielded to residential customers who participated in the In-Home Energy Assessment / Direct Install (“IHEA / DI”) Programs as well as the Online Energy Assessment (“OEA”) Program. In 2025, the Evaluator asked surveyed residential participants how they had heard of these programs. Responses from the IHEA / DI participant survey indicated that approximately 1% of NPC and 2% of SPPC respondents reported learning of the IHEA / DI Program from an educational event supported by or organized with NV Energy. Responses from the OEA residential participant survey indicated that approximately 1% of NPC respondents learned of the OEA Program from an educational event supported by or organized with NV Energy (no SPPC OEA participants that responded to the survey reported hearing of the program from an Energy Education Program event).

#### 4.2 Commercial Customer Education

NV Energy educated commercial customers about energy conservation at the events and webinars reported in Table 4-4 and Table 4-5. The overall rate of engagement for the NPC commercial events in 2025 (541 educated customers per event held) was higher than the average engagement rate from 2021-2024 (346 educated customers per event held). For SPPC commercial events in 2025, the engagement rate was slightly lower (338 educated customers per event) than the 2021-2024 average (362 educated customers per event).

*Table 4-4: NPC Commercial Customer Education Activities*

Event Date	Event Type	Event Name	Customers Educated
1/15/2025	Webinar	Code Update webinar	499
1/16/2025	Booth	Preview Las Vegas	1,500
1/17/2025	Booth	Latin Chamber of Commerce Luncheon	250
1/23/2025	Booth	Asian Chamber of Commerce Luncheon	100
1/29/2025	Presentation	BES Kick Off	225
2/19/2025	Webinar	Generational Marketing webinar	312
2/21/2025	Booth	Latin Chamber of Commerce Luncheon	250
2/25/2025	Event	VISION House Las Vegas live event	215
3/12/2025	Webinar	Embodied Carbon webinar	267
3/21/2025	Booth	Latin Chamber of Commerce Luncheon	250
3/27/2025	Booth	Asian Chamber of Commerce Luncheon	100
4/9/2025	Webinar	Energy-Water Nexus webinar	186
4/25/2025	Other	Latin Chamber of Commerce Luncheon	250

5/16/2025	Booth	Latin Chamber of Commerce Luncheon	250
5/22/2025	Booth	Asian Chamber of Commerce Luncheon	100
6/1/2025	E-Book	Retrofits with the Best Value e-book	2,599
6/19/2025	Other	Green Valley Rotary Club	100
6/20/2025	Booth	Latin Chamber of Commerce Luncheon	250
6/25/2025	Booth & Presentation	Las Vegas Chamber Business Expo	2,000
6/26/2025	Booth	Asian Chamber of Commerce Luncheon	100
7/24/2025	Booth	Asian Chamber of Commerce Luncheon	100
7/25/2025	Booth	Latin Chamber of Commerce Luncheon	250
8/22/2025	Booth	Latin Chamber of Commerce Luncheon	250
9/4/2025	Booth	Committed to Small Business Expo	400
9/17/2025	Booth	Henderson Chamber Business Expo	1,000
9/19/2025	Booth	Latin Chamber of Commerce Luncheon	250
10/1/2025	E-Book	Multifamily Building: Sustainable and Attainable e-book	1,972
10/13/2025	Virtual Discussion	Value per Square Foot	42
10/24/2025	Booth	Latin Chamber of Commerce Luncheon	250
11/17/2025	Training	COGNITION Academy Builder training	26
12/1/2025	E-Book	Energy Insights e-book	2,773
12/4/2025	Webinar	State of the Industry	182
<b>Total</b>			<b>17,298</b>

Table 4-5: SPPC Commercial Customer Education Activities

Event Date	Event Type	Event Name	Customers Educated
1/15/2025	Webinar	Code Update webinar	237
1/28/2025	Presentation	BES Kick Off	100
2/19/2025	Webinar	Generational Marketing webinar	139
3/6/2025	Presentation	NDPP Community Meeting	50
3/12/2025	Webinar	Embodied Carbon webinar	172
3/19/2025	Presentation	NDPP Community Meeting	50
4/9/2025	Webinar	Energy-Water Nexus webinar	122
5/9/2025	Booth	Reno/Sparks Chamber Business Expo	1,500
6/1/2025	E-Book	Retrofits with the Best Value e-book	822
8/21/2025	Booth	KTMB Raise the River	500
9/18/2025	Other	Elko Business After Hours	100
10/1/2025	E-Book	Multifamily Building: Sustainable and Attainable e-book	567
10/13/2025	Virtual Discussion	Value per Square Foot	24
11/17/2025	Webinar	COGNITION Academy Builder training	16
12/1/2025	E-Book	Energy Insights e-book	901
12/4/2025	Webinar	State of the Industry	103
<b>Total</b>			<b>5,403</b>

Table 4-6: Geographic Distribution of Commercial Energy Education Events

Territory	Location	Event Count	Customers Educated
NPC	Henderson	3	1,315
	Las Vegas	29	15,983
	<i>SubTotal</i>	32	17,298
SPPC	Douglas County	1	50
	Elko	1	100
	Reno	13	5,203
	VC Highlands	1	50
	<i>SubTotal</i>	16	5,403
<b>Total</b>		<b>48</b>	<b>22,701</b>

In 2025, commercial education events were held primarily in larger cities, however, SPPC events were also held in Douglas County and VC Highlands (Table 4-6). For NPC, Green Builder Media, the Latin Chamber of Commerce, and the Asian Chamber of Commerce were involved with organizing the highest number of events (Figure 4-3). Green Builder Media also dominated event involvement for SPPC (Figure 4-4). Overall, NV Energy collaborated with 8 organizations in southern Nevada and 6 organizations in northern Nevada to facilitate educational events for NV Energy’s commercial customers.

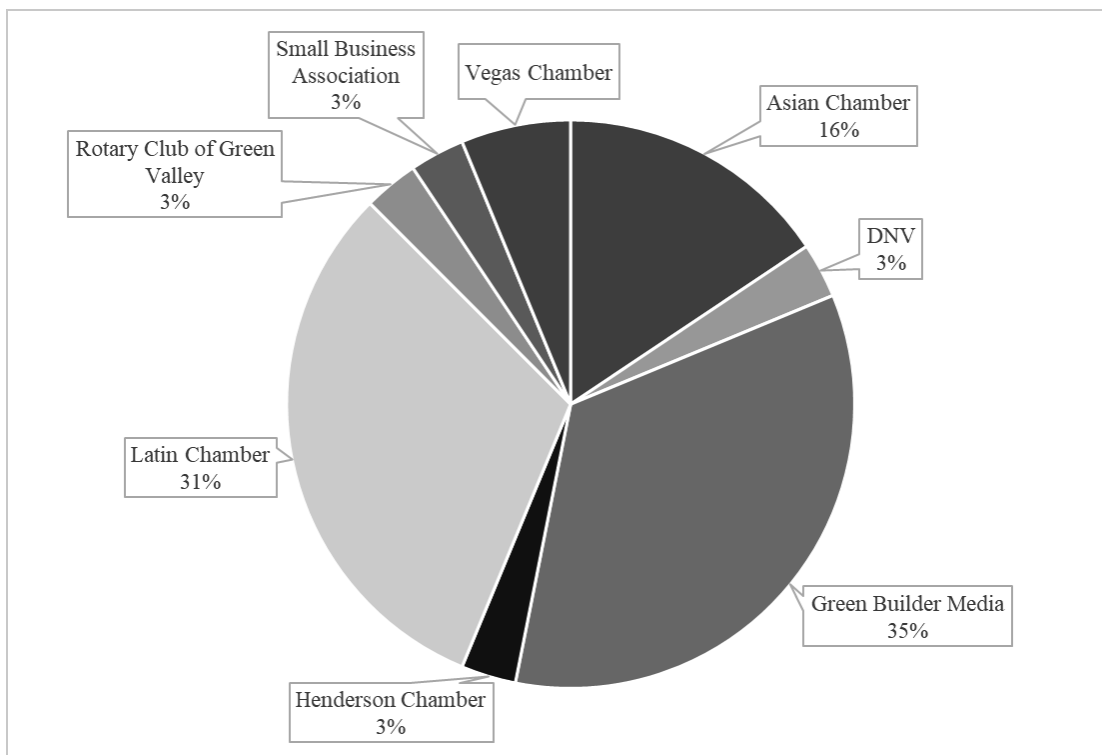


Figure 4-3: NPC Event Collaborations – Commercial Component

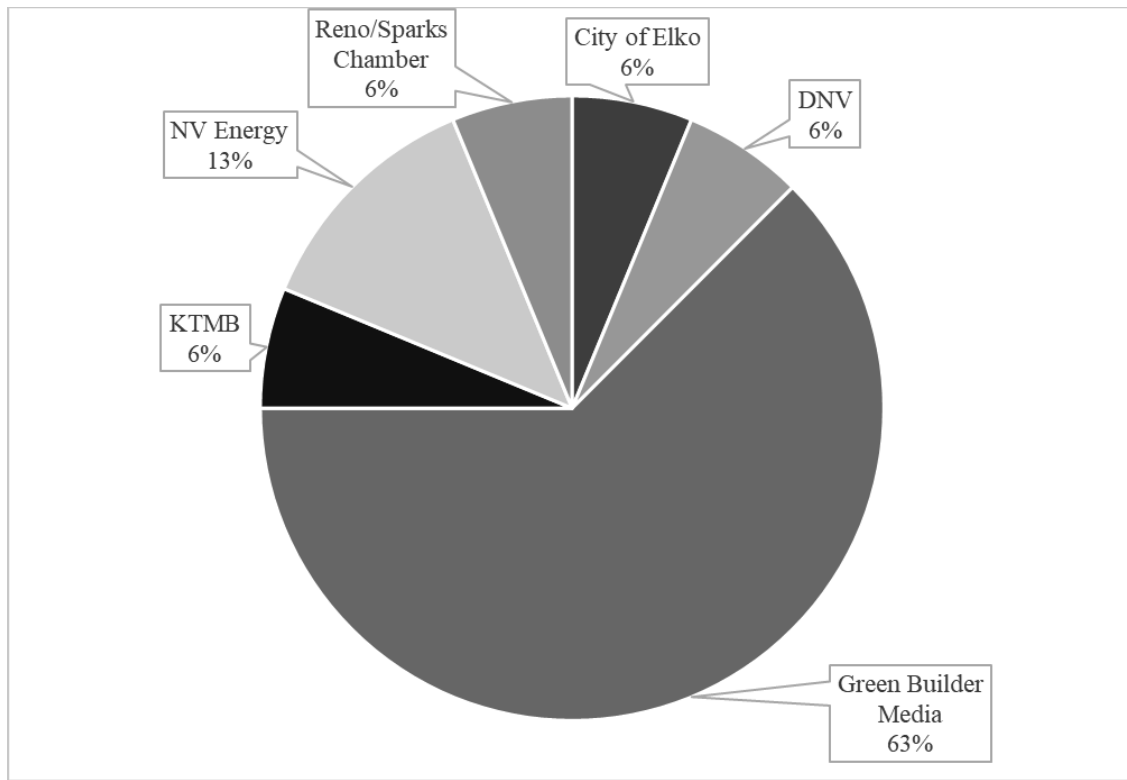


Figure 4-4: SPPC Event Collaborations – Commercial Component

#### 4.2.1 DSM Program Awareness

In 2025, the Evaluator worked with the implementation contractor for NV Energy’s Business Energy Services Program to review how commercial customer participation may be influenced by the educational events and services provided through the Commercial Customer Education subprogram. The implementor fields a participant intake survey which asks how customers heard of the Business Energy Services Program. In mid-2025 the response options for that survey were amended to include *Chamber of Commerce Events*. For the second half of program year 2025, no survey responses indicated that Business Energy Services participants had learned of the Business Energy Services program from an Energy Education event.

#### 4.3 Energy Education Program Best Practices

The Evaluator reviewed the events, training, and outreach activities that were a part of NV Energy’s Energy Education Program in 2025 and compared them with education program best practices based on the Evaluator’s evaluation experience with these programs across the country. The following were key themes of educational program best practices:

- **Integrate education with real actions and technologies**

Programs are most effective when education is paired with concrete opportunities to act—like take home kits or participation in DSM offerings.

- **Make content hands on, applied, and locally relevant**

Activities that connect directly to participants' homes, schools, or communities (e.g., classroom audits, home energy checklists, school energy teams) consistently show stronger engagement and retention.

*Comparison to this program:* Although NV Energy has specifically discontinued distributing energy savings kits, several components of the program still offer hands-on opportunities to learn about energy consumption. The EnergySmart Green Boxes and B-Best Books and Bots programs supported through NV Energy's Energy Education Program both provide engaging, hands-on activities for students to learn about energy conservation. Additionally, outreach events are designed to promote awareness on how to save energy at home in addition to interest in electrical engineering.

- **Use clear, simple, and consistent messaging**

Energy concepts and DSM offerings need to be explained in plain language, with a small number of repeated, actionable messages.

- **Align with established energy literacy frameworks**

Using a shared conceptual framework (such as the Department of Energy's Energy Literacy principles<sup>1</sup>) helps ensure consistency, accuracy, and scalability across curricula and materials.

- **Target specific audiences and tailor delivery**

Programs that segment by audience (students, teachers, facility staff, low income households, small businesses) and adapt content and channels accordingly perform better than generic campaigns.

*Comparison to this program:* Past M&V program recommendations have suggested providing energy savings kit instructions in Spanish as well as completing a review of program materials to ensure plain, simplified language use. Although the kits are no longer being distributed, considering this past recommendation in the context of all program materials could be a beneficial way to enhance engagement from predominantly Spanish-speaking communities. Moreover, setting specific goals for improving customers' energy literacy could help guide the development of new program collateral.

- **Leverage trusted messengers and partnerships**

Teachers, community organizations, and local leaders increase credibility and participation, especially in underserved communities.

*Comparison to this program:* The Energy Education Program engages with a diverse reach of organizations, community leaders, and teachers. For the residential component of the program, partnerships include the Boys and Girls Club, teachers and schools from kindergarten through

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<sup>1</sup> <https://www.energy.gov/eere/education/articles/energy-literacy-framework-50-march-2017-english>

college, veterans' organizations, cultural organizations such as Jewish Nevada and Latino Arte and Culture, organizations for senior citizens, and museums in addition to non-profits such as Just One Project, Nevada Land Trust, and PBS Reno. The commercial component works closely with a variety of Chamber of Commerce groups and Rotary clubs, in addition to its partnership with Green Builder Media.

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## 5 CONCLUSIONS AND RECOMMENDATIONS

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The Evaluator provides the following conclusions and recommendations based on its evaluation of the 2025 Energy Education Program.

### 5.1 Conclusions

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The NPC Residential component of the Energy Education Program worked with **30 organizations** to educate **61,976 customers** at **107 events** across **5 cities** in 2025. In the SPPC service territory, the residential component of the Energy Education Program worked with **27 organizations** to educate **104,225 customers** at **65 events** across **12 cities and towns** in northern Nevada. While the overall rate of engagement (average number of customers educated per event) for residential NPC events (579 educated customers per event) was similar in 2025 compared to past program years, the overall engagement rate for SPPC residential events in 2025 was more than triple the 2021-2024 average (1,603 educated customers per event in 2025 compared to the historic average of 441).

The NPC Commercial component of the Energy Education Program partnered with **8 organizations** to educate **17,298 customers** at **32 events** in Henderson and Las Vegas in 2025. In the SPPC service territory, the Commercial Component of the Energy Education Program worked with **5 organizations** to educate **5,403 customers** at **16 events** in Reno, Elko, VC Highlands, and Douglas County. The overall rate of engagement for the NPC commercial events in 2025 (541 educated customers per event) was higher than the average engagement rate from 2021-2024, while for SPPC commercial events the engagement rate was slightly lower (338 educated customers per event) than years past.

