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January 26, 2023

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

**Re: Pa. PUC v. UGI Utilities, Inc. – Gas Division
Docket Nos. R-2018-3006814, et al.**

Dear Secretary Chiavetta:

Enclosed for filing on behalf of UGI Utilities, Inc. – Gas Division (“UGI Gas” or “the Company”) is the Annual Report for the period October 1, 2021 through September 30, 2022, which is Program Year 3 of Phase I of the Energy Efficiency and Conservation Plan (“EE&C”) for UGI Gas.

The Phase I EE&C Plan was approved as part of the settlement of the Company’s 2019 base rate proceeding at Docket No. R-2018-3006814. As such, the Annual Report is being served on the parties in the 2019 base rate proceeding, per the enclosed Certificate of Service.

Respectfully submitted,



Devin Ryan

DR/dmc
Enclosures

cc: Certificate of Service
Bureau of Technical Utility Services

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

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Date: January 26, 2023



Devin T. Ryan, Esquire

Report to the Pennsylvania Public Utility Commission

UGI Utilities, Inc. – Gas Division
Energy Efficiency and Conservation Plan
Phase I Program Year 3 (FY2022)
October 1, 2021 - September 30, 2022

Prepared by UGI Utilities, Inc. - Gas Division
Filing Date: 01/26/23

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1 EXECUTIVE SUMMARY

This Annual Report covers the third year of Phase I of the UGI Utilities, Inc.– Gas Division’s (UGI Gas or the Company) Energy Efficiency and Conservation (EE&C) Plan, which was approved as part of UGI Gas’s 2019 Rate Case (Docket No. R-2018-3006814). Phase I Program Year 3 (FY2022) covers the period of October 1, 2021, through September 30, 2022. As highlighted below, the EE&C Plan continued the success of last year into and throughout FY2022:

- Costs for the EE&C Portfolio (including CHP) were \$11.0 million, or 84% of budgeted annual costs. Excluding CHP, the Energy Efficiency (EE) programs spent \$10.7 million, or 86% of budgeted annual costs.
- Savings for the EE programs (excluding CHP) were 281,069 MMBtus, or 104% of projections.
- The EE programs (excluding CHP) provided \$27.3 million in present value of net benefits to customers with a benefit-to-cost ratio (BCR) of 2.76 as calculated under the Total Resource Cost (TRC) Test, including Demand Reduction Induced Price Effect (DRIPE) and the market price for CO₂. Under the TRC Test without DRIPE and CO₂, the Portfolio provided \$15.9 million in present value of net benefits to customers with a BCR of 2.02.
- The Combined Heat and Power (CHP) Program paid one incentive of \$250,000 in FY2022. UGI Gas spent an additional \$28,913 on administration and evaluation activity during the fiscal year for CHP.
- The Nonresidential Custom (NC) Program spent 99% of budget, paid 104% of projected incentives, and achieved 257% of projected annual MMBtu savings. This represents a 200% increase in incentive payments and a 314% increase in gas savings compared to FY2021.
- While still below projections from the original portfolio filing, the Nonresidential Prescriptive (NP) Program did experience growth of 134% in customer incentives and 221% in annual gas savings compared to FY2021.
- The Residential New Construction (RNC) Program achieved 109% of annual natural gas savings projections due to continued strong demand in the Pennsylvania new construction market in FY2022.

2 PORTFOLIO OVERVIEW

2.1 Background

In January 2016, UGI Gas proposed a voluntary, five-year EE&C Plan as part of its 2016 base rate case (Docket No. R-2015-2518438). By its order entered October 14, 2016, the Commission approved the EE&C Plan (as amended by settlement in the proceeding). On October 4, 2019, the Commission entered an order at Docket No. R-2018-3006814 approving the settlement of UGI Gas's 2019 base rate proceeding and approving a new unified five-year UGI Gas EE&C Plan for UGI Gas's fiscal years 2020-2024. The new EE&C Plan launched on November 1, 2019. Eligible rate classes for commercial customers were expanded to include Rates DS and LFD.

UGI Gas respectfully submits this report documenting the FY2022 EE&C Plan results. The results set forth below represent a portfolio of cost-effective EE&C programs that benefit the customer through decreased energy costs while maintaining cost-effectiveness under the TRC Test.

In FY2022, UGI Gas had six natural gas programs in its EE&C Portfolio, including one program focused on CHP. These programs were:

- Residential Prescriptive (RP) Program
- Nonresidential Prescriptive (NP) Program
- Residential New Construction (RNC) Program
- Nonresidential Custom (NC) Program
- Residential Retrofit (RR) Program
- Combined Heat and Power (CHP) Program

These programs followed the designs and goals established in UGI Gas's 2019 Rate Case. All the EE&C programs were voluntary and offered UGI Gas customers in the Company's service territory in Pennsylvania a wide range of efficiency measures to decrease natural gas consumption and annual customer energy costs.

