RATON NATURAL GAS COMPANY
223 N. Guadalupe St. #306 • Santa Fe, New Mexico 87501-1868 • (505) 984-0282

June 30, 2023

Ms. Melanie Sandoval
Records Bureau Chief
P.O. Box 1269
Santa Fe, NM 87504-1269

RE: Raton Natural Gas Company's Energy Efficiency Program Annual Report Compliance Filing for Program Year 2022

Dear Ms. Sandoval:

In compliance with 17.7.2.14 NMAC, attached for filing is Raton Natural Gas Company's Energy Efficiency Program Annual Report Compliance Filing for Program Year 2022 for the period of May 1, 2022 through April 31, 2023. Additionally, a copy of the attached Energy Efficiency Annual Report for Program Year 2022 will be posted on RNG's website at www.ratonnaturalgas.com.

If you have any questions or require any additional information, please contact me at 505-984-0282.

Sincerely,

/s/ David N. Link
David N. Link, P.E.
President & General Manager

cc: Peter J. Gould, Esq.

ENERGY EFFICIENCY PROGRAM YEAR 2022

ANNUAL REPORT

June 30, 2023

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RATON NATURAL GAS COMPANY
ENERGY EFFICIENCY PROGRAM YEAR 2022 ANNUAL REPORT

Raton Natural Gas ("RNG") hereby submits its Energy Efficiency Program Year 2022 ("PY2022") Annual Report for its Energy Efficiency ("EE") Programs in effect for the period May 1, 2022, through April 30, 2023, in compliance with the requirements of the New Mexico Public Regulation Commission's ("NMPRC" or "Commission") Energy Efficiency Rule (17.7.2 NMAC) ("Rule"). Section 17.7.2.14 of that Rule requires each public utility to file an annual report in which it describes the utility's actions to comply with the Efficient Use of Energy Act, NMSA 1978 Section 62-17-1, *et seq.* ("EUEA").

BACKGROUND AND INTRODUCTION

RNG's PY2022 EE Annual Report covers costs incurred, customer participation, cost-effectiveness, and Second Revised Rate Rider revenues collected for the continued implementation of RNG's approved energy efficiency programs in effect from May 1, 2022, through April 30, 2023. In addition, RNG submits the final report prepared by the independent evaluator, Evergreen Economics, Inc. ("Evergreen"), which was completed June 26, 2023.

The current PY2022 Energy Efficiency Program was filed for approval in Case No. 20-00177-UT on August 31, 2020. The NMPRC Commission issued its Final Order Adopting the Recommended Decision in Case 20-00177--UT on April 7, 2021. In that Final Order, the Commission did the following:

a. Incorporated by reference the Recommended Decision in Case 20-00177-UT;
b. Approved RNG's Application of its Energy Efficiency Program.

The PY2022 EE Plan became available to RNG customers on May 1, 2022. The following programs and offerings are included in RNG's annual report:

1. Water Heating: high efficiency rated natural gas water heater rebates and low-flow showerhead kits.
2. Space Heating: high efficiency rated natural gas heater rebates and programmable thermostats.
3. Income Qualified: multiple natural gas saving measures for individual low-income residences.
4. Education Program: local community outreach program for customers and public-school age students.

SECTION 1: EXECUTIVE SUMMARY

Table 1 provides the total number of participants, annual therm savings, and program costs for RNG's PY2022 EE Plan. The program year began May 1, 2022, and ended April 30, 2023.

Table 1: Actual PY2022 EE Plan Savings Summary – Therms

Program	Total Participation	Expected Gross Therm Savings	Realized Net Therm Savings	Realized Net Lifetime Savings
Water Heating	1	207	207	4,148
Space Heating	12	652	970	14,646
Income Qualified	18	10,166	10,163	167,437
TOTAL	**31**	**11,025**	**11,340**	**186,231**

Table 2 provides the allocations for the PY2022 EE Plan's actual costs from May 1, 2022, through April 30, 2023.