The Energy Education Program achieved these levels of engagement by working with a diverse group of organizations, community leaders, and teachers in 2025 to provide trainings, webinars, presentations, performances, and E-books to NV Energy's customers. There were no energy savings goals for the program in 2025 and therefore no program activities were designed to produce verifiable energy savings. Despite this, the Evaluator found evidence that the Energy Education Program did support participation in the IHEA / DI and OEA Programs.

### 5.2 Recommendations

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**M&V recommendations:** Based on M&V findings described in this report, the Evaluator recommends the following actions to support the future success of the Energy Education Program.

- Consider reviewing event collateral with energy literacy and plain, simplified language use in mind. If possible, develop Spanish versions to support broadening customer engagement with collateral distributed at events. Past M&V program recommendations have suggested providing energy savings kit instructions in Spanish as well as completing a review of program materials to ensure plain, simplified language use. Although the kits are no longer being distributed, considering this past recommendation

in the context of all program materials could be a beneficial way to enhance engagement from predominantly Spanish-speaking communities. Moreover, setting specific goals for improving customers’ energy literacy could help guide the development of new program collateral.

- Maintain relationships with the diverse group of community partners the program worked with in 2025.

Program responses to last year’s evaluation recommendations are included in Table 5-1.

*Table 5-1: Program Responses to 2024 M&V Recommendations*

<b>2024 Evaluation Recommendation</b>	<b>2025 Program Response</b>
Improve user instructions included with energy saving kits. Simplify reading level used in instructions for kit components and more clearly direct participants to install measures as intended in ex-ante savings.	There were no energy savings (kWh) goals set for the Energy Education Program in 2025 and therefore no kits were distributed.
Include kit instructions in both English and Spanish to accommodate more customers.	

## **DSM-10**

**Energy Reports Program  
NV Energy  
Program Year 2025**

**Measurement and Verification Report  
March 13, 2026**

**Prepared for:**



**Prepared by:**

**QUALUS**

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## 1 EXECUTIVE SUMMARY

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This Measurement and Verification (“M&V”) report provides verified ex-post energy and demand impacts achieved by the Energy Reports program that NV Energy offered Sierra Pacific Power Company and Nevada Power Company (“SPPC” and, collectively with “NPC,” “NV Energy”) customers during 2025. This M&V report is provided by the Evaluator, Qualus LLC (formerly ADM Associates, Inc., which was acquired by Qualus LLC in July 2025), an independent, third-party contractor that provides evaluation and M&V services and reports for numerous electric and gas utility clients.

The Energy Report (“ER”) program provides periodic energy usage reports to residential customers. These Home Energy Reports (“HERs”) provide NV Energy’s customers with detailed information about their energy use as well as tips for energy-savings. HERs are delivered through the mail (paper reports) as well as via e-mail (electronic reports). Overall, the HERs are designed to inform and motivate the targeted customers to take actions to save energy by 1) using electricity more efficiently, and 2) driving participation in other Demand Side Management (“DSM”) programs.

During program year 2022, the program was re-launched to new, untreated cohorts per commission guidance. For 2025, the same cohorts chosen in 2022 continued to be treated. NV Energy delivered HERs to treatment participant groups to accomplish the following objectives:

- Deliver large-scale, measurable, cost-effective reduction in energy (kilowatt hours; “kWh”) consumption;
- Generate measurable demand (kilowatts, “kW”) savings;
- Strengthen NV Energy’s relationships with its customers;
- Increase customer outreach; and
- Expand awareness and adoption of NV Energy’s various program offerings within the DSM program portfolio.

The ER program was designed as a randomized control trial (“RCT”). Given the requirement to only treat previously untreated customers, in 2022 the implementer designed two new RCT cohorts (one for each service territory) of customers who had not previously received HERs. For the NPC territory, this involved identifying a cohort of over 210,000 previously untreated customers in 2022 who were then randomly assigned to treatment and control groups. Similarly, for the SPPC territory, a cohort of over 93,000 previously untreated customers were randomly assigned to treatment and control groups. RCTs are considered the optimal design for an ER program for which a primary goal is to achieve measurable and verifiable energy savings.<sup>1</sup>

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<sup>1</sup> Li, M.; Haeri, H.; Reynolds, A. (2017). The Uniform Methods Project: Methods for Determining Energy-Efficiency Savings for Specific Measures. Golden, CO; National Renewable Energy Laboratory. NREL/ SR-7A40-70472. <http://www.nrel.gov/docs/fy18osti/70472.pdf>.

To determine energy savings, the Evaluator employed a panel regression model, which identified savings attributed to the treatment participants whose average post-treatment energy consumption was lower than the average energy consumption of control participants. To be certain that any savings related to other DSM programs were not double counted, the Evaluator followed the methodology recommended by the Uniform Methods Project,<sup>2</sup> which endorses estimating double counted savings due to cross participation after regression modeling for the ex-post verified savings.

Critical peak demand kW reduction was determined using an energy savings curve developed from the Evaluator’s analysis of energy (kWh) savings.

### 1.1 Program Results: NPC Service Territory

Ex-post verified annual energy savings and peak demand reductions for NV Energy’s Energy Reports program in the NPC service territory are presented in Table 1-1 below.

*Table 1-1. Summary of Ex-Post Verified Energy Impacts, NPC*

Daily Energy Savings (kWh) per Treatment Participant	Count of Treatment Group (Participants)	Annual Energy Savings (kWh) per Treatment Participant	Ex-post Verified Annual Energy Savings (kWh)	Summer Critical Peak Demand Savings (kW)
0.44	122,032	161	19,647,152	7,768.91

When compared to the total reported ex-ante energy savings, the total verified ex-post savings from the Energy Reports program in the NPC service territory represents a realization rate of 90.4 percent (Table 1-2).

*Table 1-2. Program-Level Realization Rate, NPC*

Ex-ante Annual Energy Savings (kWh)	Ex-post Verified Annual Energy Savings (kWh)	Realization Rate
21,721,696	19,647,152	90.4%

To determine the cost-effectiveness of the 2025 program, the Evaluator used a defined Effective Useful Life (“EUL”) of 1.0 year for the ER program. Table 1-3 provides the tabulations of total energy (kWh) savings for determining cost-effectiveness for the 2025 program year.

<sup>2</sup> Chapter 17: Residential Behavior Evaluation Protocol, *The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures*. National Renewable Energy Laboratory, September 2011 - August 2020. <https://docs.nrel.gov/docs/fy21osti/77435.pdf>

Table 1-3. Total Savings for Determining Program-Level Cost-Effectiveness, NPC

Ex-post Verified Annual Energy Savings (kWh)	EUL for Determining Cost-Effectiveness	Total Energy Savings for Determining Cost-Effectiveness (kWh)
19,647,152	1.0	19,647,152

## 1.2 Program Results: SPPC Service Territory

Ex-post verified annual energy savings and peak demand reductions for NV Energy’s Energy Reports program in the SPPC service territory are presented in Table 1-4.

Table 1-4. Summary of Ex-Post Verified Energy Impacts, SPPC

Daily Energy Savings (kWh) per Treatment Participant	Count of Treatment Group (Participants)	Annual Energy Savings (kWh) per Treatment Participant	Ex-post Verified Annual Energy Savings (kWh)	Summer Critical Peak Demand Savings (kW)
0.38	65,711	139	9,133,829	3,089.79

When compared to the reported ex-ante energy savings, the verified ex-post savings from the ER program in the SPPC service territory represents a realization rate of 108.6 percent. See Table 1-5 below for more details.

Table 1-5. Program-Level Realization Rate, SPPC

Ex-ante Annual Energy Savings (kWh)	Ex-post Verified Annual Energy Savings (kWh)	Realization Rate
8,411,008	9,133,829	108.6%

As used for the NPC component of the HERs program, the EUL for the SPPC component of the program is also 1.0 year. Table 1-6 provides the tabulations of total energy (kWh) savings for determining cost-effectiveness for the 2025 program year.

Table 1-6. Total Savings for Determining Program-Level Cost-Effectiveness, SPPC

Ex-post Verified Annual Energy Savings (kWh)	EUL for Determining Cost-Effectiveness	Total Energy Savings for Determining Cost-Effectiveness (kWh)
9,133,829	1.0	9,133,829

## 1.3 Program Year 2025 Data Review

The Evaluator was able to obtain the required data from NV Energy to support the 2025 M&V activities for the ER program in the NPC and SPPC service territories. However, SPPC dual-fuel HER recipients were not included in the primary DSMC data upload, as had been the case in

previous years. As a result, a separate report was requested and provided to identify these customers, affecting approximately 30,000 participants. In addition, customer-level HER delivery data were not available in the standard dataset for any customers in 2025. Instead, HER delivery information was provided by NV Energy in aggregated form and used to support the evaluation.

#### 1.4 Summarized Program Recommendations

In the 2024 M&V report, the Evaluator recommended tailoring recommendations in the HERs, improving engagement and clarity, promoting participation in energy-saving programs, addressing customer cost concerns, and optimizing delivery and accessibility. These recommendations remain applicable and continue to address core program design and delivery. Table 1-7 provides a summary of several recommendations for the Energy Reports program that may continue to improve the program’s operation and performance in program year 2026.

Table 1-7. Recommendation Summary

Recommendation Title	Summary
<p><b>Provide Clear and Transparent Energy Usage Information</b></p>	<p>Present energy usage in kWh alongside dollar amounts so customers can distinguish between changes driven by consumption and those driven by rate adjustments.</p> <p>Include clearer breakdowns of major usage components (e.g., heating, cooling, always-on load) and provide plain-language explanations of how these estimates are calculated and what key terms mean.</p> <p>Where possible, incorporate historical usage comparisons to help customers assess whether conservation efforts are reducing actual energy consumption over time.</p>
<p><b>Expand and Integrate Rebate and Incentive Information</b></p>	<p>Integrate rebate and incentive information for other DSM programs directly within the report and align it with recommended actions.</p> <p>Clearly identify which upgrades qualify for financial support and outline eligibility considerations and next steps.</p> <p>Provide direct links, QR codes, or contact information to simplify the application process and reduce barriers to participation.</p>
<p><b>Improve Personalization and Practicality of Recommendations</b></p>	<p>Tailor recommendations based on housing type (e.g., single-family home, apartment, rental property) and customer circumstances.</p> <p>Emphasize low-cost, renter-friendly, and portable measures where appropriate, and avoid suggesting actions outside a tenant’s control.</p> <p>For customers with limited mobility or physical constraints, provide alternatives such as professional service options or simplified steps to complete recommended tasks safely.</p>
<p><b>Enhance Engagement Through Meaningful Comparisons</b></p>	<p>Improve clarity around comparisons to similar homes by explaining how peer groups are defined and how customers can interpret their relative performance.</p>

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## 2 PROGRAM OVERVIEW

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NV Energy’s goals for the 2025 ER program were to promote and increase customer engagement while generating measurable energy savings from the homes of customers previously untreated through the program. The program provides periodic energy-usage reports to a specific treatment group of residential customers. These HERs are designed to inform and motivate the targeted customers to save energy by 1) using electricity more efficiently, and 2) driving participation in DSM programs.

HERs provide NV Energy’s residential customers with detailed information about their energy consumption while offering customized (customer premise-specific) energy-savings tips. This enables customers to educate themselves about low-cost measures, practices, or behaviors to reduce their energy use and save money. It is expected that, through this education and premise-specific information, customers will implement measures and/or adopt behaviors leading to more efficient energy use. Furthermore, HERs are designed to encourage customers to participate in NV Energy’s other DSM programs.

During the 2025 program year, NV Energy delivered energy reports to its specific treatment group of residential customers either through the mail (paper reports) and/or via e-mail (electronic reports) to accomplish the following objectives:

- Deliver large-scale, measurable, and cost-effective reduction in energy (kWh) consumption;
- Generate measurable demand (kW) savings;
- Strengthen NV Energy’s relationships with its customers;
- Increase customer outreach; and
- Expand awareness and adoption of NV Energy’s various program offerings within the DSM program portfolio.

The ER program was designed as a randomized control trial RCT. As such, a random group of customers was chosen from a select population to be “treatment” participants (meaning they receive HERs), and the remaining customers in the select population make up a “control group” (and receive no HERs). RCTs are considered the optimal design for an ER program for which a primary goal is to achieve measurable and verifiable energy savings.<sup>3</sup>

The ER program existed in three versions in the past. The first version, implemented from 2014-2017, focused on encouraging and achieving behavioral changes that generated measurable and verifiable energy savings. Six cohorts were targeted throughout the three-and-a-half-year program. The second version, implemented in 2018, was revised to target customers who had never interacted with NV Energy online to engage with NV Energy’s MyAccount. The 2018 HERs were

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<sup>3</sup> Stewart, J. and Todd, A. (2020). The Uniform Methods Project: Methods for Determining Energy-Efficiency Savings for Specific Measures. Golden, CO; National Renewable Energy Laboratory. NREL/SR-7A40-77435. <https://docs.nrel.gov/docs/fy21osti/77435.pdf>

sent via paper mail that explained customers’ energy usage, contained tips to reduce their energy loads, and described how to pay their bills or check their energy usage online.

In 2019, the third version of the program – also utilizing a RCT study design – focused on selecting participants that were expected to generate the greatest achievable savings. A second cohort was added to this version of the program in 2021 from the SPPC territory to support reaching savings goals for the program year. Additionally, a targeted group of 5,000 SPPC treatment customers from the 2019 cohort began receiving both emailed and paper HER communications during the 2021 program year.

A new cohort of customers was selected in 2022 for the current version of the program. For the NPC territory, a cohort of approximately 210,000 customers who had not previously received HERs were randomly assigned to receive treatment while about 40,000 were randomly designated as the control group. Similarly, for the SPPC territory, a cohort of approximately 93,000 customers who had not previously received HERs were identified in 2022 and randomly assigned to treatment and control groups of about 75,000 and 18,000, respectively. These same customers continued receiving the HER treatment through program year 2025.

The number of participants who received each report type in 2025 is summarized in Table 2-1. The first HERs for the 2025 program year were sent to treatment group customers in January 2025 and additional energy reports were sent to participants throughout the remainder of the year.

*Table 2-1. Participant Report Type*

<b>DSMC Report Type</b>	<b>NPC</b>	<b>SPPC</b>
Paper (with some e-mails)	30,752	46,641
Electronic	91,280	19,070
<b>Total</b>	<b>122,032</b>	<b>65,711</b>

## 2.1 Participants

The implementation contractor designed the program using an RCT-with-opt-out design methodology. An RCT design allocates participants to either the treatment or control group at random. All treatment participants were opted-in by NV Energy and must opt-out individually if they do not want to receive the HERs. The cohorts were designed by the implementation contractor to maximize the total number of previously untreated customers in the population.

## 2.2 Program Implementation

The implementation contractor delivered HERs throughout the year by paper mail and/or e-mail to customers in the treatment group. Example reports are included in Appendix B. Reports include a comparison to similar and energy-efficient homes, disaggregation of energy usage by appliance, and tips for reducing energy use. The first paper report for the 2025 program year was sent to treatment group customers in both territories in January 2025. The remaining reports were delivered in the remaining months of the 2025 program year.

Figure 2-1 show the average number of HERs that each NPC and SPPC treatment participant received. For program year 2025, almost all customers in both territories received close to two energy reports (either email or paper) each month.