2.2 Summary of Activity

EE Program spending was \$10.7 million or 86% of budget, while annual savings of 281,069 MMBtus were 104% of FY2022 projections. The savings were primarily driven by the continued success of the Residential Prescriptive, Residential New Construction, and Nonresidential Custom programs. The EE programs provided \$27.3 million in present value of net benefits, with a BCR of 2.76 where the market price of CO₂ and DRIPE were counted. Where DRIPE and CO₂ were excluded from the calculation, the EE programs provided \$15.9 million in present value of net benefits, with a BCR of

2.02. The following tables provide a high-level overview of the EE&C Portfolio's spending and savings for FY2022.

Table 1. EE&C PORTFOLIO SUMMARY - FY2022			
Component (Nominal \$)	Actual	Budget	%
Portfolio Spending	\$11,018,415	\$13,127,500	84 %
EE Program	\$10,739,502	\$12,492,500	86 %
CHP Program	\$278,913	\$635,000	44 %
EE Program Natural Gas Savings			
Annual (MMBtus)	281,069	271,510	104 %
Lifetime (MMBtus)	5,655,066	5,419,745	104 %
CHP Net Primary Energy Savings			
Annual (MMBtus)	79,335	339,710	23 %
Lifetime (MMBtus)	1,586,702	5,095,656	31 %

Table 2. EE&C PORTFOLIO SUMMARY - PHASE			
Component (Nominal \$)	Actual	Budget	%
Portfolio Spending	\$30,195,820	\$63,369,600	48 %
EE Program	\$29,637,676	\$59,927,100	49 %
CHP Program	\$558,143	\$3,442,500	16 %
EE Program Natural Gas Savings			
Annual (MMBtus)	689,481	1,279,546	54 %
Lifetime (MMBtus)	13,605,245	25,457,796	53 %
CHP Net Primary Energy Savings			
Annual (MMBtus)	140,246	1,755,747	8 %
Lifetime (MMBtus)	2,804,915	26,336,203	11 %

2.2.1 Summary of Program Costs

Table 3. EE&C PORTFOLIO COSTS AND PARTICIPATION BY PROGRAM - FY2022				
Program	Total	Incentive	Non-Incentive	Customers*
Residential Prescriptive (RP)	\$5,389,375	\$5,097,300	\$292,075	9,767
Nonresidential Prescriptive (NP)	\$360,578	\$312,728	\$47,850	76
Residential Retrofit (RR)	\$479,128	\$186,265	\$292,863	398
Residential New Construction (RNC)	\$2,283,134	\$1,685,489	\$597,645	1,365
Nonresidential Custom (NC)	\$1,449,739	\$1,083,731	\$366,008	65
Portfolio Wide (PW)	\$777,547	\$0	\$777,547	0
Energy Efficiency Total	\$10,739,502	\$8,365,513	\$2,373,988	11,671
Combined Heat and Power (CHP)	\$278,913	\$250,000	\$28,913	1
Portfolio Total	\$11,018,415	\$8,615,513	\$2,402,901	11,672

*Represents unique customers who have received a rebate.

2.2.2 Summary of Program Savings

Table 4. ENERGY EFFICIENCY PORTFOLIO SAVINGS BY PROGRAM - FY2022							
Program	Natural Gas (MMBtu)		Electric Energy (MWh)		Capacity	Water Savings (Gal)	
	Annual	Lifetime	Annual	Lifetime	MW-yr.	Annual	Lifetime
Residential Prescriptive (RP)	121,710	2,264,962	2,442.4	42,131.2	0.559	0	0
Nonresidential Prescriptive (NP)	29,272	544,285	2.3	27.1	0.000	141,296	2,087,940
Residential Retrofit (RR)	2,889	71,151	24.6	668.4	0.005	454,914	4,715,900
Residential New Construction (RNC)	42,753	983,329	2,838.5	65,285.4	1.316	3,677,359	84,579,257
Nonresidential Custom (NC)	84,444	1,791,339	39.8	827.4	0.004	9,298	185,960
Energy Efficiency Total	281,069	5,655,066	5,347.6	108,939.4	1.884	4,282,867	91,569,057

Table 5. CHP PROGRAM SAVINGS

Savings	FY2022		Phase	
	Annual	Lifetime	Annual	Lifetime
Net Primary Fuel Savings (MMBtus)	79,335	1,586,702	140,246	2,804,915

2.2.3 Summary of Program Cost Effectiveness

Table 6. EE&C PORTFOLIO COST-EFFECTIVENESS BY PROGRAM - FY2022 - PV Year (2018)

Program	TRC Test - Base Case				TRC Test - Base Case + DRIPE & CO2			
	NPV Benefits	NPV Costs	NPV Net	BCR	NPV Benefits	NPV Costs	NPV Net	BCR
Residential Prescriptive (RP)	\$14,713,068	\$8,172,591	\$6,540,477	1.80	\$19,651,670	\$8,172,591	\$11,479,080	2.40
Nonresidential Prescriptive (NP)	\$3,109,787	\$515,576	\$2,594,211	6.03	\$4,007,082	\$515,576	\$3,491,505	7.77
Residential Retrofit (RR)	\$382,167	\$556,778	(\$174,610)	0.69	\$498,904	\$556,778	(\$57,874)	0.90
Residential New Construction (RNC)	\$7,305,877	\$2,999,115	\$4,306,762	2.44	\$10,047,900	\$2,999,115	\$7,048,785	3.35
Nonresidential Custom (NC)	\$5,874,704	\$2,674,206	\$3,200,498	2.20	\$8,632,525	\$2,674,206	\$5,958,320	3.23
Portfolio Wide (PW)	\$0	\$581,362	(\$581,362)	0.00	\$0	\$581,362	(\$581,362)	0.00
Energy Efficiency Total	\$31,385,604	\$15,499,627	\$15,885,977	2.02	\$42,838,082	\$15,499,627	\$27,338,455	2.76
Combined Heat and Power (CHP)	\$3,415,212	\$1,513,625	\$1,901,587	2.26	\$10,111,563	\$1,513,625	\$8,597,937	6.68
Portfolio Total	\$34,800,816	\$17,013,252	\$17,787,564	2.05	\$52,949,644	\$17,013,252	\$35,936,392	3.11

2.3 Progress in Support of Commitments

UGI Gas made significant progress toward its savings goals, achieving 104% of its FY2022 annual MMBtu projections, while keeping administration costs to only 82% of projections. The success of FY2022 can be largely attributed to the growth of the NC Program, for which savings were 257% of projections, and the continued performance of the RNC Program, for which savings were 109% of projections. Overall, UGI Gas has spent \$30.2 million phase-to-date, or approximately 48% of the approved five-year budget of \$63.4 million.