Table 2: Actual PY2022 EE Plan Allocated Costs

Program	Internal Administration Third Party	Internal Administration Base Rates	Promotional	Portfolio Costs	Total Program Costs
Water Heating	$ 200	$ 103	$ -	$ -	$ 303
Space Heating	$ 2,427	$ 280	$ -	$ -	$ 2,707
Income Qualified	$ 19,000	$ 1,086	$ -	$ -	$ 20,086
Education	$ -	$ -	$ 5,210	$ -	$ 5,210
Portfolio Costs	$ 1,200	$ 1,579	$ -	$ -	$ 2,779
TOTAL	**$ 22,827**	**$ 3,048**	**$ 5,210**	**$ -**	**$ 31,085**

Internal Administration:
Internal Administration costs contains two categories: a) third-party administration costs and b) RNG Staff Administration costs which are inclusive in RNG's current base rates.

a): The third-party administration costs include labor and other direct expenses with implementation planning, energy engineering and savings validation, direct installation, and quality control inspections of the EE programs.

b): Base Rate costs are those RNG Staff Administration labor costs currently included in RNG's base rates and attributed to implementation and administration of the EE Programs.

Promotional:
Promotional costs are media costs expended for the implementation of the Education Program and delivered through the local radio station in Raton, NM.

Portfolio Costs:
The portfolio costs are expenses related to RNG's regulatory, and measurement and verification (M&V) implementation of the PY2022 EE Plan and are non-program specific. The portfolio costs reported are for outside legal costs to represent RNG in the filing and case management of its PY2022 Plan Application and programs with the NMPRC.

The Rule requires that an independent evaluator conduct a measurement and verification ("M&V") assessment of all energy efficiency programs. The NMPRC selected Evergreen Economics, Inc. as the independent evaluator for the New Mexico investor-owned utilities. Costs associated with the M&V assessment are reported in Table 2 and included with this current PY2022 EE Plan Annual Report.

The M&V Report (see Appendix B) conducted by Evergreen include the following:

- The overall Utility Cost Test ("UCT") for all RNG's EE programs was 6.01.
- All individual programs passed the UCT.
- Recommendations outlined by Evergreen in the M&V report will be implemented in RNG's next EE Plan.

To conclude the Executive Summary, Table 3 provides the actual number of participants, actual annual therm savings, actual lifetime terms saved, total program costs, and the program benefits for RNG's PY2022 EE Plan. The resultant UCT for each EE Program and the overall RNG Portfolio is listed below.

Table 3: Actuals for PY2022 EE Plan

Program	FY22 Actual Participation	Actual Annual Therms Saved	Actual Lifetime Therms Saved	Total Measure Budget Costs	NPV Measure Benefits	UCT
Water Heating	1	207	4,148	$ 303	$ 2,286	7.54
Space Heating	12	970	14,646	$ 2,706	$ 8,886	3.28
Income Qualified	18	10,163	167,437	$ 20,086	$ 121,336	6.04
Education	12	n/a	n/a	$ 5,210	$ 5,210	1.00
Portfolio Costs	n/a	n/a	n/a	$ 2,779	n/a	n/a
TOTAL	**43**	**11,340**	**186,231**	**$ 31,084**	**$ 137,718**	4.43

SECTION 2: TARIFF COLLECTIONS

On October 1, 2018, Advice Notice 55 was filed with Case 18-00312-UT and was approved on June 12, 2019, with the Commissioner's Final Order as Second Revised Rate No. 6 EE Rate Rider.
RNG's PY2022 EE Plan's Tariff Reconciliation is attached as Appendix A . Below is a summary of the PY2022 EE Plan Tariff reconciliation.

Tariff Reconciliation:
The beginning balance in the Energy Efficiency account on May 1, 2022, was a net over-collection of $1,305.52. Expenses attributable for recovery through the Second Revised Rate No. 6 for the period May 1, 2022, through April 30, 2023, totaled $28,036.42. (See Table 7) Collections for the same period May 1, 2022, through April 30, 2023, totaled $17,075.94. Including the balance of over-collection on May 1, 2022, the total under-collection on April 30, 2023, is ($9,654.96). RNG projects 4,350,000 ccf for the next period of May 1, 2023, through April 30, 2024, which equates to an additional $.0022/ccf to its
EE Rate Rider . RNG will add the under-collection of $.0022/ccf effective July 1, 2023, to the current EE Rate Rider of $.0040/ccf. Therefore the EE Rate Rider for all RNG rate classes effective July 1, 2023, will be $.0062/ccf.