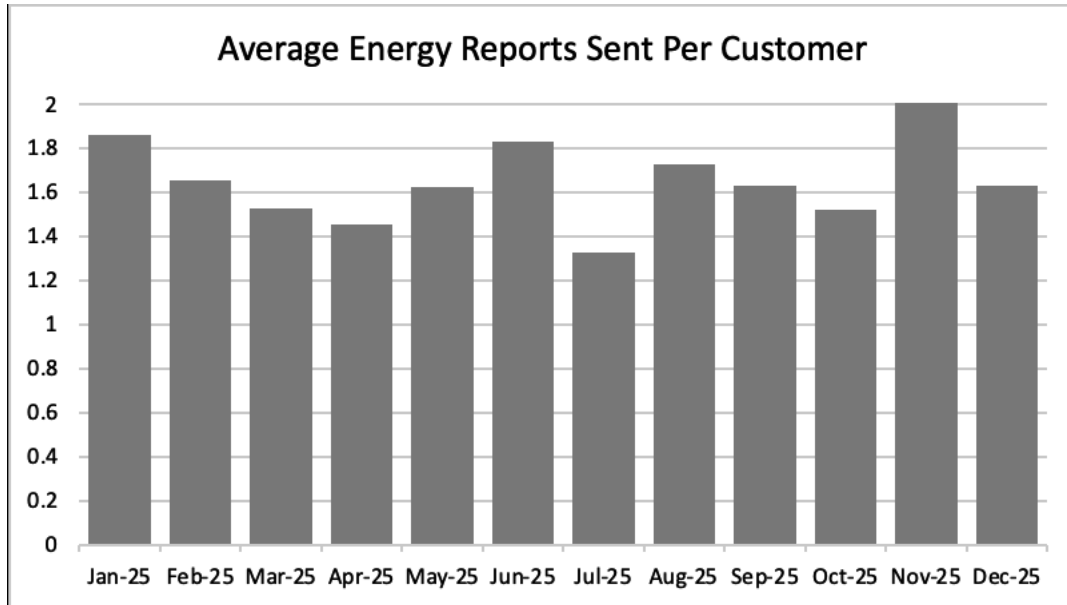


Figure 2-1. Number of Average Email Home Energy Reports Sent per Customer per Month, NPC and SPPC

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## 3 M&V METHODOLOGY

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The following chapter provides descriptions of the methodology applied by the Evaluator in performing the impact evaluation work for the 2025 ER program.

### 3.1 Calculation of Annual kWh Savings

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To determine annual kWh savings, the Evaluator utilized a panel regression model to analyze program participants' monthly billing data. The data cleaning steps and methodology for the panel regression approach are presented in the following section.

#### 3.1.1 Preparation of Data

The Evaluator incorporated several types of data into the preparation of the dataset that was utilized in the regression analysis outlined in this section:

- NV Energy provided raw monthly billing data for all treatment and control group participants from January 1, 2021, through December 31, 2025
- Regional temperature was obtained from the National Oceanic and Atmospheric Administration for Harry Reid International Airport in Las Vegas for NPC and Reno-Tahoe International Airport in Reno for SPPC
- Customer information, including:
  - Customer ID
  - Account ID
  - Zip Code
  - Rate Class
- The date that each treatment group member received their first HER
- A dual enrollment dataset compiled by the Evaluator of participants in NV Energy's other residential DSM programs

The Evaluator performed the following steps to prepare the dataset that was utilized to determine the verified energy savings for the program:

1. Verified that treatment participants were sent HERs during 2025;
2. Merged this dataset with the raw billing data provided by NV Energy;
3. Cleaned the data for duplicate bills and string characters in the monthly consumption column;
4. Calendarized billing data, which is the process of splitting bills into the appropriate calendar month by estimating the cost and usage attributable to the portion of the bill that falls in each month;
5. Removed customers with less than six bills during the pre-program year;
6. Removed customers with less than three bills during the program year;

7. Removed customers that did not have both pre-program and program year data;
8. Removed bills where consumption was denoted with an estimate flag; and
9. Removed outliers for observations that have the following characteristics:
  - For electricity, average daily usage less than 3.33 kWh or greater than an order of magnitude from the median usage; and
  - Reading duration is less than seven or greater than 37 days, indicating abnormal usage.

### 3.1.2 Control Group Testing

A dataset listing the designated control group members was provided. Because the program impacts were estimated using a mixed-effect panel regression model framework, it was necessary to verify that the treatment and control groups exhibited comparable energy consumption patterns prior to program implementation. The validity of the regression approach relies on the parallel trends assumption—that, absent the program, the two groups would have followed similar usage trajectories. An initial comparison of pre-treatment monthly energy consumption revealed statistically significant differences between the treatment and control groups, as illustrated in Figure 3-1. These baseline differences indicate that the full control group is not directly comparable to participating customers and could bias estimated savings. To improve comparability, a matching procedure was therefore applied to select a subset of control accounts with consumption characteristics similar to those of the treatment group during the pre-treatment period.

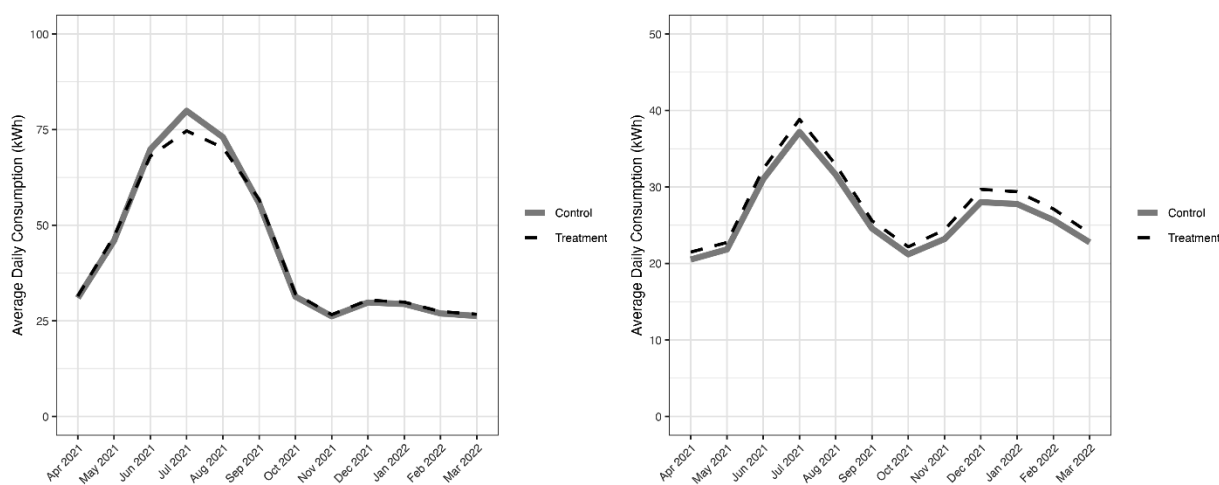


Figure 3-1. Average Daily Consumption of All Treatment vs Control Group for NPC (Left) and SPPC (Right)

### 3.1.3 Control Group Matching

The Evaluator utilized a control group matching algorithm to find control participant matches for as many treatment group participants as possible from the established ER control groups.

Control group members are selected for each treatment group member with similar seasonal electricity usage patterns:

1. Calculated mean electricity consumption for each member in both treatment and control groups for “summer”, “winter”, and “other” seasons<sup>4</sup> for a full year preceding the treatment start date;
2. Calculated propensity scores for the seasonal mean electricity consumption between treatment and control group members;
3. Selected the control group member that has the highest propensity score with a given treatment group member, i.e., a nearest neighbor algorithm was used;
4. Confirmed that the annual mean electricity consumption was not significantly different between the selected control group and the corresponding treatment group.

### 3.1.4 Methodology for Regression Approach

The Evaluator utilized the mixed-effects panel regression model specified in Equation 3-1 below to determine daily average electricity savings for treatment group members. Variable descriptions can be found in Table 3-1.

*Equation 3-1. Mixed-Effects Panel Regression Model*

$$AEC_{i,t} = \beta_1 CDD_{i,t} + \beta_2 HDD_{i,t} + \beta_3 Post_{i,t} + \beta_4 Post_{i,t} * Treat_{i,t} + \beta_5 Post_{i,t} * CDD_{i,t} + \beta_6 Post_{i,t} * HDD_{i,t} + \alpha_i Customer_i + E_{i,t}$$

---

<sup>4</sup> Summer months were defined as June through September for NPC and June through August for SPPC. Winter months were defined as December through February for NPC and November through February for SPPC. The remaining shoulder-season months were included in the “other” category.

Table 3-1. Description of Variables Used in the Regression Model

Variable	Variable Description
Average Electricity Consumption ( $AEC_{i,t}$ )	Average daily use of electricity for period $t$ for a customer (determined by dividing total usage over a billing period by the number of days in that period)
Customer	A panel of dummy variables of customer account numbers
Cooling Degree Days (CDD)	The mean cooling degree days per day during the billing period
Heating Degree Days (HDD)	The mean heating degree days per day during the billing period
Post	Post is a dummy variable, where $Post_i = "1"$ if the monthly period is after the program start date and "0" if not
Treat	Treat is a dummy variable, where $Treat_i = "1"$ if the participant is in the treatment group and "0" if not
$E_t$	$E_t$ is an error term

The subscript  $i$  denotes individual customers and  $t = 1, \dots, T(i)$  serves as a time index, where  $T(i)$  is the number of bills available for customer  $i$ . The model is defined as ‘mixed effects’ because the model decomposes its parameters into fixed effects for the heating degree days (“HDD”), cooling degree days (“CDD”), and *Post* variables and random effects (i.e., the individual customer’s base use). A fixed effect is assumed to be constant and independent of the sample. In contrast, random effects are assumed to be sources of variation (other than natural measurement error) uncorrelated with the fixed effects.

NV Energy provided the Evaluator with a dataset that included the participation start-date for each treatment group member. In the model, the first billing period after treatment is considered the ‘deadband period’. Observations in the deadband period are not included in the mixed-effects panel regression. The post period begins in the first billing period following the deadband period for the treatment and control group members. The post variable is defined as a ‘0’ in billing periods before the beginning of treatment and a ‘1’ for billing periods following the beginning of treatment.

HDD and CDD were used in the model to control for energy demand based on the outside temperature. HDD is derived from the difference between a base temperature of 65 degrees Fahrenheit, the outside temperature above which a building is assumed to need no heating, and the actual outside air temperature. Similarly, CDD is derived from the difference between the actual outside air temperature and 75 degrees Fahrenheit, the outside temperature below which a building is assumed to need no cooling. The 65 and 75 degrees Fahrenheit temperatures used in the analysis are commonly used base temperatures that are good approximations for typical residential building heating, ventilation, and air conditioning (“HVAC”) systems.

### 3.1.5 Estimating Coefficients of the Regression Model

With the panel approach, the regression model was applied to monthly billing data for each participant in the sample before and after participation in the program. For example, for paper

HERs recipients who received the first report in May 2022, the pre-period included data from May 2021 through April 2022; and the post period for the 2025 program year included data from January 2025 through the end of December 2025. Table 3-2 describes the coefficients determined using the mixed-effects panel model shown in Equation 3-1.

Table 3-2. Description of the Coefficients Estimated by the Regression Model

Coefficient	Coefficient Description
$\alpha_1$	$\alpha_1$ is a coefficient that represents the grand mean (i.e., mean of the unique customer-specific intercepts). The customer-specific intercepts control for any customer-specific differences.
$\beta_1$	$\beta_1$ is a coefficient that adjusts for the customer’s cooling season weather-sensitive usage.
$\beta_2$	$\beta_2$ is a coefficient that adjusts for the customer’s heating season weather-sensitive usage.
$\beta_3$	$\beta_3$ is a coefficient that adjusts for whether customer $i$ ’s monthly billing data in period $t$ is in the pre or post period.
$\beta_4$	$\beta_4$ is a coefficient that adjusts for whether customer $i$ is in the treatment group or the control group and whether customer $i$ ’s monthly billing data in period $t$ is in the pre or post-period. This is the coefficient that is used to determine program savings.
$\beta_5$	$\beta_5$ is a coefficient that adjusts for the interactive effect between whether customer $i$ ’s monthly billing data in period $t$ is in the pre or post-period and the customer’s cooling season weather usage.
$\beta_6$	$\beta_6$ is a coefficient that adjusts for the interactive effect between whether customer $i$ ’s monthly billing data in period $t$ is in the pre or post period and the customer’s heating season weather usage.

### 3.2 Cross Participation

Participants in both the treatment and control groups can participate in other NV Energy residential energy-efficiency programs. Additionally, the HERs sent to customers include information about other NV Energy incentives and programs, which may lead to customers adopting more energy-efficient upgrades for their home. This additional participation of HERs recipients in other NV Energy programs can lead to an increase in regression-derived savings, referred to as uplift. When a household participates in an efficiency program because of this encouragement, the utility is at risk of counting their savings twice: once in the regression-based estimate of ER program savings and again in the estimated savings for the other energy efficiency program.

In accordance with Unified Methods Project guidelines<sup>5</sup>, the estimated double-counted, per-home savings, whether positive or negative, are subtracted from the cohort’s savings estimates from the regression analysis to get total verified savings. The approach for removal of double counted savings differs based on whether the other program is a downstream program or upstream program. The following sections detail the methodology for each.

<sup>5</sup>Stewart, J. and Todd, A. (2020). The Uniform Methods Project: Methods for Determining Energy-Efficiency Savings for Specific Measures. Golden, CO; National Renewable Energy Laboratory. NREL/SR-7A40-77435. <https://docs.nrel.gov/docs/fy21osti/77435.pdf>

### 3.2.1 Downstream Programs

Downstream programs traditionally track installed measures at the customer level. NV Energy delivered customer-level tracking data for other programs offered to residential customers. The Evaluator used the verified savings from each program to remove double counting for the ER program. The residential NV Energy programs included in the double counting analysis are the Residential Demand Response, Home Energy Saver, High Efficiency Air Conditioning, Online Energy Assessments, In-Home Energy Assessments, Qualified Appliance Replacement, and Direct Install programs.

The Evaluator corrected for cross-program participation that occurred after treatment began if the treatment group participated in other programs at a higher rate than the control group. The double counted savings by cross participants were calculated on a per household level for each treatment group in each cohort as follows:

*Equation 3-2: Double Count Specification*

$$Double\ Counting = \left( \frac{OP\ kWh}{Household_{Treatment}} - \frac{OP\ kWh}{Household_{Control}} \right) \times \# Accounts_{Treatment}$$

Where:

$\frac{OP\ kWh}{Household_{Treatment}}$  = Other program kWh per household in the treatment group

$\frac{OP\ kWh}{Household_{Control}}$  = Other program kWh per household in the control group

$\# Accounts_{Treatment}$  = Total accounts in the treatment group

To estimate double counted program savings from downstream program uplift, the following steps were performed:

1. ER program treatment and control group customers were matched to the DSMC program tracking data by customer ID; and
2. The difference between treatment and control group customers in average savings attributable to other energy-efficiency programs was calculated to estimate the savings per participant due to uplift.

For programs that had no savings available for individual customers, the Evaluator assumed that the per customer savings were the same in the treatment and control groups, and only the double counting effect associated with different portions of cross participants in the treatment and control groups was removed.

### 3.2.2 Upstream Programs

Estimating savings from program uplift for measures that the utility does not track at the customer level is more difficult. Because upstream programs are unable to track participation at the customer level, the approach to estimating program uplift differs from that of downstream programs. Upstream program uplift estimation therefore requires household surveys to be conducted. The

Home Energy Saver upstream program was considered, including the installation of clothes dryers, advanced power strips, room air conditioners, clothes washers, heat pump clothes dryers, refrigerators, and air purifiers.

To determine if there was a significant difference in the number of Home Energy Saver instrument installed by the treatment and control groups, the Evaluator included questions in the program’s participant survey asking if participants had installed these instruments under the program. The Evaluator then performed a two-sample z-test using the responses from these questions. The responses for 2025 indicated that there was no statistically significant difference in the number of incentivized equipment purchased by the treatment and control groups.