UGI Gas kept the commitments it made in the settlement of its 2016 Base Rate Case. One of the settlement provisions requires the Company to limit the percentage of costs spent by the utility on the NP and NC Programs to 55% or less of the total cost to the utility and customer over the five-year life of the plan. The following table shows that this value is 46% for the phase to date.

Program	Utility Cost	Incremental Participant Cost	Total Cost	%Utility
Nonresidential Prescriptive (NP)	\$834,755	\$477,873	\$1,312,628	64 %
Nonresidential Custom (NC)	\$2,744,012	\$3,723,835	\$6,467,847	42 %
Total	\$3,578,766	\$4,201,708	\$7,780,475	46 %

Additionally, the Company agreed to: (1) develop targeted marketing materials for existing residential multi-family customers and new multi-family residential construction, including master-metered multi-family residences; (2) coordinate with the Housing Alliance of Pennsylvania and the Pennsylvania Housing Finance Authority (PHFA); and (3) track participation for buildings with more than one unit.

UGI Gas developed email marketing campaigns to focus on multi-family stakeholders. The emails were sent in July and September 2022, with one email sent to builders and developers and another sent to customers living in multi-family buildings.

UGI Gas maintained regular communications with the Housing Alliance throughout the fiscal year and exhibited at their Homes Within Reach conference on December 1st and 2nd, 2021. UGI Gas also participated in a webinar coordinated by the Pennsylvania Utility Law Project on September 28, 2022. The presentation targeted builders, community organizations and other stakeholders in the multi-family/low-income arena in the Scranton-Wilkes-Barre region.

In FY2022, UGI Gas identified 138 rebates in the RP and NP program that were tied to buildings with more than one unit, which represented \$41,700 in total rebates.

Finally, UGI Gas continued to be compliant with settlement provisions which required the Company to: (1) inform customers who contact UGI Gas or its Conservation Service Providers (CSPs) with interest in participating in the EE&C Plan that they might qualify for the Company’s Low Income Usage Reduction Program (LIURP), if they are income qualified; (2) refer such customers to LIURP; and (3) refer confirmed low-income customers to LIURP. In FY2022, UGI Gas referred 4 customers to the Company’s LIURP Team.

2.3.1 Portfolio Costs

Table 8. EE&C PORTFOLIO COSTS BY CATEGORY - FY2022			
Component (Nominal \$)	Actual	Budget	%
Direct Utility Costs	\$11,018,415	\$13,127,500	84 %
Customer Incentives	\$8,615,513	\$9,849,500	87 %
Administration	\$2,121,296	\$2,583,000	82 %
Marketing	\$143,747	\$403,000	36 %
Inspections	\$90,294	\$202,000	45 %
Evaluations	\$47,565	\$90,000	53 %
Incremental Participant Costs	\$11,157,622	\$21,585,827	52 %

Table 9. EE&C PORTFOLIO COSTS BY CATEGORY - PHASE			
Component (Nominal \$)	Actual	Budget	%
Direct Utility Costs	\$30,195,820	\$63,369,600	48 %
Customer Incentives	\$23,375,000	\$46,377,100	50 %
Administration	\$5,598,768	\$13,287,000	42 %
Marketing	\$530,570	\$2,027,000	26 %
Inspections	\$271,939	\$983,500	28 %
Evaluations	\$419,544	\$695,000	60 %
Incremental Participant Costs	\$28,373,562	\$109,327,605	26 %

2.3.2 Portfolio Savings

Table 10. EE&C PORTFOLIO SAVINGS - FY2022			
Type	Actual	Projected	%
EE Programs			
Natural Gas (MMBtus)			
Annual	281,069	271,510	104 %
Lifetime	5,655,066	5,419,745	104 %
Electric Energy (MWh)			
Annual	5,347.6	1,762.6	303 %
Lifetime	108,939.4	34,002.4	320 %
Capacity Savings (MW)	1.884	0.511	369 %
Water Savings (Gallons)			
Annual	4,282,867	3,921,308	109 %
Lifetime	91,569,057	55,614,378	165 %
CHP Program			
Net Primary Energy Savings			
Annual (MMBtus)	79,335	339,710	23 %
Lifetime (MMBtus)	1,586,702	5,095,656	31 %

Table 11. EE&C PORTFOLIO SAVINGS - PHASE			
Type	Actual	Projected	%
EE Programs			
Natural Gas (MMBtus)			
Annual	689,481	1,279,546	54 %
Lifetime	13,605,245	25,457,796	53 %
Electric Energy (MWh)			
Annual	15,064.6	7,524.0	200 %
Lifetime	295,050.0	143,845.0	205 %
Capacity Savings (MW)	5.092	2.361	216 %
Water Savings (Gallons)			
Annual	11,500,641	21,932,270	52 %
Lifetime	204,918,075	299,291,194	68 %
CHP Program			
Net Primary Energy Savings			
Annual (MMBtus)	140,246	1,755,747	8 %
Lifetime (MMBtus)	2,804,915	26,336,203	11 %

3 PROGRAM RESULTS

3.1 Residential Prescriptive Program

(Rate Classes R/RT, N/NT)

3.1.1 Program Description

The Residential Prescriptive (RP) Program was designed to overcome market barriers to energy efficient space and water heating equipment in the residential sector through rebates and customer awareness. The objective of the program was to avoid lost opportunities by encouraging consumers to install the most efficient gas heating technologies available when replacing older, less efficient equipment. The program also aimed to strengthen UGI Gas’s relationship with heating, ventilation and air conditioning (HVAC) contractors, suppliers, and other trade allies.