SECTION 3: M&V PROGRAM REPORT FINDINGS

The Rule requires that an independent evaluator conduct measurement and verification assessments of all energy efficiency programs. The primary purpose of the independent evaluation is to assess the cost effectiveness of the programs using the UCT test.
For PY2022 EE Plan, the M&V Report evaluated three programs. Please see Appendix B for the complete M&V Report.

Summary of Findings:
Evergreen concluded that the overall portfolio UCT for the three programs was 6.01 and that each individual program also passed the UCT. Below is a summary of their findings and recommendations along with RNG's comments.

Water Heating Gross and Net Impacts:

- The evaluation team assessed the water heating rebate program for high efficiency water heaters and tankless water heaters. The evaluation team determined the gross realized impacts by completing either an engineering desk review or deemed savings review.
- The net-to-gross (NTG) is stipulated as 1.00 because the program serves hard-to-reach customers that are unlikely to do these installations without RNG's assistance and a licensed contractor.

Space Heating Gross and Net Impacts:

- The evaluation team adjusted the savings for the installation of twelve programmable thermostats for two residential locations and ten commercial locations. The evaluation team utilized the savings methodology and default algorithm inputs listed in the NM 2021 TRM to calculate the *ex post* savings.
- The evaluation team assessed the space heating rebate program for high efficiency furnace installations. The evaluation team determined the operational parameters and methods for calculating savings were accurate and conform to the approaches that the evaluation team is using for the other New Mexico utilities.
- The net-to-gross (NTG) is stipulated as 1.00 because the program serves hard-to-reach customers that are unlikely to do these installations without RNG's assistance and a licensed contractor.

Income Qualified Program:

- The evaluation team adjusted the savings for several projects within the Income Qualified Program.
- Recommendations: Ensure the site-specific information is consistently used to calculate the *ex-ante* savings. Update program assumptions for water conservation services and programmable thermostats with the NM 2021 TRM.
- The net-to-gross (NTG) is stipulated as 1.00 because the program serves only low-income customers.

In summary, Evergreen's M&V report concluded the overall RNG' PY2022 EE Plan is cost-effective and concluded each EE program in RNG's PY2022 Portfolio is cost-effective. Below is Evergreen's Table 7 from their M&V Report dated June 26, 2023,that lists each program with correlating UCT and the overall plan's UCT. Evergreen's complete M&V report is attached as Appendix B:

Evergreen's Appendix B, Table 7: Cost-Effectiveness

Program	Utility Cost Test (UCT)
Water Heating	22.17
Space Heating	31.75
Income Qualified	6.04
Overall Portfolio	**6.01**

SECTION 4: ENERGY EFFICIENCY RULE REPORTING REQUIREMENTS

This section of the annual report follows the reporting requirements and section headings as specified in the NMPRC Energy Efficiency Rule Section 17.7.2.14.

A. Section C Measure and Program Data
This Annual Report includes the following for each measure and program required by 17.7.2.14(C):

1. Section 4 D provides documentation of PY2022 EE Plan expenditures.
2. Section 4 E provides estimated and actual customer participation levels.
3. Section 4 D provides estimated and actual energy savings/demand data.
4. Section 4D provides estimated and actual monetary costs of the public utility.
5. Section 4D provides estimated and actual avoided monetary costs of the public utility.
6. Sections 3 and 4 D provide an evaluation of the Program's cost-effectiveness.

The Annual Report does not provide an evaluation of the cost-effectiveness and pay-back periods of self-directed programs because RNG has no such programs.