### 3.3 Determination of Effective Useful Life

EUL or measure life is 1.0 year from the beginning of the treatment period for the ER program, consistent with what was presented in the DSM update filed on July 1, 2025. This is the most accurate estimate for an EUL for a cohort of ER treatment participants that are treated year-after-year.

### 3.4 Determining the Energy Savings Curve for the 2025 HERs

To allocate energy (kWh) savings per month and rate class, and to allocate critical peak demand (kW) savings per month and rate class, the Evaluator developed a program specific ‘HERs Energy Savings Curve’ for each NV Energy territory. The curve for NPC is depicted in Figure 3-2 and the curve for SPPC is depicted in Figure 3-3. The HERs Energy Savings Curve is developed from interval meter data from 2021-2022 for a sample of control group customers for the ER program. The ER Energy Savings Curve shows that the savings attributable to the ER program are greatest during summer or peak cooling months.

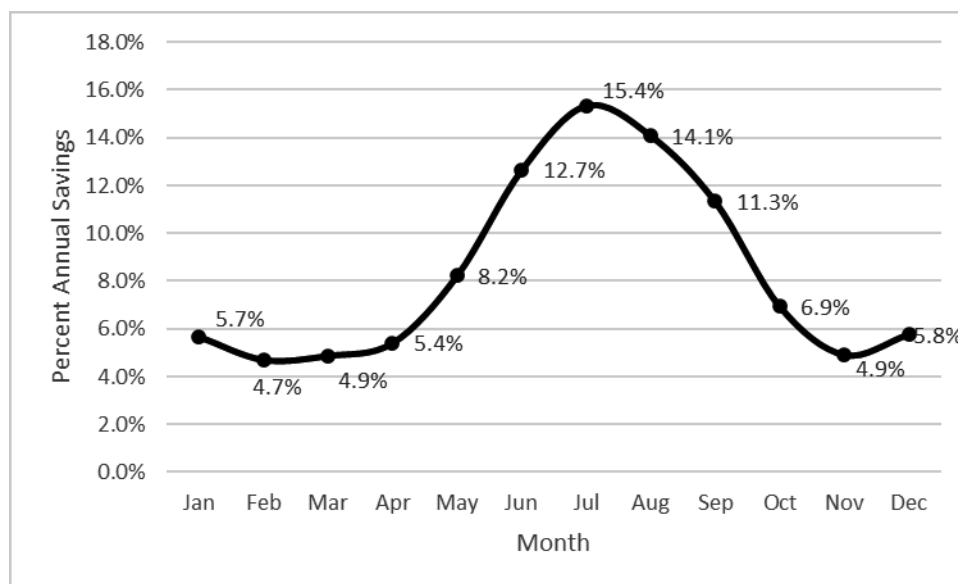


Figure 3-2. Annualized Energy Savings Curve, NPC

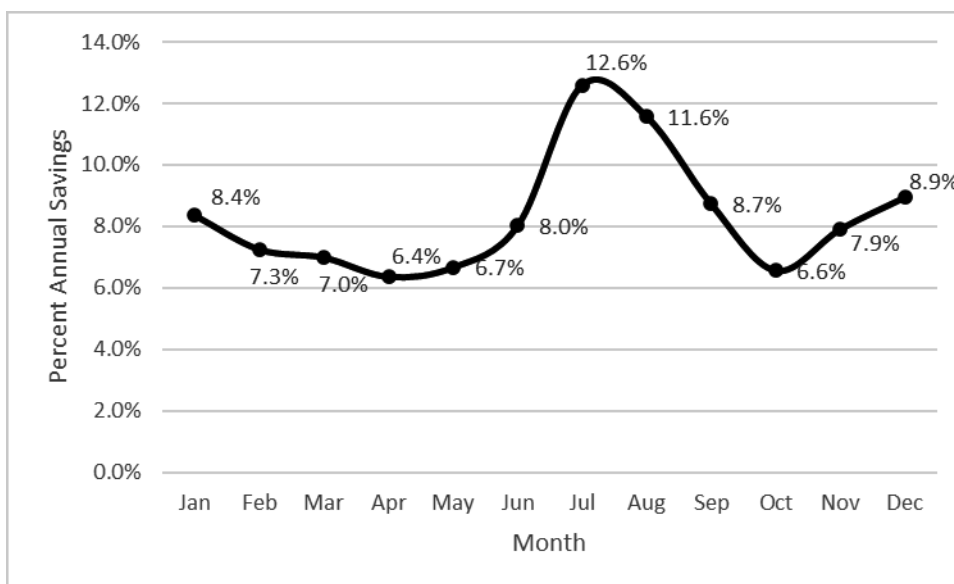


Figure 3-3. Annualized Energy Savings Curve, SPPC

Table 3-3 provides the source and applicability of the 2025 HERs Energy Savings Curve, which the Evaluator employed to calculate energy (kWh) savings per month and critical peak demand (kW) savings per month. Appendix A: ER Program Savings per Month by Rate Class in this M&V report provides tables in which kWh and kW savings per month are listed for all applicable rate classes.

Table 3-3. Energy Savings Curves Specific to 2025 ER Program

Energy Savings Curve	Source	Applicability
Program-level curve for PY2025 ER Program	NPC ER program-level energy savings curve from PY2025 ER kW Guru™ library	HERs residential behavioral treatment group
Program-level curve for PY2025 ER Program	SPPC ER program-level energy savings curve from PY2025 ER kW Guru™ library	HERs residential behavioral treatment group

For additional general discussion of energy savings curves, and a detailed discussion of the Evaluator’s analytical steps for determining critical peak demand (kW) savings, please refer to the separately provided M&V Technical Appendix 1.<sup>6</sup>

### 3.4.1 Calculations of First Year kWh Savings

First-year kWh savings were calculated on a per month basis using the number of days remaining in the year along with the normalized energy savings curve described above to determine the share

<sup>6</sup> The Evaluator’s M&V Technical Appendix 1 M&V Topics: Calculation Methodology and Monthly Energy (kWh) Savings per Rate Class, March, 2026. The M&V topics described in this technical appendix include the Evaluator’s calculation methodology for critical peak demand (kW) savings and determination of monthly energy (kWh) savings per rate class.

of annualized kWh savings realized during the 2025 calendar year. First-year kWh savings were summed by month across each customer rate class in the program population to determine first-year kWh savings per month per rate class.

### 3.4.2 Calculation of Critical Peak Demand kW Savings

The calculation of kW reductions is based on the per-treatment participant kWh savings values. The steps in the calculation of kW reductions are as follows.

The critical peak demand period per month is defined as the hour when the system load is most likely to reach a critical peak. Based on the Evaluator’s analysis of historical data, the system load is most likely to reach an annual maximum level on any given July or August day during the hour ending at either 16:00 hours (4:00 pm) or 17:00 hours (5:00 pm) in southern Nevada, and at either 17:00 hours (5:00 pm) or 18:00 hours (6:00) pm in northern Nevada. The critical peak demand hours by month are shown in Table 3-4.

Critical peak demand (kW) savings were calculated per month and by rate class utilizing ex-post program savings determinations and appropriate 8,760-hour energy savings curves. For each 2025 treatment participant in this program, ex-post annualized energy savings were allocated to the treatment participant’s rate class and the specific energy savings curve. The result was a two-dimensional matrix providing per-rate-class savings per hour for all 8,760 hours of the typical calendar year. The results were inspected for each month to identify the maximum average hourly demand by hour (or hours) per month that is shown in Table 3-4.

Table 3-4. NPC and SPPC Monthly Critical Peak Demand Hour

Month	Critical Peak Period, NPC		Critical Peak Period, SPPC	
	Hour(s)	Ending at:	Hour(s)	Ending at:
January	18- 20	18:00, 19:00, or 20:00	18, 19	18:00 or 19:00
February	19, 20	19:00 or 20:00	19, 20	19:00 or 20:00
March	20	20:00	20, 21	20:00 or 21:00
April	20	20:00	21	21:00
May	17, 18	17:00 or 18:00	21	21:00
June	17, 18	17:00 or 18:00	17, 18	17:00 or 18:00
July	16-18	16:00, 17:00, or 18:00	17, 18	17:00 or 18:00
August	16, 17	16:00 or 17:00	17, 18	17:00 or 18:00
September	17	17:00	17, 18	17:00 or 18:00
October	18, 19	18:00 or 19:00	19, 20	19:00 or 20:00
November	18, 19	18:00 or 19:00	18, 19	18:00 or 19:00
December	18, 19	18:00 or 19:00	18, 19	18:00 or 19:00

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### 3.5 Survey Sampling Methodology

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The Evaluator delivered surveys to a random sample of treatment and control participants in the ER program. The surveyed population included both the NPC and SPPC customers. The surveys were designed to determine incentivized lighting purchases by treatment and control participants. Sampling is a statistical process whereby the evaluator attempts to select and evaluate a subset of participants that the evaluator has determined are representative of the whole population of participants. For the 2025 HER participant surveys, the required statistical confidence interval is precision of  $\pm 10$  percent at the 90 percent confidence level (also called ‘90/10 confidence’).

Given the specified 90/10 confidence interval, the required sample size depends on the coefficient of variation (‘c.v.’) for the variable of interest. Using the c.v. of 0.5, the Evaluator determined that the sample size needed to achieve  $\pm 10$  percent precision at the 90 percent confidence level is 68 customer surveys.<sup>7</sup> Thus, survey samples of at least 68 customers from both the treatment and control group are necessary to obtain an estimate that meets the 90/10 confidence requirement.

Separate random samples of treatment and control participants were selected, for whom e-mail addresses were provided by NV Energy. The treatment and controls surveys were administered online to these sample groups.

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<sup>7</sup> Qualrus used a c.v. = 0.5 as recommended by the California Evaluation Protocols for homogenous measures.

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## 4 M&V RESULTS

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### 4.1 NPC Results

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The following section reports the findings from the impact analysis of energy and demand savings for the 2025 NPC Energy Reports program.

#### 4.1.1 Data Cleaning

Table 4-1 shows the data cleaning steps the Evaluator took and the number of accounts remaining in the analysis after each data cleaning step.

*Table 4-1. Participants Number of Accounts After Each Data Cleaning Step, NPC*

Cleaning Step	Number of Accounts Remaining Following the Data Cleaning Step	
	Control	Treatment
Participant list	40,643	122,032
Accounts with insufficient data removed	40,643	121,131
Bill records that are estimates removed	40,629	121,127
Outliers removed	40,624	121,119
Number of accounts before matching	40,622	105,448
<b>Number of accounts in final model</b>	<b>22,958</b>	<b>77,249</b>

#### 4.1.2 Pre-Program Year Equivalency

The Evaluator verified equivalency in pre-program year kWh consumption between the treatment and control groups. Figure 4-1 provide the graphical representation of the monthly average daily kWh consumption of the treatment and control groups for the entire RCT collectively.

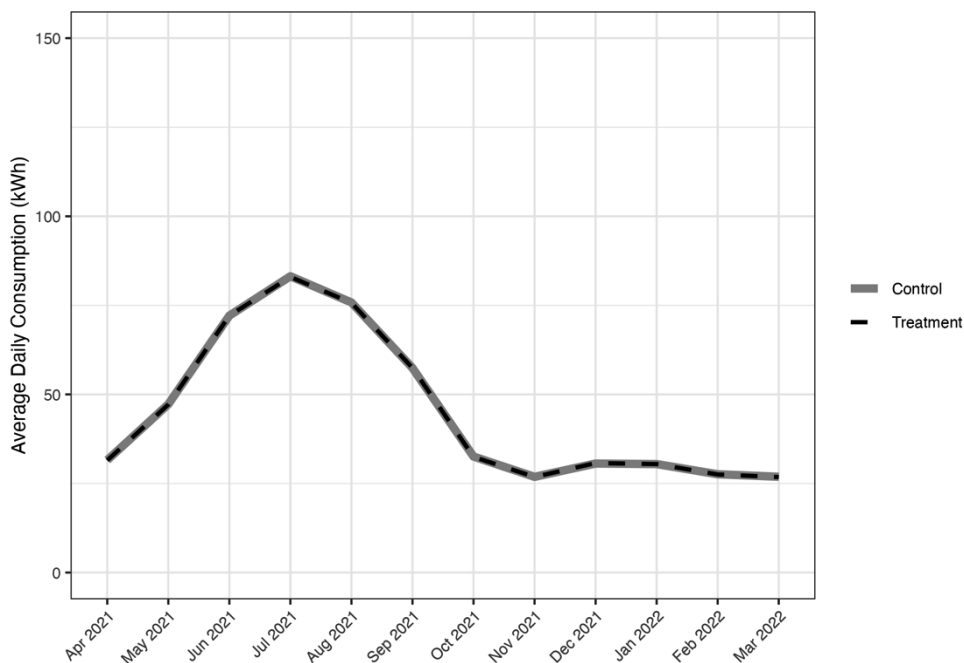


Figure 4-1. Average Daily Consumption of All Treatment vs Control Group, NPC

Table 4-2 provides the results of the statistical test comparing the average daily kWh consumption of the treatment and control groups during the pre-program year. The p-value is greater than 0.10, thus the pre-program consumption between the treatment and control groups shows no statistical difference.

Table 4-2. Statistical Comparison of Pre-Program Consumption, NPC

Treatment		Control		t test p value
n	Average Daily Consumption (kWh)	n	Average Daily Consumption (kWh)	
77,249	44.7	22,958	44.8	0.59

### 4.1.3 Regression-Derived Energy Savings

Table 4-3 provides the results of the mixed-effects panel regression modeling that was performed on the data without removing cross participants from the model. Average daily energy savings for the treatment groups are derived from the regression model coefficient  $\beta_4$ , defined in Table 3-2. The modeled results for all four analysis groups were statistically significant.

Table 4-3. Results of Mixed Effects Panel Regression Modeling, NPC

Statistic	Intercept	HDD65	CDD75	Post	Post x HDD65	Post x CDD75	Post x Treat	R-squared
coefficient	14.04	0.84	1.90	9.20	-0.73	-0.39	-0.47	0.81
t-value	331.25	527.19	2095.68	268.71	-255.67	-252.96	-20.64	

#### 4.1.4 Cross Participation

##### 4.1.4.1 Remove Downstream Programs

Table 4-4 shows that there were 28,227 unique cross participants in the treatment group (23.2 percent of the treatment group), and 6,434 unique cross participants in the control group (15.7 percent of the control group).

Table 4-4. Cross Participation in NV Energy’s Other Downstream DSM Programs, NPC

DSM Program	Control		Treatment	
	n	%	n	%
Residential Air Conditioning	34	0.1%	168	0.1%
Direct Install	77	0.2%	400	0.3%
Residential Demand Response	6,004	14.7%	25,870	21.3%
In-Home Energy Assessments	87	0.2%	464	0.4%
Low Income	0	0.0%	1	0.0%
Online Energy Assessments	145	0.4%	862	0.7%
Pool Pumps	87	0.2%	462	0.4%
<b>Unique Cross Participants</b>	<b>6,434</b>	<b>15.7%</b>	<b>28,227</b>	<b>23.2%</b>

Table 4-5 lists the program savings for other programs that had cross participants with the ER program, and the adjustments the Evaluator made on the regression results based on cross participants with these programs.