3.1.2 Program Highlights

The RP Program spent \$5,389,375 in FY2022, of which \$5,097,300 were customer incentives. The program provided first year gas savings of 121,710 MMBtus (89% of plan projections) and lifetime gas savings of 2,264,962 MMBtus (85% of plan projections). Under the TRC Test, including DRIPE and CO₂, the RP Program provided \$11,479,080 in present value of net benefits (2018\$) with a BCR of 2.40. Without DRIPE or CO₂, the RP Program provided \$6,540,477 in present value of net benefits (2018\$) with a BCR of 1.80.

In FY2022, 9,767 customers participated in the RP Program in FY2022, with 947 customers receiving multiple rebates. For example, customers installing heating equipment also may have decided to install a smart thermostat. Below is a table that highlights the rebates issued by equipment type.

Equipment	Rebates Issued
Smart Thermostat	6,015
Residential Furnace	3,803
Combi Boiler	1,265
Tankless Water Heater	800
Residential Boiler	308
Total	12,191

3.1.2.1 Marketing Activity

Due to the success of the RP Program in FY2021, much of the same marketing strategy was continued into FY2022. The strategy continued to include outreach to HVAC contractors, customer bill inserts, digital advertising on social media, email marketing, marketplace promotions, and

energy efficiency content on the UGI website. Marketing content focused on educating customers on the various energy efficiency options available, along with providing energy saving tips.

To celebrate Earth Day, a limited-time promotion was implemented to encourage the purchase of Energy Star® smart thermostats via the UGI Marketplace. During this 20-day promotion (4/6-4/26), 1,019 thermostats were purchased. During the purchase, customers were given an instant rebate at the point of sale, making it an easy and convenient process.

3.1.2.2 Inspection and Evaluation Activity

Energy Federation, Inc. (EFI), the CSP responsible for processing rebates, also was retained to provide inspections on a subset of applications. The purpose of these inspections was to confirm that the equipment on the rebate application matched the equipment that was installed in the customer’s home. Payment of the rebate was withheld from applications flagged for inspection until such activity was completed. In FY2022, 418 inspections were performed, with no inspections failing.

In FY2022, no money was spent on evaluation activities. The Company will continue to manage the evaluation budget on a five-year timeframe as the timing of evaluation activity may vary compared to the original assumptions from the Plan filing.

3.1.3 Program Updates for FY2022

There are no program updates to report at this time.

3.1.4 Residential Prescriptive Program Results

Component (Nominal \$)	FY2022 - Actual	FY2022 - Budget	%
Direct Utility Costs	\$5,389,375	\$6,364,100	85 %
Customer Incentives	\$5,097,300	\$5,953,100	86 %
Administration	\$146,459	\$166,000	88 %
Marketing	\$91,542	\$143,000	64 %
Inspections	\$54,470	\$102,000	53 %
Evaluations	(\$397)	\$ 0	0 %
Incremental Participant Costs	\$5,137,806	\$3,845,212	134 %

Type	FY2022 - Actual	FY2022 - Projected	%
Natural Gas (MMBtus)			
Annual	121,710	136,827	89 %
Lifetime	2,264,962	2,649,411	85 %
Electric Energy (MWh)			
Annual	2,442.4	82.4	2963 %
Lifetime	42,131.2	906.6	4647 %
Capacity Savings (MW)	0.559	0.000	0 %
Water Savings (Gallons)			
Annual	0	0	0 %
Lifetime	0	0	0 %

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$19,651,670	\$62,827,066
TRC NPV Costs	\$8,172,591	\$27,055,599
TRC Net Benefits	\$11,479,080	\$35,771,467
TRC Benefit/Cost Ratio	2.40	2.32

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$14,713,068	\$47,941,409
TRC NPV Costs	\$8,172,591	\$27,055,599
TRC Net Benefits	\$6,540,477	\$20,885,810
TRC Benefit/Cost Ratio	1.80	1.77

3.2 Nonresidential Prescriptive Program

(Rate Classes N/NT, DS, LFD)

3.2.1 Program Description

The Nonresidential Prescriptive (NP) Program was designed to overcome market barriers to energy efficient equipment in the business and commercial sector through rebates and customer outreach. The objective of the program was to encourage business owners to install the most efficient gas heating technologies available to replace older, less efficient equipment. The program also aimed to strengthen UGI Gas's relationships with HVAC contractors, suppliers, and other trade allies. Addressing traditional challenges in engaging this market, a midstream incentive pathway (Distributor Instant Discount Program) was included in the program. This allowed customers or their contractors to obtain incentives at the point of sale. Incentive levels are the same in the downstream and midstream pathways.

3.2.2 Program Highlights

The NP Program spent \$360,578 in FY2022, of which \$312,728 were customer incentives. The program provided first year gas savings of 29,272 MMBtus (51% of plan projections) and lifetime gas savings of 544,286 MMBtus (44% of plan projections). Under the TRC Test, including DRIPE and CO₂, the NP Program provided \$3,491,505 in present value of net benefits (2018\$) with a BCR of 7.77. Without factoring in DRIPE or CO₂, the NP Program provided \$2,594,211 in present value of net benefits (2018\$) with a BCR of 6.03. It should be noted that, while the program is still falling short of original projections, the improvement over FY2021 was dramatic, with customer incentives up by 134% and first-year gas savings up by 221%.