B. Section D (1) Independent Measurement and Verification Report
The Commission's independent evaluator, Evergreen Economics, conducted the independent evaluation of RNG's PY2022 EE Plan. Evergreen's report is attached as Appendix B and includes savings of all Energy Efficiency Measures and the overall PY2022 EE Plan.

C. Section D (2) Program Expenditures not included in the M&V Report:
The total PY2022 EE Plan Costs to calculate the UCT and the PY2022 EE Plan Costs for tariff reconciliation do not include the invoice from Evergreen for their annual independent program evaluation report. Their forthcoming invoice for work performed on the PY2022 EE Plan will be identified and included in RNG's PY2022 EE Program Costs and Annual Report.

D. Section D(3) Material Variances in Program Costs
Table 4 and Table 5 below provide comparisons between estimated and actual energy savings/demand savings, monetary costs, and avoided monetary costs.

Table 4: Estimates for PY2022 EE Plan

Program	PY2022 Estimated Participation	Estimated Annual Therms Saved	Estimated Lifetime Therms Saved	Total Measure Budget Costs	NPV Measure Benefits	UCT
Water Heating	33	1,229	11,061	$2,963	$3,724	1.26
Space Heating	32	1,526	14,320	$2,221	$4,181	1.88
Income Qualified	15	11,085	180,686	$9,000	$32,030	3.56
Education[1]	75	n/a	n/a	$4,062	$4,062	1.00
Portfolio Costs	n/a	n/a	n/a	$7,339	n/a	n/a
TOTAL	**155**	**13,840**	**206,067**	**$25,585**	**$43,997**	1.72

Table 5: Actuals for PY2022 EE Plan

Program	FY22 Actual Participation	Actual Annual Therms Saved	Actual Lifetime Therms Saved	Total Measure Budget Costs	NPV Measure Benefits	UCT
Water Heating	1	207	4,148	$ 303	$ 2,286	7.54
Space Heating	12	970	14,646	$ 2,706	$ 8,886	3.28
Income Qualified	18	10,163	167,437	$ 20,086	$ 121,336	6.04
Education	12	n/a	n/a	$ 5,210	$ 5,210	1.00
Portfolio Costs	n/a	n/a	n/a	$ 2,779	n/a	n/a
TOTAL	**43**	**11,340**	**186,231**	**$ 31,084**	**$ 137,718**	4.43

[1] Final Order NMPRC Case 15-00247-UT granted an imputed UCT value of one (1) for RNG's Education and Public Outreach EE Program.

E. Section D(4) Number of Program Participants
Total number of participants for each Energy Efficiency Measure for PY2022 EE Plan is shown in Table 6 below.

Table 6: PY2022 EE Plan Actual Participation by Measure

Actual PY2022 EE Program Participation by Measure

Program	PY2022 Actual Participation
Water Heating	2
Space Heating	12
Income Qualified	18
Education	12
TOTAL	**43**

F. Section D(5) Economic Benefits:
Please refer to Table 5 on page 9 for the economic benefit calculations of RNG's PY2022 EE Plan.

G. Section D(6) Self-Direct Programs
RNG's PY2022 EE Plan does not include Self-Direct Programs.

H. Section D(7) Other Information of Interest to the Commission
Please see the following:
1. Table 7 which details Cost Allocation and Expenses by Program, and
2. Table 8 which details Impact Evaluation Results Summary.

Cost Allocation and Expenses by Program

The following Table 7 details the PY2022 EE Plan by Cost Allocation and Expenses for Total Program Costs.

Table 7: Cost Allocation and Expenses by Program for PY2022 EE Plan:

Program	Rebates	Internal Administration Third Party	Internal Administration Base Rates	Promotional	Portfolio Costs	M&V Expenses	Total Program Costs
Water Heating	$ 200	$ -	$ 103	$ -	$ -	$ -	$ 303
Space Heating	$ 400	$ 2,027	$ 280	$ -	$ -	$ -	$ 2,707
Income Qualified	$ -	$ 19,000	$ 1,086	$ -	$ -	$ -	$ 20,086
Education	$ -	$ -	$ -	$ 5,210	$ -	$ -	$ 5,210
Portfolio Costs	$ -	$ -	$ 1,579	$ -	$ -	$ 1,200	$ 2,779
EE Progam Costs	$ 600	$ 21,027	$ 3,048	$ 5,210	$ -	$ 1,200	$ 31,085
EE Rate Rider Costs	$ 600	$ 21,027	$ -	$ 5,210	$ -	$ 1,200	$ 28,037