Table 4-5. Savings of Other Downstream DSM Programs and ER Savings Adjustments, NPC

DSM Program	ER Savings Adjustment (kWh)
Residential Air Conditioning	-0.0010
Direct Install	-0.00037
Residential Demand Response	-0.017
In-Home Energy Assessments	-0.0006
Low Income	0.000003
Online Energy Assessments	-0.0011
Pool Pumps	-0.0059
<b>Total Adjustment</b>	<b>-0.026</b>

4.1.4.2 Remove Upstream Programs

As upstream programs are unable to track participation at the customer level, the upstream program uplift estimation requires household surveys to be conducted. In the Evaluator’s annual M&V customer survey, respondents were asked if they had received rebates from NV Energy on any of the listed Home Energy Saver upstream measures during the program year (Q22, Appendix D). Table 4-6 shows a summary of reported cross participation.

Table 4-6. Summary of Plug Loads/Home Energy Saver Survey Question Responses, NPC

Upstream Measure	Control		Treatment		P value
	n	%	n	%	
Clothes Dryer	1	1.4%	3	2.7%	0.97
Advanced Power Strip	0	0.0%	1	0.9%	1.0
Room AC	0	0.0%	2	1.8%	0.69
Clothes Washer	1	1.4%	3	2.7%	0.97
Heat Pump Clothes Dryer	0	0.0%	3	2.7%	0.43
Refrigerator	1	1.4%	4	3.6%	0.69
Air Purifier	0	0.0%	2	1.8%	0.69

The Evaluator then performed a two-sample z-test using the responses from these questions. The results of the test indicated that the difference between the treatment and control group cross participation was not statistically significant at a 90 percent confidence level. Therefore, there is no need to remove the double-counted savings from this program.

### 4.1.5 Calculated Energy Savings

Table 4-7 lists the ex-post daily energy savings values. Ex-post annual energy savings per participant are calculated by multiplying the ex-post daily energy savings per participant by 365 days; program-level energy savings are determined by multiplying the ex-post annual energy savings per participant by the total number of treatment participants.

*Table 4-7. Summary of Annual kWh Savings, NPC*

Average Daily Energy Savings (kWh) per Participant	Annual Energy Savings (kWh) per Participant	Participants	Ex-post Verified Energy Savings (kWh)
0.44	161	122,032	19,647,152

Table 4-8 provides the verified, ex-post savings compared to the reported ex-ante energy savings for the program.

*Table 4-8. Energy Savings Realization Rate, NPC*

Ex-post Verified Energy Savings (kWh)	Ex-ante Energy Savings (kWh)	Realization Rate
19,647,152	21,721,696	90.4%

### 4.1.6 Calculated Critical Peak Demand Reduction

Critical peak demand savings (kW savings) were calculated by month and by rate class, utilizing ex-post verified energy (kWh) savings that were disaggregated into 8,760 hourly bins with an appropriate program-level, 8,760-hour energy savings curve. The annual summer critical peak demand savings for this program was 7,768.91 kW. The complete table of ex-post verified critical peak demand (kW) savings by month and rate class are provided in Appendix A: ER Program Savings per Month by Rate Class.

### 4.1.7 Calculation of Ex-Post Precision

The Evaluator achieved ex-post precision of better than  $\pm 10$  percent at the 90 percent confidence level. Statistical analysis of participants' monthly billing data yields the most accurate and precise determination of actual energy savings achieved through the distribution of HERs. Analyzing participants' billing data across the whole program achieves optimal precision, given that 1) sampling error is minimized when analyzing billing data for a census of participants, and 2) measurement error is null or near zero given that NV Energy billing data is correct.

#### 4.1.8 Treatment Participant Surveys

In 2025, customers may have received electronic and/or paper reports from NV Energy. The two subsections below summarize survey responses from customers indicated to have received electronic reports only or a mix of paper and electronic forms of HERs.

##### 4.1.8.1 Electronic Report Recipients

Among NPC customers who received only the electronic version of the HERs, 76 completed the online survey. A summary of their responses is provided below.

- **Frequency of HERs:** In 2025, 41 percent of respondents recalled receiving five or fewer HERs, 42 percent recalled receiving six or more, while 17 percent could not recall how many HERs they received. Customers who received only electronic HERs were more likely to receive six or more reports than their counterparts who received a mix of paper and electronic HERs.
- **Engagement with HERs:** Forty-four percent of respondents reported reading the reports thoroughly, 32 percent read parts of them, while 20 percent only glanced at the visuals. No respondents reported not looking at the report. Most people found the information in the reports easy (35 percent) or very easy (44 percent) to understand. Most respondents believe that the information contained in their HER about their home’s energy use was moderately (51 percent) or very (31 percent) accurate. Fifty-five percent of respondents who didn’t live alone shared their HER with others in their household.
- **HER Format Preference:** Seventy-eight percent of respondents preferred to receive their HER by email, 6 percent preferred paper by mail, 10 percent preferred both, and 5 percent didn’t have a preference.
- **HER Satisfaction:** Overall, most respondents were satisfied with HERs (43 percent satisfied, 30 percent very satisfied), while 9 percent expressed dissatisfaction. Most respondents were satisfied with the information provided about their home’s energy use (21 percent satisfied, 50 percent very satisfied), the number of emails they received about their energy use (20 percent satisfied, 45 percent very satisfied), how they receive their HER (25 percent satisfied, 52 percent very satisfied), and how often they receive their HER (26 percent satisfied, 48 percent very satisfied).
- **HER Reducing Energy Bill:** Forty-two percent of respondents said that HERs have helped them reduce their energy bill (8 percent significantly, 35 percent somewhat), while 44 percent said that it hasn’t helped. Of those who reported that it hasn’t helped reduce their energy bill, 59 percent said they have changed their behavior.
- **Energy-Efficient Upgrades:** In 2025, 60 percent of respondents reported installing LED lightbulbs or fixtures, while 24 percent installed window treatments. Other reported upgrades in 2025 included:
  - Installing a programmable or smart thermostat (21 percent)
  - Installing a smart power strip (21 percent)

- Adding weather stripping or caulking (21 percent)
- Additional upgrades mentioned included installing low-flow showerheads or faucet aerators (20 percent), installing a dimmer switch (19 percent), and installing an energy efficient water heater (16 percent).
- **Routine Energy-Saving Actions:** Respondents have taken the following energy saving actions:
  - Replacing air filters (100 percent)
  - Turning off lights or ceiling fans when not in room (93 percent)
  - Reducing thermostat temperature in winter / increasing in summer (85 percent)
  - Using dishwasher or laundry machines only with full loads (85 percent)
  - Cleaning clothes dryer vent (82 percent)
  - Other commonly taken actions include washing clothes in cold water (75 percent), checking ducts for leaks (67 percent), tuning-up air conditioning and/or heating system (65 percent), letting dishes air dry (63 percent), and reducing shower time (58 percent)
- **Perceived Energy Savings:** After making changes, 42 percent of respondents reported a decrease in energy bills, while 8 percent observed an increase. Twenty-nine percent reported no change, and 11 percent said it was too soon to tell. Among those who noticed savings, 36 percent were very satisfied, 46 percent were satisfied, 7 percent were neutral, 4 percent were dissatisfied and 7 percent were very dissatisfied.
- **PowerShift Rebate Participation:** In 2025, 95 percent of respondents said they did not receive a PowerShift rebate from NV energy. Five percent of respondents received a rebate on an ENERGY STAR certified clothes dryer, an ENERGY STAR certified clothes washer, an ENERGY STAR certified heat pump clothes dryer, and an ENERGY STAR certified refrigerator. Four percent of respondents received a rebate on an ENERGY STAR certified room air conditioner, another 4 percent on ENERGY STAR certified air purifier, and 2 percent on an advanced power strip. Of the people who reported receiving a rebate, 67 percent said that their HER was important in their decision to participate in the rebates.
- **Recommendations for Improving HERs:** Almost half of respondents (47 percent) recommended providing more information about rebates or incentives in HERS, and 39 percent recommended better comparisons to similar homes. Other recommendations include more detailed energy usage breakdowns (35 percent), a digital tool or dashboard to track energy use (27 percent), more customized energy saving tips (16 percent) and requesting the reports be in kWh rather than dollars (6 percent).
- **Overall Satisfaction with NV Energy:** More than half of respondents were satisfied with NV Energy (43 percent somewhat satisfied, 22 percent very satisfied), 6 percent were dissatisfied, 5 percent were very dissatisfied, and 25 percent were neutral.

#### 4.1.8.2 Paper & Electronic Report Recipients

Among NPC customers who receive both paper and electronic HERs, 75 surveys were completed. An abbreviated summary of these survey responses is provided below.

- **Frequency of HERs Received:** In 2025, 63 percent of respondents recalled receiving five or fewer HERs, 19 percent recalled receiving six or more, while 19 percent could not recall. Customers who received both paper and electronic HERs were less likely to receive six or more reports than their counterparts who received only electronic HERs.
- **Engagement with HERs:** Forty-two percent of respondents reported reading the reports thoroughly, 41 percent read parts of them, 16 percent only glanced at the visuals. No respondents reported not looking at the report. Most people found the information in the reports easy (47 percent) or very easy (33 percent) to understand. Most respondents believe that the information contained in their HER about their home’s energy use was moderately (42 percent) or very (25 percent) accurate. Of people who found the report to be not at all accurate (2 percent) or a little accurate (17 percent), 55 percent reported that comparisons to similar homes weren’t accurate. Sixty-eight percent of respondents who didn’t live alone shared their HER with others in their household.
- **HER Format Preference:** Forty-seven percent of respondents preferred to receive their HER by email, 30 percent preferred paper by mail, 14 percent preferred both, and 10 percent didn’t have a preference.
- **HER Satisfaction:** Overall, most respondents were satisfied with the HERs (45 percent satisfied, 23 percent very satisfied), while 7 percent expressed dissatisfaction. Similarly, most respondents were satisfied with the information provided about their home’s energy use (31 percent satisfied, 31 percent very satisfied), the number of emails they received about their energy use (30 percent satisfied, 21 percent very satisfied), how they receive their HER (33 percent satisfied, 33 percent very satisfied), and how often they receive their HER (33 percent satisfied, 28 percent very satisfied).
- **HER Reducing Energy Bill:** Forty-seven percent of respondents said that HERs have helped them reduce their energy bill (5 percent significantly, 42 percent somewhat), while 47 percent said that it hasn’t helped. Of those who reported that it hasn’t helped reduce their energy bill, 86 percent said they have changed their behavior.
- **Energy-Efficient Upgrades:** In 2025, 73 percent of respondents reported installing LED lightbulbs or fixtures, while 40 percent installed a dimmer switch and 32 percent installed a smart power strip. Other upgrades included:
  - Installing energy efficient fans (31 percent)
  - Installing an energy efficient water heater (29 percent)
  - Installing flow-flow showerheads or faucet aerators (29 percent)
  - Additional upgrades mentioned included installing energy efficient pool equipment (28 percent), installing a programmable or smart thermostat (26 percent), and adding weather stripping or caulking (23 percent).

- **Routine Energy-Saving Actions:** Respondents have taken the following energy saving actions:
  - Replacing air filters (98 percent)
  - Turning off lights or ceiling fans when not in room (94 percent)
  - Using dishwasher or laundry machines only with full loads (87 percent)
  - Cleaning clothes dryer vent (84 percent)
  - Reducing thermostat temperature in winter / increasing in summer (76 percent)
  - Other commonly taken actions include letting dishes air dry (74 percent), washing clothes in cold water (72 percent), tuning-up air conditioning and/or heating system (67 percent), reducing shower time (65 percent), and checking ducts for leaks (58 percent)
- **Perceived Energy Savings:** After making changes, 46 percent of respondents reported a decrease in energy bills, while 3 percent observed an increase. Thirty-four percent reported no change, and 10 percent said it was too soon to tell. Among those who noticed savings, 18 percent were satisfied and 61 percent were very satisfied, 11 percent were neutral, while 4 percent were dissatisfied and 4 percent were very dissatisfied.
- **PowerShift Rebate Participation:** In 2025, 98 percent of respondents said they did not receive a PowerShift rebate from NV energy. Two percent of respondents received a rebate on an ENERGY STAR certified refrigerator. Of the people who reported receiving a rebate, 100 percent said that the HER was important in their decision to participate in the rebates.
- **Recommendations for Improving HERs:** More than half of respondents (61 percent) recommended providing more information about rebates or incentives in HERS, and 39 percent recommended a digital tool or dashboard to track energy use. Other recommendations include more detailed energy usage breakdowns (31 percent), better comparisons to similar homes (27 percent), more customized energy saving tips (27 percent).
- **Overall Satisfaction with NV Energy:** More than half of respondents were satisfied with NV Energy (36 percent somewhat satisfied, 22 percent very satisfied), 12 percent were dissatisfied, 2 percent were very dissatisfied, and 27 percent were neutral.

## 4.2 SPPC Results

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The following section reports the findings from the impact analysis of energy and demand savings in the 2025 SPPC ER program.

### 4.2.1 Data Cleaning

Table 4-9 shows the data cleaning steps the Evaluator took and the number of accounts remaining in the analysis after each data cleaning step.

Table 4-9. Participants Number of Accounts After Each Data Cleaning Step, SPPC

Cleaning Step	Number of Accounts Remaining Following the Data Cleaning Step	
	Control	Treatment
Participant list	18,583	65,711
Accounts with insufficient data removed	18,582	63,203
Bill records that are estimates removed	18,582	63,196
Outliers removed	18,575	63,131
Number of accounts before matching	18,538	57,239
<b>Number of accounts in final model</b>	<b>10,534</b>	<b>38,623</b>

### 4.2.2 Pre-Program Year Equivalency

The Evaluator verified equivalency in pre-program year kWh consumption between the treatment and control groups. Figure 4-2 provide the graphical representation of the monthly average daily kWh consumption of the treatment and control groups who have received the paper reports, electronic reports, or both types of report.

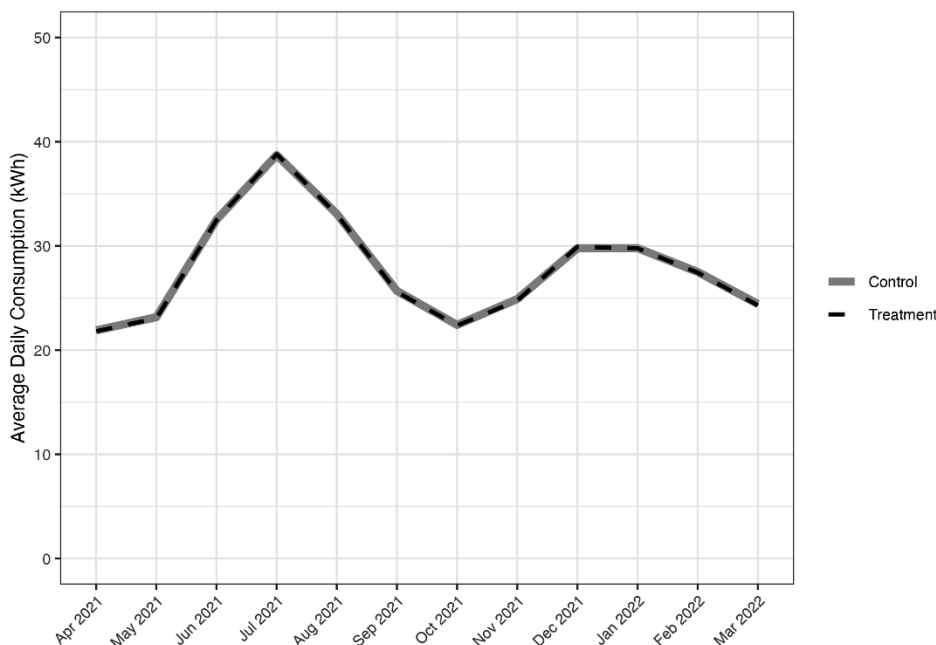


Figure 4-2. Average Daily Consumption of All Treatment vs Control Group, SPPC

Table 4-10 provides the results of the statistical test comparing the average daily kWh consumption of the treatment and control groups during the pre-program year. The p-value is greater than or equal to 0.10. Thus, the Evaluator did not consider the pre-program consumption between the treatment and control groups to be statistically different.