UGI Gas utilized the services of Energy Federation, Inc. (EFI) to process rebates and provide customer service. UGI Gas also retained Performance Systems Development (PSD) to manage the midstream application portal and process. Below is a chart that summarizes rebate activity for FY2022.

Equipment	Rebates Issued
Commercial Water Heater	100
Efficient Unit Heater	47
Commercial Boiler	19
Commercial Fryer	3
Dishwasher (High Temp - Stationary Single Tank Door)	1
Dishwasher (High Temp – Undercounter)	1
Dishwasher (Low Temp - Stationary Single Tank Door)	1
Total	172

3.2.2.1 Marketing Activity

Marketing activity for the NP Program was conducted in conjunction with the marketing activity for the RP Program, including contractor outreach, newsletters, bill inserts, and digital advertising. For the midstream component of NP, marketing was primarily through direct outreach to recruit and train participating distributors. The midstream component has a separate landing page that lists participating distributors and how to participate. Messaging directed customers and contractors to the webpage to learn more about the program. Distributors were also provided with point-of-purchase displays and co-branded promotional flyers for use in their stores. Distributors continued to report that supply-chain issues and manufacturing delays made it more challenging to upsell to equipment that is not normally stocked.

In a continuing effort to reach the restaurant and food service market, UGI Gas maintained its membership in the Pennsylvania Restaurant and Lodging Association (PRLA) and participated in a webinar on October 14th. This market segment has continued to be challenging to engage.

3.2.2.2 Inspection and Evaluation Activity

In previous years, inspections were performed by EFI, the CSP responsible for processing rebates, to confirm that the equipment on the rebate application matched the equipment that was installed in the customer’s business. However, because inspections for the NP program were pooled with the much larger RP program and selected randomly, it happened that no NP projects were inspected in FY2021. To ensure compliance with NP inspection goals going forward, inspections for NP were brought in-house for FY2022. UGI Gas completed 15 inspections for the year, and all projects passed.

In FY2022, no money was spent on evaluation activities. The Company will continue to manage the evaluation budget on a five-year timeframe as the timing of evaluation activity may vary compared to the original assumptions from the Plan filing.

3.2.3 Program Updates for FY2022

There are no program updates to report at this time.

3.2.4 Nonresidential Prescriptive Program Results

Component (Nominal \$)	FY2022 - Actual	FY2022 - Budget	%
Direct Utility Costs	\$ 360,578	\$ 995,700	36 %
Customer Incentives	\$ 312,728	\$ 853,700	37 %
Administration	\$ 42,534	\$ 77,000	55 %
Marketing	\$ 5,986	\$ 54,000	11 %
Inspections	\$ 0	\$ 11,000	0 %
Evaluations	(\$670)	\$ 0	0 %
Incremental Participant Costs	\$ 309,815	\$ 1,212,057	26 %

Type	FY2022 - Actual	FY2022 - Projected	%
Natural Gas (MMBtus)			
Annual	29,272	57,209	51 %
Lifetime	544,286	1,237,197	44 %
Electric Energy (MWh)			
Annual	2.3	54.5	4 %
Lifetime	27.1	700.7	4 %
Capacity Savings (MW)	0.000	0.007	4 %
Water Savings (Gallons)			
Annual	141,296	3,413,079	4 %
Lifetime	2,087,940	50,523,665	4 %

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 4,007,082	\$ 6,361,228
TRC NPV Costs	\$ 515,576	\$ 1,078,052
TRC Net Benefits	\$ 3,491,505	\$ 5,283,176
TRC Benefit/Cost Ratio	7.77	5.90

Table 21. PROGRAM COST-EFFECTIVENESS (BASE CASE) PV Year (2018)

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 3,109,787	\$ 4,980,940
TRC NPV Costs	\$ 515,576	\$ 1,078,052
TRC Net Benefits	\$ 2,594,211	\$ 3,902,887
TRC Benefit/Cost Ratio	6.03	4.62

3.3 Residential New Construction Program

(Rate Classes R/RT)

3.3.1 Program Description

The Residential New Construction (RNC) Program was designed to overcome market barriers to energy efficient space and water heating equipment, as well as high efficiency thermal envelopes, in the residential new construction sector. This was accomplished through rebates offered to builders and developers. The objective of the program was to avoid lost opportunities by encouraging builders and developers to install the most efficient gas heating technologies available instead of less efficient baseline equipment, as well as promote thermal envelope best practices. The program also aimed to strengthen UGI Gas’s relationship with builders, HVAC contractors, suppliers, and other trade allies.

For the residential new construction track, the program required builders to work with a Home Energy Rating System (HERS) rater on their home. An incentive of \$40 per annual MMBtu saved was paid to a new home, heated with natural gas, that achieved savings of 15% over 2015 IECC or greater. A \$45 per annual MMBtu incentive was paid to homes that achieved savings of 15% over code and achieved Energy Star® certification. The higher incentive was designed to move the market towards more homes being Energy Star® certified and to leverage the HERS rating approach taken by the electric distribution companies (EDCs) under their Act 129 new construction programs.

3.3.2 Program Highlights

The RNC Program spent \$2,283,134, of which \$1,685,489 was customer incentives. The program provided first year gas savings of 42,753 MMBtus, 109% of plan projections. Under the TRC Test, including DRIPE and CO₂, the RNC Program provided \$7,048,785 in present value of net benefits (2018\$) with a BCR of 3.35. Without DRIPE or CO₂, the RNC Program provided \$4,306,762 in present value of net benefits (2018\$) with a BCR of 2.44.