For RNG's PY2022 EE Plan, Covid impacted all programs. The Education/Public Awareness program was limited to information on the local radio and one energy conservation seminar conducted for licensed contractors. All low-flow showerhead kits, programmable thermostats, applications, rebates, and customer interactions were restricted to distributions within Covid protocol guidelines and electronic information transfers.

Internal Administration Third-Party costs are the costs associated with third-party program administration of RNG's EE programs. Administering the Income Qualified residential program for RNG is EnergyWorks. Third-Party administration costs include labor and other direct expense related to program implementation planning, program marketing, energy engineering and energy savings validation, direct installation of faucet aerators, low flow pre-rinse spray valves, residential insulation, tank wraps, and low-flow showerhead kits.

Internal Administration Base Rates are the costs associated with RNG personnel to implement and administer RNG's EE programs. RNG personnel assist with distribution of low-flow showerhead kits and programmable thermostats to eligible RNG customers. RNG personnel assist with oversight of existing energy efficiency programs and interfacing with RNG legal

counsel for NMPRC compliance reporting and coordination with Evergreen for M&V activity. The RNG personnel time is reflected in RNG's current base rates.

Promotional expenses for PY2022 EE Plan are the costs for local radio spots to promote energy efficiency issues, energy efficiency events in the community and to raise public awareness for energy savings, affecting RNG's customer base. The local radio station KRTN has an 85% listenership in the City of Raton.

M&V expenses are the costs incurred with Evergreen for M&V reports.

Portfolio costs include all costs related to energy efficiency activities mandated by EUEA and the Rule but are not directly associated to an individual program. Portfolio costs include legal expenses and are non-program specific. RNG retains outside counsel for its regulatory project management and required filings. For the PY2022 EE Program year, RNG did not incur any regulatory costs.

Impact Evaluation Results Summary

The following Table 8 details the PY2022 EE Plan according to the programs for Water Heating, Space Heating, Income Qualified, and Education.

Table 8: PY2022 EE Program Impact Evaluation Results Summary

Program	FY22 Actual Participation	Actual Annual Therms Saved	Actual Lifetime Therms Saved	Total Measure Budget Costs	NPV Measure Benefits	UCT
Water Heating	1	207	4,148	$ 303	$ 2,286	7.54
Space Heating	12	970	14,646	$ 2,706	$ 8,886	3.28
Income Qualified	18	10,163	167,437	$ 20,086	$ 121,336	6.04
Education	12	n/a	n/a	$ 5,210	$ 5,210	1.00
Portfolio Costs	n/a	n/a	n/a	$ 2,779	$ -	n/a
TOTAL	**43**	**11,340**	**186,231**	**$ 31,084**	**$ 137,718**	4.43

APPENDIX A: RECONCILIATION CALCULATIONS SECOND REVISED RATE RIDER NO. 6

Line No.				Over/(Under) Recovered Amounts
1	2022-2023 Cost Recovery 5.1.2022 to 4.30.2023		$	17,075.94
2	2022-2023 Acutal Plan Costs		$	28,036.42
3	2022-2023 Under Collection 4.30.23	(Line 1-Line2)	$	(10,960.48)
4	2021-2022 Over Reconciliation Amount 4.30.22		$	1,305.52
5	Current EE Progam Total Reconciliation	(Line 3 + Line 4)	$	(9,654.96)
6	Projected 23-24ccf			4,350,000
7	Proposed Cost Recovery Return per ccf	(Line 5/Line 6)	$	0.0022
8	Current EE Rate Rider per ccf		$	0.0040
9	New EE Rate Rider per ccf effective July 1, 2023	(Line 7 + Line 8)	$	0.0062