Table 4-10. Statistical Comparison of Pre-Program Consumption, SPPC

Treatment		Control		t test p value
n	Average Daily Consumption (kWh)	n	Average Daily Consumption (kWh)	
38,623	23.4	10,534	23.5	0.12

### 4.2.3 Regression-Derived Energy Savings

Table 4-11 provides the results of the mixed-effects panel regression modeling that was performed on the data. Average daily energy savings for the treatment groups are derived from the regression model coefficient  $\beta_4$ , defined in Table 3-2. The Evaluator found statistically significant energy savings for the treated customers.

Table 4-11. Results of Mixed-Effects Panel Regression Modeling, SPPC

Statistic	Intercept	HDD65	CDD75	Post	Post x HDD65	Post x CDD75	Post x Treat	R-squared
coefficient	11.90	0.43	1.27	1.28	-0.052	-0.033	-0.39	0.63
t-value	263.78	395.18	600.28	29.97	-27.10	-8.08	-18.46	

### 4.2.4 Cross Participation

#### 4.2.4.1 Remove Upstream Programs

Table 4-12 shows that there were 7,891 unique cross participants in the treatment group (12.5 percent of the treatment group), and 1,587 unique cross participants in the control group (8.5 percent of the control group).

Table 4-12. Cross Participation in NV Energy’s Other Downstream DSM Programs, SPPC

DSM Program	Control		Treatment	
	n	%	n	%
Residential Air Conditioning	11	0.1%	59	0.1%
Direct Install	18	0.1%	109	0.2%
Residential Demand Response	1,501	8.1%	7,270	11.5%
In-Home Energy Assessments	21	0.1%	120	0.2%
Low Income	0	0.0%	1	0.0%
Online Energy Assessments	36	0.2%	331	0.5%
Pool Pumps	0	0.0%	1	0.0%
<b>Unique Cross Participants</b>	<b>1,587</b>	<b>8.5%</b>	<b>7,891</b>	<b>12.5%</b>

Table 4-13 lists the program savings for other programs that had cross participants with the ER program, and the adjustments the Evaluator made on the regression results based on cross participants with these programs.

Table 4-13. Savings of Other Downstream DSM Programs and ER Savings Adjustments, SPPC

DSM Program	ER Savings Adjustment (kWh)
Residential Air Conditioning	-0.00017
Direct Install	-0.00015
Residential Demand Response	-0.015
In-Home Energy Assessments	-0.00020
Low Income	-0.0000078
Online Energy Assessments	-0.0018
Pool Pumps	0.00
<b>Total Adjustment</b>	<b>-0.017</b>

#### 4.2.4.2 Remove Upstream Programs

As upstream programs are unable to track participation at the customer level, the upstream program uplift estimation requires household surveys to be conducted. In the Evaluator’s annual M&V customer survey, respondents were asked if they had received rebates from NV Energy on any of the listed Home Energy Saver upstream measures during the program year (Q22, Appendix D). Table 4-14 shows a summary of reported cross participation.

Table 4-14. Summary of Plug Loads/Home Energy Saver Survey Question Responses, SPPC

Upstream Measure	Control		Treatment		P value
	n	%	n	%	
Clothes Dryer	4	4.1%	2	1.8%	0.56
Advanced Power Strip	1	1.0%	2	1.8%	1.00
Room AC	2	2.0%	2	1.8%	1.00
Clothes Washer	4	4.1%	2	1.8%	0.56
Heat Pump Clothes Dryer	0	0.0%	0	0.0%	N/A
Refrigerator	4	4.1%	2	1.8%	0.56
Air Purifier	0	0.0%	1	0.9%	1.00

The Evaluator then performed a two-sample z-test using the responses from these questions. The results of the test indicated that the difference between the treatment and control group cross participation were not statistically significant at a 90 percent confidence level. This indicated that there was no statistically significant difference in the number of HES program discounted purchases made in 2025 by treatment and control group customers. As such, the use of a control group in the regression analysis sufficiently accounted for any upstream program participation and no additional savings removal was required.

#### 4.2.5 Calculated Energy Savings

Table 4-15 lists the ex-post daily energy savings values. Ex-post annual energy savings per participant are calculated by multiplying the ex-post daily energy savings per participant by 365 days; program-level energy savings are determined by multiplying the ex-post annual energy savings per participant by the total number of treatment participants.

Table 4-15. Summary of Annual kWh Savings, SPPC

Average Daily Energy Savings (kWh) per Participant	Annual Energy Savings (kWh) per Participant	Participants	Ex-post Verified Energy Savings (kWh)
0.38	139	65,711	9,133,829

Table 4-16 provides the verified, ex-post savings compared to the reported ex-ante energy savings for the program.

Table 4-16. Energy Savings Realization Rate, SPPC

Ex-post Verified kWh Savings	Ex-ante kWh Savings	Realization Rate
9,133,829	8,411,008	108.6%

#### 4.2.6 Calculated Critical Peak Demand Reduction

Critical peak demand savings (kW savings) were calculated by month and by rate class, utilizing ex-post verified energy (kWh) savings disaggregated into 8,760 hourly bins with an appropriate program-level, 8,760-hour energy savings curve. The annual summer critical peak demand savings for this program was 3,089.79 kW. The complete table of ex-post verified critical peak demand (kW) savings by month and rate class are provided in Appendix A: ER Program Savings per Month by Rate Class.

#### 4.2.7 Calculation of Ex-Post Precision

The Evaluator achieved ex-post precision of  $\pm 10$  percent at the 90 percent confidence level. Statistical analysis of participants’ monthly billing data yields the most accurate and precise determination of actual energy savings achieved through the distribution of HERs. Analyzing participants’ billing data across the whole program achieves optimal precision, given that 1) sampling error is minimized when analyzing billing data for a census of participants, and 2) measurement error is null or near zero given that NV Energy billing data is correct.

#### 4.2.8 Treatment Participant Surveys

In 2025, customers may have received electronic and/or paper reports from NV Energy. The two subsections below summarize survey responses from customers indicated to have received electronic reports only or a mix of paper and electronic forms of HERs.

##### 4.2.8.1 Electronic Report Recipients

Among SPPC customers who received only an electronic version of the HERs, 70 surveys were completed. An abbreviated summary of these survey responses is provided below.

- **Frequency of HERs Received:** In 2025, 57 percent of respondents recalled receiving five or fewer HERs, 21 percent recalled receiving six or more, while 21 percent could not recall. Customers who received only electronic HERs were less likely to receive six or more reports than their counterparts who received a mix of paper and electronic HERs.
- **Engagement with HERs:** Thirty-eight percent of respondents reported reading the reports thoroughly, 40 percent read parts of them, 18 percent only glanced at the visuals and 1 percent did not look at the reports at all. The reason given for reading so little of the report was that tips were not applicable to their home. Most people found the information in the reports easy (62 percent) or very easy (21 percent) to understand. Most respondents believe that the information contained in their HER about their home’s energy use was moderately

(51 percent) or very (31 percent) accurate. Fifty-two percent of respondents who didn't live alone shared their HER with others in their household.

- **HER Format Preference:** Sixty-five percent of respondents preferred to receive their HER by email, 17 percent preferred paper by mail, 11 percent preferred both, and 8 percent didn't have a preference.
- **HER Satisfaction:** Overall, most respondents were satisfied with the HERs (50 percent satisfied, 32 percent very satisfied), while 2 percent expressed dissatisfaction. Most respondents were satisfied with the information provided about their home's energy use (31 percent satisfied, 50 percent very satisfied), the number of emails they received about their energy use (28 percent satisfied, 44 percent very satisfied), how they receive their HER (23 percent satisfied, 52 percent very satisfied), and how often they receive their HER (23 percent satisfied, 48 percent very satisfied).
- **HER Reducing Energy Bill:** Thirty-seven percent of respondents said that their HER has helped them reduce their energy bill (3 percent significantly, 33 percent somewhat), while 50 percent said that it hasn't helped. Of those who reported that it hasn't helped reduce their energy bill, 57 percent said they have changed their behavior.
- **Energy-Efficient Upgrades:** In 2025, 51 percent of respondents reported installing LED lightbulbs or fixtures, while 26 percent installed a programmable or smart thermostat. Other upgrades included:
  - Adding weather stripping or caulking (22 percent)
  - Installing a smart power strip (20 percent)
  - Installing window treatments (18 percent)
  - Additional upgrades mentioned included installing a dimmer switch (17 percent), installing low-flow showerheads or faucet aerators (17 percent), installing an energy efficient water heater (15 percent), and installing energy efficient fans (15 percent).
- **Routine Energy-Saving Actions:** Respondents have taken the following energy saving actions:
  - Turning off lights or ceiling fans when not in room (87 percent)
  - Reducing thermostat temperature in winter / increasing in summer (83 percent)
  - Using dishwasher or laundry machines only with full loads (83 percent)
  - Replacing air filters (82 percent)
  - Washing clothes in cold water (75 percent)
  - Letting dishes air dry (67 percent),
  - Other commonly taken actions include cleaning the clothes dryer vent (62 percent), using a portable fan instead of air conditioning (62 percent), reducing shower time (53 percent), tuning-up the air conditioning and/or heating system (41 percent), and adjusting the freezer/refrigerator temperature settings (38 percent).

- **Perceived Energy Savings:** After making changes, 28 percent of respondents reported a decrease in energy bills, while 10 percent observed an increase. Forty-six percent reported no change, and 13 percent said it was too soon to tell. Among those who noticed savings, 63 percent were satisfied, 19 percent were very satisfied, 13 percent were neutral, while 6 percent were very dissatisfied.
- **PowerShift Rebate Participation:** In 2025, 96 percent of respondents said they did not receive a PowerShift rebate from NV energy. Four percent of respondents received a rebate on an advanced power strip, 2 percent on an ENERGY STAR certified air purifier and 2 percent on an ENERGY STAR certified air conditioner. Of the people who reported receiving a rebate, all respondents said that their HER was important in their decision to participate in the rebates.
- **Recommendations for Improving HERs:** Forty-one percent of respondents recommended providing more information about rebates or incentives in HERS, and 32 wanted more customized energy-saving tips. Other recommendations include more detailed energy usage breakdowns (24 percent), a digital tool or dashboard to track energy use (24 percent), and better comparisons to similar homes (12 percent).
- **Overall Satisfaction with NV Energy:** Most respondents were satisfied with NV Energy (43 percent very satisfied, 38 percent satisfied), 10 percent were neutral, 5 percent were dissatisfied, and 5 percent were very dissatisfied.

#### 4.2.8.1 Paper & Electronic Report Recipients

Among SPPC customers who receive both paper and electronic HERs, 70 surveys were completed. An abbreviated summary of these survey responses is provided below.

- **Frequency of HERs Received:** In 2025, 34 percent of respondents recalled receiving five or fewer HERs, 49 percent recalled receiving six or more, while 17 percent could not recall. Customers who received a mix of paper and electronic HERs were more likely to receive six or more reports than their counterparts who received only electronic HERs.
- **Engagement with HERs:** Thirty-three percent of respondents reported reading the reports thoroughly, 43 percent read parts of them, 21 percent only glanced at the visuals, and 3 percent didn't look at the reports. The reason given for reading so little of the report was that they didn't find the information valuable. Most people found the information in the reports very easy (40 percent) or easy (47 percent) to understand. Most respondents believed that the information contained in the HER about their home's energy use was moderately (43 percent) or very (32 percent) accurate. Of people who found the report to be not at all accurate (4 percent) or a little accurate (11 percent), the most frequent concerns were to do with their energy use compared to last year (38 percent) or comparisons to similar homes (38 percent). Fifty-one percent of respondents who didn't live alone shared their HER with others in their household.

- **HER Format Preference:** Forty-six percent of respondents preferred to receive their HER by email, 34 percent preferred paper by mail, 10 percent preferred both, and 10 percent didn't have a preference.
- **HER Satisfaction:** Overall, most respondents were satisfied with the HERs (30 percent satisfied, 28 percent very satisfied), while 12 percent expressed dissatisfaction. Most respondents were satisfied with the information provided about their home's energy use (37 percent satisfied, 20 percent very satisfied), how they receive their HER (39 percent satisfied, 23 percent very satisfied), and how often they receive their HER (42 percent satisfied, 17 percent very satisfied). Respondents were less satisfied with the number of emails they received about their energy use (22 percent satisfied, 20 percent very satisfied), with 38 percent feeling neutral.
- **HER Reducing Energy Bill:** Thirty-four percent of respondents said that their HER has helped them reduce their energy bill (6 percent significantly, 28 percent somewhat), while 52 percent said that it hasn't helped. Of those who reported that it hasn't helped reduce their energy bill, 39 percent said that they have changed their behavior.
- **Energy-Efficient Upgrades:** In 2025, 56 percent of respondents reported installing LED lightbulbs or fixtures, while 27 percent added weather stripping or caulking and 24 percent installed low-flow showerheads or faucet aerators. Other upgrades included:
  - Installing a dimmer switch (20 percent)
  - Installing a programmable or smart thermostat (19 percent)
  - Installing an energy efficient water heater (18 percent)
  - Installing window treatments (18 percent)
  - Additional upgrades mentioned included replacing an air conditioner/HVAC unit (13 percent), installing energy efficient fans (12 percent), and replacing or installing insulation (12 percent).
- **Routine Energy-Saving Actions:** Respondents have taken the following energy saving actions:
  - Replacing air filters (93 percent)
  - Turning off lights or ceiling fans when not in room (89 percent)
  - Using dishwasher or laundry machines only with full loads (86 percent)
  - Cleaning clothes dryer vent (84 percent)
  - Reducing thermostat temperature in winter / increasing in summer (76 percent)
  - Other commonly taken actions include letting dishes air dry (63 percent), washing clothes in cold water (61 percent), using a portable fan instead of air conditioning (56 percent), tuning-up air conditioning and/or heating system (53 percent), and vacuuming refrigerator coils (54 percent).
- **Perceived Energy Savings:** After making changes, 28 percent of respondents reported a decrease in energy bills, while 10 percent observed an increase. Thirty-four percent

reported no change, and 11 percent said it was too soon to tell. Among those who noticed savings, 59 percent were satisfied or very satisfied, while 24 percent were dissatisfied.

- **PowerShift Rebate Participation:** In 2025, 96 percent of respondents said they did not receive a PowerShift rebate from NV energy. Four percent of respondents received a rebate on an ENERGY STAR certified clothes dryer, an ENERGY STAR certified clothes washer, and an ENERGY STAR certified refrigerator. Two percent of respondents received a rebate on an ENERGY STAR certified air conditioner. Of the people who reported receiving a rebate, no respondents said that their HER was important in their decision to participate in the rebates.
- **Recommendations for Improving HERs:** Almost half of respondents (49 percent) recommended providing more information about rebates or incentives in HERS, and 28 percent recommended better comparisons to similar homes. Other recommendations include more detailed energy usage breakdowns (21 percent), more customized energy saving tips (19 percent), and a digital tool or dashboard to track energy use (9 percent).
- **Overall Satisfaction with NV Energy:** More than half of respondents were satisfied with NV Energy (48 percent satisfied, 25 percent very satisfied), 6 percent were dissatisfied, 2 percent were very dissatisfied, and 16 percent were neutral.

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## 5 CONCLUSIONS AND RECOMMENDATIONS

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The following section presents conclusions and recommendations based on the Evaluator’s M&V activities for the ER program during 2025.