UGI Gas utilized the services of PSD as the program implementer for the RNC Program. Below is a chart of participation by rebate type in the RNC program:

Rebate Level	Rebate Count
15% Above Code	1,288
15% Above Code + Energy STAR	77
Total	1,365

3.3.2.1 Marketing Activity

In 2022, marketing was conducted through established builders and HERS raters who have been participants in the programs mandated for large EDCs by Act 129 of 2008, P.L. 1592 (Act 129). Also, emails and/or newsletters with program updates were periodically distributed to all participating builders and raters that participated in the program.

3.3.2.2 Inspection and Evaluation Activity

There was a total of 28 HERS ratings reviewed by PSD. All reviewed ratings passed inspection.

3.3.3 Program Updates for FY2022

Due to higher than expected program participation, the incentives levels were changed from \$40 per annual MMBtu for 15% above 2015 IECC and \$45 per annual MMBtu for 15% above 2015 IECC and Energy Star certification, to \$30 per annual MMBtu and \$40 per annual MMBtu. UGI Gas also implemented an incentive cap for both tiers at \$1,750 per home. These changes took effect beginning August 31, 2022.

3.3.4 Residential New Construction Program Results

Component (Nominal \$)	FY2022 - Actual	FY2022 - Budget	%
Direct Utility Costs	\$ 2,283,134	\$ 2,083,700	110 %
Customer Incentives	\$ 1,685,489	\$ 1,356,700	124 %
Administration	\$ 581,529	\$ 631,000	92 %
Marketing	\$ 0	\$ 50,000	0 %
Inspections	\$ 16,116	\$ 46,000	35 %
Evaluations	\$ 0	\$ 0	0 %
Incremental Participant Costs	\$ 1,631,763	\$ 265,488	615 %

Type	FY2022 - Actual	FY2022 - Projected	%
Natural Gas (MMBtus)			
Annual	42,753	39,185	109 %
Lifetime	983,329	783,703	125 %
Electric Energy (MWh)			
Annual	2,838.5	1,573.7	180 %
Lifetime	65,285.4	31,473.1	207 %
Capacity Savings (MW)	1.316	0.460	286 %
Water Savings (Gallons)			
Annual	3,677,359	0	0 %
Lifetime	84,579,257	0	0 %

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 10,047,900	\$ 30,664,465
TRC NPV Costs	\$ 2,999,115	\$ 7,789,141
TRC Net Benefits	\$ 7,048,785	\$ 22,875,324
TRC Benefit/Cost Ratio	3.35	3.94

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 7,305,877	\$ 22,796,645
TRC NPV Costs	\$ 2,999,115	\$ 7,789,141
TRC Net Benefits	\$ 4,306,762	\$ 15,007,504
TRC Benefit/Cost Ratio	2.44	2.93

3.4 Residential Retrofit Program

(Rate Class R/RT)

3.4.1 Program Description

The Residential Retrofit (RR) Program was designed to overcome market barriers to energy efficiency in the existing residential sector through rebates offered either to customers undergoing a retrofit project or to their installation contractor(s). The program encouraged improvements to the thermal envelope of the structure, particularly reductions in building air leakage and increases in insulation levels, as well as installation of the most efficient gas heating technologies. The program also aimed to strengthen UGI Gas’s relationship with HVAC contractors, suppliers, and other trade allies.

The RR Program incentivized customers to have an in-home energy evaluation performed by a Building Performance Institute, Inc. (BPI) certified auditor. The contractor charged the customer \$50 for the evaluation. In addition to the \$50 from the customer, the contractor received a \$150 payment from UGI Gas for each evaluation completed. The customer fee could be waived for verified low-income customers that are not eligible for LIURP services due to usage levels. The evaluation included the direct installation of energy-saving measures as well as a visual inspection of the thermal envelope and HVAC equipment in the home. Direct-install measures included an Energy Star® smart thermostat, low-flow devices, water heater tank temperature turn down, and other energy-saving measures.

Beginning in March 2022, based on contractor feedback, UGI Gas started to include all the direct-install measures into a leave behind kit for customers during the contractor evaluation. Concurrently, the Company launched a limited time offer (LTO) where the \$50 fee to the customer was waived. The LTO ran until the end of June. Customer participation increased during this LTO and continued to trend upwards.

Kit Measure	Quantity
ENERGY STAR® Certified Nest Thermostat	1
Handheld Low-Flow Showerhead	1
Kitchen Sink Aerator	1
Bathroom Sink Aerator	2
Plug-in Carbon Monoxide Detector	1
Light-Switch Gaskets	10
Power Outlet Gaskets	10

After the evaluation, the customer received a report that included a list of recommended cost-effective measures with corresponding incentive levels. After the completion of a retrofit job, the

customer was required to have a test-out evaluation performed by the contractor, and a rebate was issued for the measures that were installed. Efficiency measures and incentives are listed below.

Table 28. RESIDENTIAL RETROFIT INCENTIVE SCHEDULE	
Improvement Type	Incentive to Customer
Efficient Space Heating System	\$500 - \$1,500
Heating Pipe Insulation	\$5 - \$15 per ft.
Air Infiltration Reduction	\$150 - \$500
Roof/Ceiling Insulation	\$0.35 - \$2.00 per sq. ft.
Wall Insulation	\$0.30 - \$1.50 per sq. ft.
Duct Insulation	\$5 per ft.
Duct Sealing	\$75 - \$300
Smart Thermostat Installation	\$100
Low-Flow Fixtures	\$5 - \$30
Efficient Water Heater	\$300 - \$400
Water Heater Pipe Insulation	\$15 per ft.
Tank Temperature Turn-Down	\$5

Starting in March 2022, based on contractor feedback, UGI Gas simplified the Residential Retrofit incentive schedule to make the insulation incentive easier to understand for the customers. Updates made to efficiency measures and incentives are listed below.