APPENDIX B

EVERGREEN ECONOMICS

MEASUREMENT AND VALUATION ANALYSIS REPORT

RATON NATURAL GAS PY2022 ENERGY EFFICIENCY PLAN

EVERGREEN ECONOMICS

1500 SW 1st Ave, Suite 1000
Portland, OR 97201

Office: 503.894.8676
www.evergreenecon.com

MEMORANDUM

Date: June 26, 2023

To: David Link and Patricia Link, Raton Natural Gas Company

From: Evergreen Evaluation Team

Re: PY2022 Raton Natural Gas EE Program Evaluation Results

This memo presents the independent evaluation results for the Raton Natural Gas Company (Raton) energy efficiency programs for program year 2022 (PY2022).

In New Mexico, the efficient programs and evaluation requirements were first established in 2005 by the New Mexico legislature's passage of the 2005 Efficient Use of Energy Act (EUEA).[1] The EUEA requires public utilities in New Mexico, in collaboration with other parties, to develop cost-effective programs that reduce energy consumption. Utilities are required to submit their proposed portfolio of programs to the New Mexico Public Regulation Commission (NMPRC) for approval. As a part of its approval process, the NMPRC must find that the program portfolio is cost effective based on the Utility Cost Test (UCT).

An additional requirement of the EUEA is that each program must be evaluated at least once every three years. As part of the evaluation requirement, Raton must submit to the NMPRC an evaluation report prepared by an independent program evaluator. The Evergreen evaluation team was chosen to be the independent evaluator for the New Mexico investor-owned utilities in May 2017.

The Evergreen evaluation team consists of the following firms:

- **Evergreen Economics** was the prime contractor and managed all evaluation tasks and deliverables; and
- **EcoMetric** provided engineering capabilities and conducted the desk reviews and the cost effectiveness analysis.

[1] NMSA §§ 62-17-1 *et seq* (SB 644). Per the New Mexico Public Regulation Commission Rule Pursuant to the requirements of the EUEA, the NMPRC issued its most recent *Energy Efficiency Rule* (*17.7.2 NMAC*) effective September 26, 2017, that sets forth the NMPRC's policy and requirements for energy efficiency and load management programs. This Rule can be found online at http://164.64.110.134/parts/title17/17.007.0002.html

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For PY2022, the following Raton programs were evaluated:

- Energy Efficiency Services
  - Water Heating (Residential)
  - Space Heating (Residential and Commercial)
- Income Qualified Energy Efficiency Services

Evaluation Methods

To verify gross savings estimates, the evaluation team conducted desk reviews for all the projects in the Income Qualified and Water Heating programs and furnace installation projects in the Space Heating program. In addition, a deemed savings review was conducted for Smart Thermostats in the Space Heating program. The goal of the desk reviews was to confirm that the operational parameters and methods for calculating savings were accurate and conform to the approaches that the evaluation team is using for the other New Mexico utilities.

The reviews included the following:

- Review of project description, documentation, and specifications;
- Confirmation of installation using program data and/or installation reports; and
- Recreation of savings calculations using technical reference manual (TRM) algorithms and inputs as documented by submitted program data and/or installation reports.

Energy Efficiency Services. The Residential Water Heating program provides a free kit to Raton residential customers who qualify through an application that is available on-line and in-office. The kit includes a low-flow showerhead, kitchen faucet aerator, and a bathroom aerator. The Residential Water Heating program also provides rebates for high efficiency water heaters and tankless water heaters. The Residential Space Heating program offers rebates for high efficiency gas furnaces and programmable thermostats. The evaluation team determined the gross realized impacts by completing either an engineering desk review or deemed savings review for all projects completed in PY2022.

Income Qualified Energy Efficiency Services. This program provides an energy assessment, safety inspection, and other energy efficiency services at no cost or low cost to low-income households. Measures include showerheads, faucet aerators, water heater insulation, pipe insulation, programmable thermostats, air and duct sealing, and insulation services. To evaluate the impacts of the Income Qualified program, the evaluation team conducted engineering desk reviews for all 18 projects completed in PY2022.