### 5.1 Conclusions

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For the 2025 ER program, ex-post verified energy savings for the NPC territory were 19,647,152 kWh. For the SPPC territory, ex-post verified energy savings were 9,133,829 kWh. Summer critical peak demand reduction was 7,768.91 kW in the NPC service territory, and 3,089.79 kW in the SPPC service territory.

Average daily savings values were calculated using the weighted annual energy savings for groups with different forms of HERs. This value was multiplied by 365 days/year and the total number of treatment participants to characterize savings at the program-level. The ex-post verified, annual savings per NPC treatment participant was 161 kWh; for SPPC, it was 139 kWh. These average annual savings equate to approximately 1.0 percent and 1.2 percent of average annual consumption for treatment homes in the NPC and SPPC territories, respectively.<sup>8</sup>

### 5.2 Discussion

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Verified savings for NPC in 2025 were close to 2024 (164 kWh), and those for SPPC in 2025 were slightly higher than 2023-2024 (~110 kWh). Despite some interannual variabilities due to randomness and weather conditions, the savings in 2023-2025 for both NPC and SPPC were higher than those in 2022, the first year of program treatment for the current cohort. Lower energy savings within the first year of treatment in a behavioral program is a trend that can be observed in similar programs nationally<sup>9</sup> for behavioral treatment programs.

### 5.3 Status of 2025 Recommendations

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In the 2024 M&V report, the Evaluator recommended tailoring recommendations in the HERs, improving engagement and clarity, promoting participation in energy-saving programs, addressing customer cost concerns, and optimizing delivery and accessibility. These recommendations remain applicable and continue to address core program design and delivery.

### 5.4 Recommendations

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The Evaluator provides the following recommendations based on the survey responses received for this year:

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<sup>8</sup> Percentages based on comparisons of ex-post annual savings to the pre-program usage for treatment homes in each service territory.

<sup>9</sup> For an example, see figure 4 in Kane, R. and Srinivas, N. “Unlocking the Potential of Behavioral Energy Efficiency: Methodology for Calculating Technical, Economic, and Achievable Savings Potential,” ACEEE Summer Study on Energy Efficiency in Buildings. 2014.

**Provide Clear and Transparent Energy Usage Information.** Present energy usage in kWh alongside dollar amounts so customers can distinguish between changes driven by consumption and those driven by rate adjustments. Include clearer breakdowns of major usage components (e.g., heating, cooling, always-on load) and provide plain-language explanations of how these estimates are calculated and what key terms mean. Where possible, incorporate historical usage comparisons to help customers assess whether conservation efforts are reducing actual energy consumption over time.

**Expand and Integrate Rebate and Incentive Information.** Integrate rebate and incentive information directly within the report and align it with recommended actions. Clearly identify which upgrades qualify for financial support and outline eligibility considerations and next steps. Provide direct links, QR codes, or contact information to simplify the application process and reduce barriers to participation.

**Improve Personalization and Practicality of Recommendations.** Tailor recommendations based on housing type (e.g., single-family home, apartment, rental property) and customer circumstances. Emphasize low-cost, renter-friendly, and portable measures where appropriate, and avoid suggesting actions outside a tenant’s control. For customers with limited mobility or physical constraints, provide alternatives such as professional service options or simplified steps to complete recommended tasks safely.

**Enhance Engagement Through Meaningful Comparisons.** Improve clarity around comparisons to similar homes by explaining how peer groups are defined and how customers can interpret their relative performance.

## 6 APPENDIX A: ER PROGRAM SAVINGS PER MONTH BY RATE CLASS

This appendix provides ER program monthly savings by rate class for calendar years 2025.

### 6.1 NPC

*Table A-6-1. Energy (kWh) Savings per Month by Rate Class – 2025, NPC*

Rate Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
RS	1,055,977	919,304	903,223	1,051,458	1,590,137	2,478,318	3,246,927	3,013,125	2,170,733	1,096,000	950,972	1,170,978	19,647,152
<b>Total</b>	<b>1,055,977</b>	<b>919,304</b>	<b>903,223</b>	<b>1,051,458</b>	<b>1,590,137</b>	<b>2,478,318</b>	<b>3,246,927</b>	<b>3,013,125</b>	<b>2,170,733</b>	<b>1,096,000</b>	<b>950,972</b>	<b>1,170,978</b>	<b>19,647,152</b>

<sup>†</sup>Totals may not sum exactly due to rounding. Same for subsequent tables.

*Table A-6-2. Summer Critical Peak Demand (kW) Savings per Month by Rate Class, NPC*

Rate Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
RS	2,024	2,070	1,689	3,478	4,780	6,696	7,769	7,445	6,464	3,709	1,979	2,190
<b>Total</b>	<b>2,024</b>	<b>2,070</b>	<b>1,689</b>	<b>3,478</b>	<b>4,780</b>	<b>6,696</b>	<b>7,769</b>	<b>7,445</b>	<b>6,464</b>	<b>3,709</b>	<b>1,979</b>	<b>2,190</b>

### 6.2 SPPC

*Table A-6-3. Energy (kWh) Savings per Month by Rate Class – 2025, SPPC*

Rate Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
D1	743,432	683,531	725,602	590,060	587,414	753,484	1,156,299	1,020,059	695,510	613,501	717,652	847,285	9,133,829
<b>Total</b>	<b>743,432</b>	<b>683,531</b>	<b>725,602</b>	<b>590,060</b>	<b>587,414</b>	<b>753,484</b>	<b>1,156,299</b>	<b>1,020,059</b>	<b>695,510</b>	<b>613,501</b>	<b>717,652</b>	<b>847,285</b>	<b>9,133,829</b>

*Table A-6-4. Summer Critical Peak Demand (kW) Savings per Month by Rate Class, SPPC*

Rate Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
D1	1,503	1,598	1,496	1,323	1,233	2,532	3,090	3,043	2,451	1,370	1,556	1,773
<b>Total</b>	<b>1,503</b>	<b>1,598</b>	<b>1,496</b>	<b>1,323</b>	<b>1,233</b>	<b>2,532</b>	<b>3,090</b>	<b>3,043</b>	<b>2,451</b>	<b>1,370</b>	<b>1,556</b>	<b>1,773</b>

## 7 APPENDIX B: EXAMPLE HOME ENERGY REPORT

This appendix provides example paper HERs mailed to treatment customers in each territory during the 2025 program year.

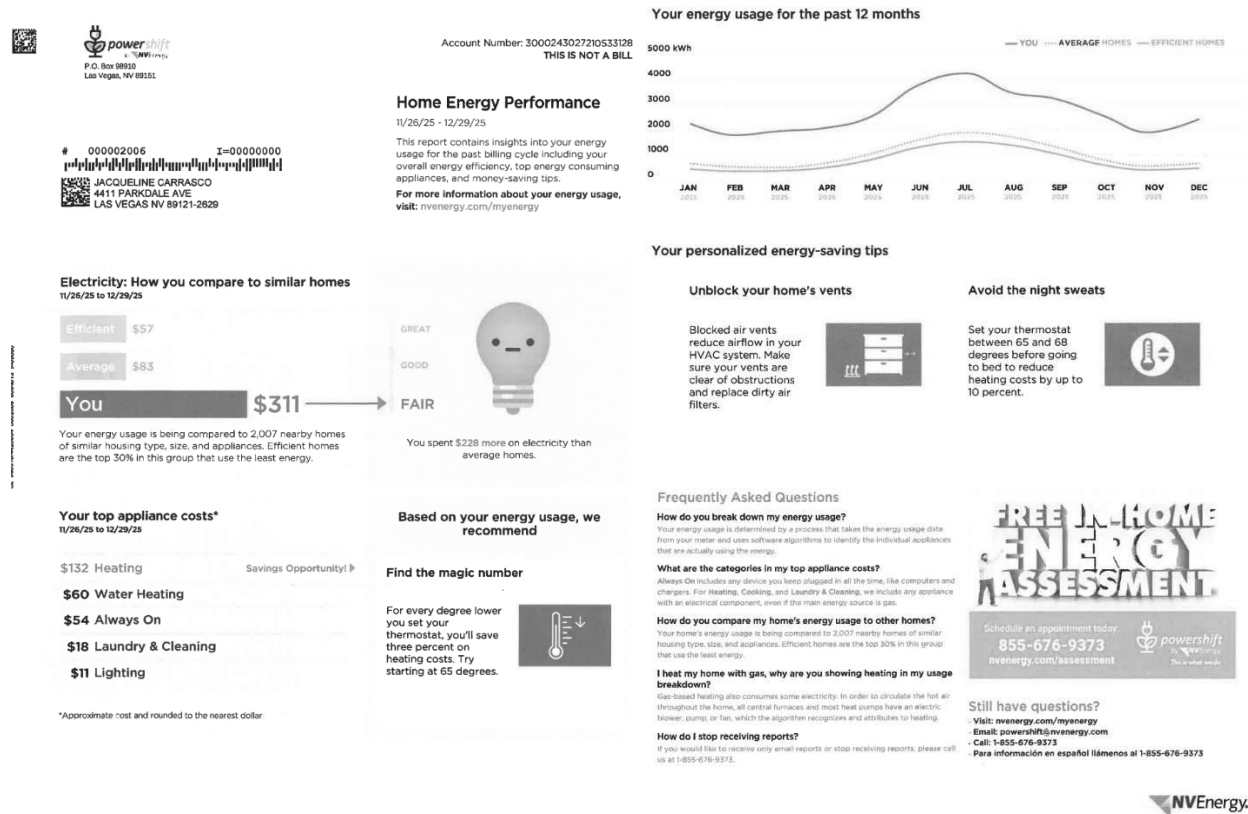


Figure B-7-1. Example HER report

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## 8 APPENDIX C: HOME ENERGY REPORTS GEOGRAPHIC DISTRIBUTION

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This appendix provides maps that show the distribution of HERs in southern (NPC service territory) and northern (SPPC service territory) Nevada during 2025.



Figure C-8-1. Geographic Distribution of HERs Participants, NPC

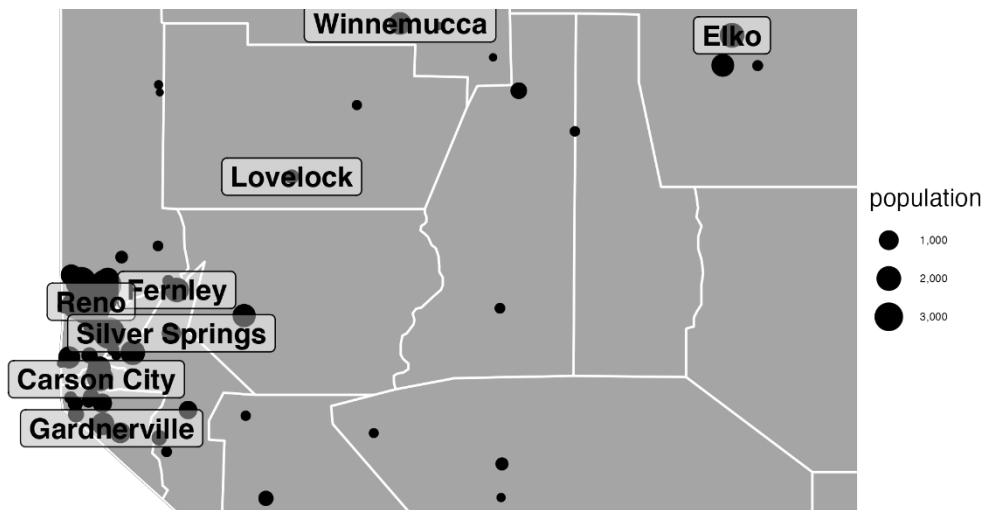


Figure C-8-2. Geographic Distribution of HERs Participants, SPPC

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## 9 APPENDIX D: SURVEY INSTRUMENT

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In 2025, the Evaluator offered the following survey to NV Energy customers in both English as well as Spanish. The English version is provided below and the Spanish translation can be provided upon request.

<i>Variable</i>	<i>Definition</i>
YEAR	Current program year
CUSTOMER NAME	Name of customer
EMAIL	Email address
OP-CO	A = NPC; B = SPPC
GROUP	1 = Treatment; 0 = Control
ZONE	Assigned based on participant zip code Zone A = Carson, Humboldt, Lincoln, Lyon, Mineral, Nye, and Pershing Zone B = Churchill, Clark, and White Pine Zone C = Eureka County Zone D = Elko County Zone E = Lander County Zone F = Reno, Storey, and Washoe Zone G = Douglas Zone H = Esmeralda

### 9.1 Survey Instrument

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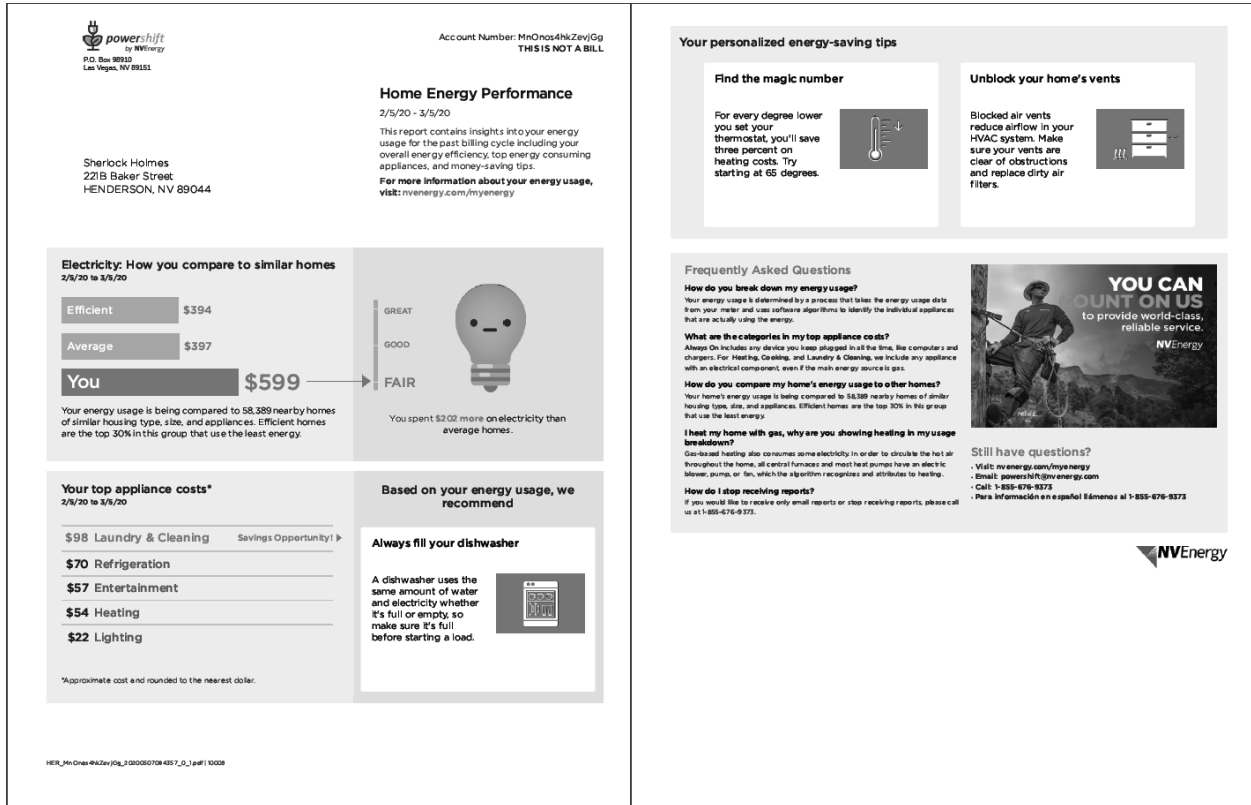
1. Do you prefer to take the survey in English or Spanish?  
¿Prefiere contestar la encuesta en inglés o español?
  1. English/Inglés
  2. Spanish/Español

**[EMAIL SURVEY INTRODUCTORY TEXT]**

Please take a few minutes to complete this survey for NV Energy, administered by the Evaluator Associates, an authorized NV Energy contractor. The survey takes less than 10 minutes to complete, and your valuable feedback will be held in the strictest of confidence.