Table 29. RESIDENTIAL RETROFIT UPDATED INCENTIVE SCHEDULE	
Improvement Type	Incentive to Customer
Air Infiltration Reduction	25% of the total cost of all Air Sealing and Insulation (maximum of \$2,500)
Attic/Ceiling Insulation	
Wall Insulation	
Heating Pipe Insulation	\$5 - \$15 per ft.
Water Heater Pipe Insulation	\$15 per ft.
Tank Temperature Turn-Down	\$5

3.4.2 Program Highlights

UGI Gas utilized the services of PSD as the program implementer for the RR Program. The RR Program spent \$479,128 in FY22, of which \$186,265 were customer incentives. The program provided first-year gas savings of 2,889 MMBtus (53% of plan projections). The program provided lifetime gas savings of 71,151 MMBtus (77% of plan projections.) Under the TRC Test, including DRIPE and CO₂, the RR Program provided (\$57,874) in present value of net benefits (2018\$) with a BCR of 0.90. Without DRIPE or CO₂, the RR Program provided (\$174,610) in present value of net benefits (2018\$) with a BCR of 0.69. Below is a chart of participation by rebate type in the RR program:

Table 30. PROGRAM PARTICIPATION	
Measure	Rebates Issued
Home Energy – Assessments	214
Home Energy – Jobs	103
Ceiling Insulation	107
Smart Thermostat	93
CO Detector	89
Bathroom Sink Aerator	88
Kitchen Sink Aerator	87
Low Flow Showerhead - Handheld	87
Outlet Gasket	87
Switch Gasket	87
Air Sealing	72
Tank Temperature Turn-Down	66
Wall Insulation	43
DHW Pipe Insulation	23
Heating Pipe Insulation - Steam	6
Heating Pipe Insulation - Hot Water	4
Combi Boiler	1
Duct Insulation	1
Duct Sealing	1
Total	1,259

3.4.2.1 Marketing Activity

Marketing for this program was designed to drive traffic to the program website www.ugisavesmart.com. The website outlined the customer participation process, the potential rebates, benefits to customer participation, and a list of participating contractors.

UGI Gas continued to market the program through bill inserts, social media and email, and focused on simple messaging that highlighted program benefits for customers. UGI Gas provided contractors with marketing collateral and yard signs to place in their customers’ yards as they were working on projects.

3.4.2.2 Inspection and Evaluation Activity

One field inspection was conducted in the RR Program due to vendor staffing issues. However, retrofit projects were validated by PSD based on photos submitted by contractors. While inspections were limited in FY2022, it is anticipated that activity will ramp up in FY2023.

3.4.3 Program Updates for FY2022

Effective March 2022, UGI Gas started offering leave behind kits while also simplifying its process to make the insulation incentive easier to understand for customers. See Tables 27 and 29 above for additional details.

3.4.4 Residential Retrofit Program Results

Component (Nominal \$)	FY2022 - Actual	FY2022 - Budget	%
Direct Utility Costs	\$ 479,128	\$ 664,000	72 %
Customer Incentives	\$ 186,265	\$ 143,000	130 %
Administration	\$ 200,250	\$ 380,000	53 %
Marketing	\$ 45,743	\$ 67,000	68 %
Inspections	\$ 931	\$ 14,000	7 %
Evaluations	\$ 45,939	\$ 60,000	77 %
Incremental Participant Costs	\$ 251,563	\$ 689,725	36 %

Type	FY2022 - Actual	FY2022 - Projected	%
Natural Gas (MMBtus)			
Annual	2,889	5,423	53 %
Lifetime	71,151	92,113	77 %
Electric Energy (MWh)			
Annual	24.6	17.5	141 %
Lifetime	668.4	231.7	288 %
Capacity Savings (MW)	0.005	0.004	121 %
Water Savings (Gallons)			
Annual	454,914	508,229	90 %
Lifetime	4,715,900	5,090,713	93 %

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 498,904	\$ 1,265,090
TRC NPV Costs	\$ 556,778	\$ 1,632,821
TRC Net Benefits	(57,874)	(367,732)
TRC Benefit/Cost Ratio	0.90	0.77

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 382,167	\$ 968,990
TRC NPV Costs	\$ 556,778	\$ 1,632,821
TRC Net Benefits	(174,610)	(663,831)
TRC Benefit/Cost Ratio	0.69	0.59

3.5 Nonresidential Custom Program

(Rate Classes N/NT, DS, LFD)

3.5.1 Program Description

The Nonresidential Custom (NC) Program was designed to overcome market barriers for customers to install natural gas efficiency measures in existing commercial, industrial, and master-metered multi-family buildings. Projects may include replacement of equipment not covered in the NP program, retrofit of existing buildings, or exceeding baseline efficiency in new construction.

3.5.2 Program Highlights

UGI Gas utilized PSD to implement all aspects of the NC program. The program built on the success of the previous year, more than doubling the number of projects completed and incentives paid and quadrupling annual gas savings. The program spent \$1,449,739 in FY2022 (99% of budget), of which \$1,083,731 were customer incentives (104% of budget). The program provided first year gas savings of 84,444 MMBtus (257% of budget) and lifetime gas savings of 1,791,339 MMBtus (273% of budget). Under the TRC Test, including DRIPE and CO₂, the NC Program provided \$5,958,320 in present value of net benefits (2018\$) with a BCR of 3.23. Without DRIPE or CO₂, the program provided \$3,200,498 in present value of net benefits (2018\$) with a BCR of 2.20.