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Impact Evaluation Results Summary

The results of the PY2022 impact evaluation for all programs are shown in Table 1. Additionally, all of the measures installed in the Energy Efficiency Services and Income Qualified programs utilized algorithms and assumptions contained in the New Mexico (NM) TRM to calculate the *ex ante* savings. For applicable measures, the evaluation team reviewed project-specific inputs and project documentation to confirm that the proper TRM algorithms and associated input values were used.

Table 1: PY2022 Savings Summary – Therms

Program	# of Participants	Expected Gross Therm Savings	Engineering Adjustment Factor	Realized Gross Therm Savings	NTG Ratio	Realized Net Therm Savings
Water Heating Energy Efficiency Services	1	207	1.0000	207	1.0000	207
Space Heating Energy Efficiency Services (Residential)	2	176	2.8076	495	1.0000	495
Space Heating Energy Efficiency Services (Commercial)	10	475	1.0000	475	1.0000	475
Income Qualified Energy Efficiency Services	18	10,166	0.9997	10,163	1.0000	10,163
Total	**31**	**11,025**		**11,340**		**11,340**

Lifetime therm savings are shown in Table 2 by program and for the portfolio overall. This includes expected gross, realized gross, and realized net lifetime savings.

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Table 2: PY2022 Lifetime Savings Summary – Therms

Program	Expected Gross Lifetime Savings (therms)	Realized Gross Lifetime Savings (therms)	Realized Net Lifetime Savings (therms)
Water Heating Energy Efficiency Services	4,148	4,148	4,148
Space Heating Energy Efficiency Services	8,276	14,646	14,646
Income Qualified Energy Efficiency Services	167,492	167,437	167,437
Total	**179,916**	**186,231**	**186,231**

Income Qualified Program

Income Qualified Gross and Net Impacts

In total, the Income Qualified program accounted for 92 percent of energy savings in Raton's overall portfolio for PY2022. Impact evaluation activities for the Income Qualified program included engineering desk reviews for all projects completed in PY2022. The evaluation team found that most deemed values and all savings algorithms and inputs aligned with the New Mexico TRM. The following findings and recommendations resulting from these reviews are discussed below.

- The evaluation team adjusted the savings for low-flow showerheads and aerators, which used 57.7 °F for inlet water temperature for the Santa Fe climate zone. According to the New Mexico TRM, the appropriate temperature is 57.5 °F.
    - **Recommendation:** Ensure the correct temperature is used from the appropriate TRM for savings calculations.
- The evaluation team adjusted the deemed savings for faucet aerator measures as described below.
    - A majority of the 1.5 gpm Faucet Aerator measures rounded the 1.60 therms deemed savings value to 2.0 therms. The *ex post* analysis used the former value, which resulted in a reduction in savings.
    - Similarly, one 1.0 gpm Faucet Aerator measure claimed a savings of 3.0 therms, which differs from the New Mexico TRM deemed value of 2.2 therms.
    - **Recommendation:** Utilize precise values in the New Mexico TRM for deemed savings calculations.

- Lastly, there is a minor variation in the realization rates for the Water Heater Tank Insulation measures due to rounding.

For net impacts, the NTG ratio for the Income Qualified program is assumed to be 1.0000 as the program serves only low-income customers. As a result, the net realized savings are equal to the gross verified savings. The final realized gross and net savings in therms are shown in Table .

Table 3: PY2022 Income Qualified Program Impact Summary

Program	# of Participants	Expected Gross Therm Savings	Engineering Adjustment Factor	Realized Gross Therm Savings	NTG Ratio	Realized Net Therm Savings
Income Qualified	18	10,166	0.9997	10,163	1.0000	10,163

Energy Efficiency Services Programs

Water Heating & Space Heating Gross and Net Impacts

In total, the Water Heating program accounted for two percent of energy savings in Raton Natural Gas's overall portfolio for PY2022. The evaluation team determined the gross realized impacts by completing engineering desk reviews for all projects completed in PY2022. The engineering desk reviews resulted in an engineering adjustment factor of 1.0000 for this program.