**[DISPLAY IF GROUP = 1]**

2. Do you remember receiving a Home Energy Report, like the one below, from PowerShift by NV Energy in 2025?
  1. Yes
  2. No **[TERMINATE]**



3. NV Energy sends both mailed and emailed versions of the Home Energy Report. In YEAR, which version or versions of the Report do you recall receiving? [RANDOMIZE 1-3]
  1. Received both mailed paper and emailed Home Energy Reports
  2. Received only mailed paper Home Energy Reports
  3. Received only emailed Home Energy Reports
  4. Did not receive any Home Energy Report [TERMINATE SURVEY]
  5. I don't know [TERMINATE SURVEY]

## 9.2 Home Energy Performance Reports

[DISPLAY Q4 THRU Q14 IF GROUP = 1]

4. How many reports do you remember receiving in 2025? Your best guess is fine.
  1. 1
  2. 2
  3. 3
  4. 4
  5. 5
  6. 6 or more
  98. Don't know
5. How much of the Home Energy Reports do you typically read?
  1. Read the report thoroughly

2. Read some of the report
3. Glanced at the pictures or graphs
4. Did not look at the report at all
5. 98. Don't know

**[DISPLAY Q6 IF Q5 = 4]**

6. What is the primary reason that you read so little of the Home Energy Report?

**[RANDOMIZE 1-5]**

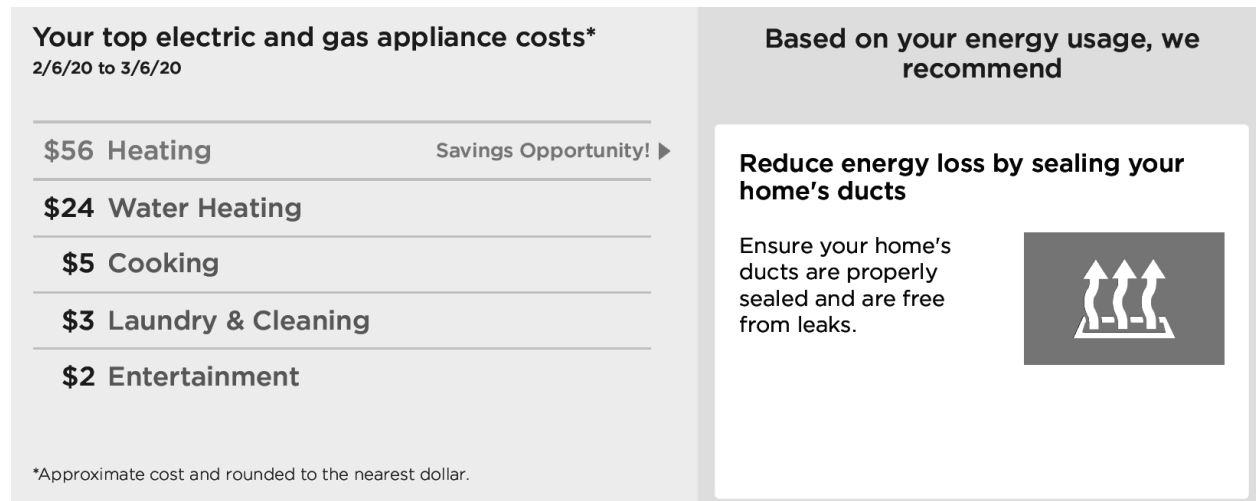
1. Do not have the time
  2. Not interested
  3. The suggested tips were not applicable to my home
  4. I did not find the information on the Report to be valuable
  5. I did not find the information in the Report to be accurate
  6. Other (Please specify) **[OPEN-ENDED]**
  98. I don't know
7. Which format do you prefer for receiving your Home Energy Report?
    1. Paper by mail
    2. Email
    3. Both
    4. I don't have a preference
  8. Have you shared your Home Energy Report with others in your household?
    1. Yes
    2. No
    3. Not applicable (I live alone)

**[DISPLAY Q9 THROUGH Q13 IF Q5 = 1 – 2]**

9. How helpful is the “How you compare to similar homes” section? **[INSERT SCALE AS 1 = VERY UNHELPFUL, 2 = UNHELPFUL, 3 = NEITHER, 4 = HELPFUL, 5 = VERY HELPFUL, AND 98 = DON'T KNOW]**





10. How helpful is the “Your top appliance costs” section? [INSERT SCALE AS 1 = VERY UNHELPFUL, 2 = UNHELPFUL, 3 = NEITHER, 4 = HELPFUL, 5 = VERY HELPFUL, AND 98 = DON’T KNOW]



11. How helpful is the “Your personalized energy-saving tips” section? [INSERT SCALE AS 1 = VERY UNHELPFUL, 2 = UNHELPFUL, 3 = NEITHER, 4 = HELPFUL, 5 = VERY HELPFUL, AND 98 = DON’T KNOW]

**Your personalized energy-saving tips**

<p><b>Hang heavy curtains over your windows</b></p> <p>Use lined curtains or drapes to keep the cold out and the heat in, especially at night.</p> 	<p><b>Seal the gaps!</b></p> <p>Save money and energy with good seals around drafty doors and windows and replace weather-stripping.</p> 
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12. How easy is it to understand the information in the reports? [INSERT SCALE AS 1 = VERY DIFFICULT, 2 = DIFFICULT, 3 = NEITHER DIFFICULT NOR EASY, 4 = EASY, 5 = VERY EASY, AND 98 = DON'T KNOW]

[DISPLAY Q13 IF Q9 < 4 OR Q 10 < 4 OR Q11 < 4 OR Q8 < 4]

13. How could these sections be more useful?  
[OPEN ENDED]

[DISPLAY Q14 IF Q5 = 1 – 2]

14. Please rate your overall satisfaction with the Home Energy Report. [INSERT SCALE AS 1 = VERY DISSATISFIED, 2 = DISSATISFIED, 3 = NEITHER, 4 = SATISFIED, 5 = VERY SATISFIED, 98 = DON'T KNOW]

15. How accurate do you believe the information contained in your Home Energy Report is about your home's energy usage? [INSERT 1-5 SCALE AS DEFINED 1=NOT AT ALL ACCURATE AND 5=VERY ACCURATE, WITH 98 = I DON'T KNOW]

[DISPLAY Q16 IF Q15 = 1 OR 2]

16. What did you find inaccurate in your Home Energy Report?
1. Comparisons to similar homes Energy savings tips and recommendations
  2. Energy use compared to last year
  3. Electricity use at a glance
  4. Something else (please specify)

### 9.3 Energy Saving Behaviors Section

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17. What purchases or upgrades did you make to your home in 2025? [INSERT SCALE AS 1 = YES; 2 = NO; 98 = DON'T KNOW]

1. Replaced an air conditioner/HVAC unit (AC, heat pump, window unit)
2. Installed LED lightbulb(s) or fixture(s)
3. Installed energy efficient appliance(s) (clothes washer, clothes dryer, dishwasher, refrigerator, freezer)
4. Installed energy efficient fans (whole house, attic, portable, ceiling)
5. Installed energy efficient pool equipment (heaters, pumps, variable speed drives or controls)
6. Installed a programmable or smart thermostat
7. Installed an energy efficient water heater
8. Installed energy efficient windows
9. Installed hot water pipe insulation
10. Installed low-flow showerheads or faucet aerators
11. Installed a smart power strip
12. Installed a dimmer switch
13. Installed window treatments
14. Replaced or installed insulation
15. Installed solar panels
16. Added weather stripping or caulking around doors and windows
17. Installed heating/cooling duct caulking or sealing
18. Energy Star certified room air conditioner
19. Energy Star certified air purifier
96. Other (Please specify) [TEXT BOX]

18. How have you taken any of the following energy saving actions? [INSERT SCALE AS 1 = YES; 2 = NO; 98 = DON'T KNOW]

**Home Maintenance & Efficiency:**

1. Replaced air filters
2. Checked heating/cooling ducts for leaks
3. Vacuumed refrigerator coils
4. Tuned-up air conditioning and/or heating system
5. Cleaned clothes dryer vent
6. Lowered water heater temperature
7. Adjusted freezer/refrigerator temperature settings
8. Unplugged second refrigerator or freezer
9. Installed energy efficient appliance(s) (clothes washer, clothes dryer, dishwasher, refrigerator, freezer)

**Daily Energy Saving Habits:**

10. Reduced thermostat temperature in winter / Increased in summer
11. Used dishwasher or laundry machines only with full loads
12. Turned off lights or ceiling fans when not in room
13. Washed clothes in cold water
14. Used a portable fan instead of air conditioning
15. Let dishes air dry
16. Reduced shower time
17. Other (Please specify) [TEXT BOX]

19. Have you taken any of the routine actions below to save energy in 2023? [SCALE: 1=NEVER CONSIDERED, 2=CONSIDERED, 3=DONE SOMETIMES, 4=DONE MOST OF THE TIME, 5=DONE ALL THE TIME, 97 = THIS IS NOT APPLICABLE TO MY HOME]

1. Operated the dishwasher with a full load
2. Operated clothes washer and dryer with full loads
3. Turned off the lights when not in room
4. Washed clothing in cold water
5. Used a portable fan instead of cooling with air conditioning
6. Turned off your ceiling fan when not in room
7. Let your dishes air dry
8. Reduced shower time

[DISPLAY Q0 IF ANY IN Q17 = 1 OR IF ANY IN Q19 = 2, 3, 4, OR 5]

20. Have you noticed any savings on your energy usage or bill since you made these changes?

1. Yes, my energy bill has decreased
2. Yes, my energy bill has increased
3. No, there does not seem to have been a change in my energy bill
4. Too soon to tell
98. Don't know

[SHOW Q0 IF Q0 = 1]

21. How satisfied are you with the savings you noticed on your energy bill? [INSERT SCALE AS 1 = VERY DISSATISFIED, 2 = DISSATISFIED, 3 = NEITHER, 4 = SATISFIED, 5 = VERY SATISFIED, 98 = DON'T KNOW]

#### 9.4 Cross Offering Participation

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22. Have you received a PowerShift rebate from NV Energy when you purchased any of the following appliances from a participating store or through the PowerShift Smart Shop in YEAR?

1. ENERGY STAR certified clothes dryer

2. ENERGY STAR certified clothes washer
3. **[DISPLAY IF TERRITORY = A]** ENERGY STAR certified heat pump clothes dryer
4. ENERGY STAR certified refrigerator
5. ENERGY STAR certified room air conditioner
6. ENERGY STAR certified air purifier
7. Advanced power strip
8. No, I have not

**[DISPLAY Q23 IF Q22 <> 8 AND IF GROUP = 1]**

23. Has the Home Energy Performance report been important in your decision to participate in these offerings?
1. Yes
  2. No
  98. Don't know

## **9.5 Satisfaction**

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24. Please rate your satisfaction with the following: **[RANDOMIZE ORDER, INSERT 1-5 SCALE AS DEFINED 1=VERY DISSATISFIED AND 5=VERY SATISFIED, WITH 98 = I DON'T KNOW]**

1. The information provided about your home's energy use
2. The number of emails you receive from PSO about your energy use
3. How you receive a Home Energy Report (i.e., mail, email)
4. How often you receive a Home Energy Report

25. Has the Home Energy Report helped you lower your energy bill?

1. Yes, significantly
2. Yes, somewhat
3. No, but I have changed my behavior
4. No and I haven't made any changes to my behavior
98. Not sure

26. Do you have any recommendations to improve the Home Energy Reports?

1. More customized energy-saving tips
2. More detailed energy usage breakdown
3. Information on rebates or incentives
4. Better comparison to similar homes
5. A digital tool or dashboard to track my energy use
6. Other (please specify)

27. Please rate your satisfaction with NV Energy as your utility service provider. [INSERT SCALE AS 1 = VERY DISSATISFIED, 2 = DISSATISFIED, 3 = NEITHER, 4 = SATISFIED, 5 = VERY SATISFIED, 98 = DON'T KNOW]

## 9.6 Demographics

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*The next few questions are about your household and are optional.*

28. Which of the following best describes your home?

1. Manufactured or mobile home
2. Single-family home
3. Duplex or townhouse
4. Apartment or condominium
96. Other (Please specify)
98. Don't know
99. Prefer not to answer

29. Do you own or rent your home?

1. Own
2. Rent
99. Prefer not to answer

30. When was your home built?

1. Before 1960
2. 1960-1979
3. 1980-1999
4. 2000-2009
5. 2010-2019
6. 2020 or later
98. Don't know
99. Prefer not to answer

31. How large is your home?

1. Less than 1,000 square feet
2. 1,000-1,999 square feet
3. 2,000-2,999 square feet
4. 3,000-3,999 square feet
5. Greater than 4,000 square feet
98. Don't know
99. Prefer not to answer

32. What is the main fuel used to heat your home?

1. Electricity
2. Natural gas
3. Propane
4. Oil
5. Don't heat home
96. Other (Please specify)
98. Don't know
99. Prefer not to answer

33. What fuel does your main water heater use?

1. Electricity
2. Natural Gas
3. Propane
4. Oil
96. Other (Please specify)
98. Don't know
99. Prefer not to answer

34. Including yourself, how many people are living in your household?

**[DROP DOWN BOX – 1-7, 8 or more, 99 Prefer not to answer]**

35. Is your annual household income over or under [CUTOFF]?

**[SCALE: 1 = At or below this value, 2 = Above this value, 98 = Don't know, 99 = Prefer not to answer]**

- a. **[If Q34 = 1 & TERRITORY = A] CUTOFF = \$57,150**
- b. **[If Q34 = 2 & TERRITORY = A] CUTOFF = \$65,300**
- c. **[If Q34 = 3 & TERRITORY = A] CUTOFF = \$73,450**
- d. **[If Q34 = 4 & TERRITORY = A] CUTOFF = \$81,600**
- e. **[If Q34 = 5 & TERRITORY = A] CUTOFF = \$88,150**
- f. **[If Q34 = 6 & TERRITORY = A] CUTOFF = \$94,700**
- g. **[If Q34 = 7 & TERRITORY = A] CUTOFF = \$101,200**
- h. **[If Q34 = 8 & TERRITORY = A] CUTOFF = \$107,750**
- i. **[If Q34 = 1 & TERRITORY = B] CUTOFF = \$61,054**
- j. **[If Q34 = 2 & TERRITORY = B] CUTOFF = \$69,781**
- k. **[If Q34 = 3 & TERRITORY = B] CUTOFF = \$78,509**
- l. **[If Q34 = 4 & TERRITORY = B] CUTOFF = \$87,192**
- m. **[If Q34 = 5 & TERRITORY = B] CUTOFF = \$94,196**
- n. **[If Q34 = 6 & TERRITORY = B] CUTOFF = \$101,152**
- o. **[If Q34 = 7 & TERRITORY = B] CUTOFF = \$108,151**
- p. **[If Q34 = 8 & TERRITORY = B] CUTOFF = \$115,107**

## **9.7 End of Survey Thank You Message**

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On behalf of PowerShift by NV Energy, thank you and we appreciate your feedback!

De parte de PowerShift de NV Energy, gracias por sus valiosos comentarios.

## **9.8 Termination Page**

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Thank you for your time – however, this survey is meant only for customers who recall receiving Home Energy Reports from NV Energy.

Gracias por su tiempo- sin embargo, esta encuesta está destinada únicamente a los clientes que recuerdan haber recibido informes sobre el consumo de energía en el hogar de NV Energy.