In total, the Residential and Commercial Space Heating program accounted for about nine percent of energy savings in Raton Natural Gas's overall portfolio for PY2022. The evaluation team determined the gross realized impacts by completing engineering desk reviews or deemed savings reviews for all projects completed in PY2022. The engineering desk reviews and deemed savings reviews resulted in an engineering adjustment factor of 2.8076 for the Residential program and 1.0000 for the Commercial program. The following findings and recommendations resulting from these reviews are discussed below.

- The evaluation team adjusted the savings for the high efficiency gas furnace measure as described below.
  - The *ex ante* calculation used an older version of the New Mexico TRM for the natural gas furnace (AFUE 92 or above) measure.
  - Additionally, the *ex ante* calculation used an AFUE of 0.92 for both furnaces instead of the AFUE of 0.96 as demonstrated by the project documentation.

- The *ex post* calculation used the algorithm corresponding to the measure "4.10 High Efficiency Gas Furnace" in the 2021 TRM to calculate savings.
- **Recommendation**: Utilize the appropriate version of the New Mexico TRM for savings calculations.

Table 4 shows the results of the desk and deemed savings reviews and how the resulting engineering adjustment factors were used to calculate realized savings.

Table 4: PY2022 Energy Efficiency Services Program Gross Impact Summary

Program	# of Participants	Expected Gross Therm Savings	Engineering Adjustment Factor	Realized Gross Therm Savings
Water Heating	1	207	1.0000	207
Space Heating (Residential)	2	176	2.8076	495
Space Heating (Commercial)	10	475	1.0000	475

As with the other programs, the NTG ratio is deemed at 1.0000 and the net realized savings are equal to the gross realized savings. The final realized gross and net savings in therms are shown in Table .

Table 5: PY2022 Energy Efficiency Services Program Net Impact Summary

Program	# of Participants	Realized Gross Therm Savings	NTG Ratio	Realized Net Therm Savings
Water Heating	1	207	1.0000	207
Space Heating (Residential)	2	495	1.0000	495
Space Heating (Commercial)	10	475	1.0000	475

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Cost Effectiveness Results

For each of the evaluated programs, the evaluation team estimated realized gross and net therm impacts and calculated program cost effectiveness using the Utility Cost Test (UCT).

The evaluation team calculated cost effectiveness using the UCT for each individual Raton energy efficiency program, as well as the cost effectiveness of the entire portfolio of programs.[2] The evaluation team conducted these tests in a manner consistent with the California Energy Efficiency Policy Manual.[3]

Cost effectiveness tests compare relative benefits and costs from different perspectives. The specific cost effectiveness test used in this evaluation, the UCT, compares the benefits and costs to the utility or program administrator implementing the program. The UCT explicitly accounts for the benefits and costs shown in Table .

Table 6: Utility Cost Test Benefits and Costs

Benefits	Costs
• Utility avoided energy-related costs	• Program overhead/administrative costs • Vendor costs

Using net realized savings from the evaluation and cost information provided by Raton, the evaluation team calculated the ratio of benefits to costs for each of the programs and for the portfolio overall. The "Portfolio" administrative and vendor costs provided by Raton Natural Gas were applied to the portfolio-level UCT but were not included in the calculations for the individual programs. The results of the UCT are shown in Table . All programs had a UCT of greater than 1.00, and the portfolio overall was found to have a UCT ratio of 6.01. Overall, the level of administrative costs and vendor costs were low relative to the savings achieved by the programs.

[2] The Utility Cost Test is sometime referred to as the Program Administrator Cost Test, or PACT.

[3] California Public Utilities Commission. 2020. *California Energy Efficiency Policy Manual – Version 6*. https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/e/6442465683-eepolicymanualrevised-march-20-2020-b.pdf

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Table 7: PY2022 Cost Effectiveness

Program	Utility Cost Test (UCT)
Water Heating	22.17
Space Heating	31.75
Income Qualified	6.04
Overall Portfolio	**6.01**