The NC Program provided incentives to 63 projects in FY2022. The projects were completed at colleges, schools, commercial/industrial facilities, religious organizations, government buildings, agricultural facilities, multi-family buildings, medical facilities, breweries, and offices. These projects provided cost-effective incentives to help overcome the large incremental cost of installing high-efficiency measures versus low or baseline-efficiency equipment. The rebates were issued for custom space, water and process heating measures, as well as building envelope upgrades.

3.5.2.1 *Marketing Activity*

UGI Gas utilized PSD to market the NC Program in FY2022. The strategy focused primarily on aggressive development and expansion of trade ally relationships, including engineering firms, contractors, and manufacturers. Additional marketing efforts included email outreach to commercial accounts and direct collaboration with UGI Gas's relationship managers to identify project opportunities at larger managed accounts.

3.5.2.2 Inspection and Evaluation Activity

In FY2022, 33 of the 63 completed projects were inspected by PSD and all passed prior to being paid incentives. The program was not budgeted for evaluation activity in FY2022. The Company will continue to manage the evaluation budget on a five-year timeframe, as the timing of evaluation activity may vary compared to the original assumptions from the EE&C Plan filing.

3.5.3 Program Updates for FY2022

There are no program updates to report at this time.

3.5.4 Nonresidential Custom Program Results

Component (Nominal \$)	FY2022 - Actual	FY2022 - Budget	%
Direct Utility Costs	\$ 1,449,739	\$ 1,460,000	99 %
Customer Incentives	\$ 1,083,731	\$ 1,043,000	104 %
Administration	\$ 346,755	\$ 344,000	101 %
Marketing	\$ 476	\$ 49,000	1 %
Inspections	\$ 18,777	\$ 24,000	78 %
Evaluations	\$ 0	\$ 0	0 %
Incremental Participant Costs	\$ 2,081,674	\$ 2,119,981	98 %

Type	FY2022 - Actual	FY2022 - Projected	%
Natural Gas (MMBtus)			
Annual	84,444	32,866	257 %
Lifetime	1,791,339	657,320	273 %
Electric Energy (MWh)			
Annual	39.8	34.5	115 %
Lifetime	827.4	690.3	120 %
Capacity Savings (MW)	0.004	0.040	11 %
Water Savings (Gallons)			
Annual	9,298	0	0 %
Lifetime	185,960	0	0 %

Table 37. PROGRAM COST-EFFECTIVENESS (BASE CASE + DRIPE & CO2) PV Year (2018)

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 8,632,525	\$ 13,958,225
TRC NPV Costs	\$ 2,674,206	\$ 5,148,950
TRC Net Benefits	\$ 5,958,320	\$ 8,809,275
TRC Benefit/Cost Ratio	3.23	2.71

Table 38. PROGRAM COST-EFFECTIVENESS (BASE CASE) PV Year (2018)

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 5,874,704	\$ 9,994,220
TRC NPV Costs	\$ 2,674,206	\$ 5,148,950
TRC Net Benefits	\$ 3,200,498	\$ 4,845,270
TRC Benefit/Cost Ratio	2.20	1.94

3.6 Combined Heat and Power

(Rate Classes DS, LFD)

3.6.1 Program Description

The Combined Heat and Power (CHP) Program sought to promote the installation of cost-effective and net-primary-energy-saving CHP projects and provide meaningful CO₂ emission reductions. A CHP plant produces electricity at a commercial or industrial site while at the same time using the waste heat from the production of the electricity to serve a thermal load. Net efficiencies come from the recovered heat that is typically wasted in grid electricity production. Efficiencies also stem from avoided transmission and distribution losses from delivering the electricity from the generator to the customer site.

3.6.2 Program Highlights

The CHP Program issued a single incentive of \$250,000 for a CHP plant consisting of three reciprocating internal combustion engines totaling 4.4 MW installed at a Rate LFD customer's manufacturing facility. Administrative and evaluation costs in FY2022 totaled \$28,913. The project generated 79,335 MMBtu in annual net primary energy savings. Under the TRC Test, including DRIPE and CO₂, the program provided \$8,597,937 in present value of net benefits, with a BCR of 6.68. Without DRIPE and CO₂, the program provided \$1,901,587 in present value of net benefits, with a BCR of 2.26.

3.6.2.1 *Marketing Activity*

UGI Gas leveraged customer outreach via relationship managers, who educate customers on the potential benefits of CHP installations.

3.6.2.2 *Inspection and Evaluation Activity*

The evaluation costs of \$2,692 represents EM&V, as well as an onsite inspection for the single paid project.

3.6.3 Program Updates for FY2022

There are no program updates to report at this time.

3.6.4 Combined Heat and Power Program Results

Component (Nominal \$)	FY2022 - Actual	FY2022 - Budget	%
Direct Utility Costs	\$ 278,913	\$ 635,000	44 %
Customer Incentives	\$ 250,000	\$ 500,000	50 %
Administration	\$ 26,221	\$ 60,000	44 %
Marketing	\$ 0	\$ 40,000	0 %
Inspections	\$ 0	\$ 5,000	0 %
Evaluations	\$ 2,692	\$ 30,000	9 %
Incremental Participant Costs	\$ 1,745,000	\$ 13,453,364	13 %

Equipment	FY2022		Phase	
	Annual	Lifetime	Annual	Lifetime
Net Primary Fuel Savings (MMBtus)	79,335	1,586,702	140,246	2,804,915

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 10,111,563	\$ 18,431,443
TRC NPV Costs	\$ 1,513,625	\$ 3,974,558
TRC Net Benefits	\$ 8,597,937	\$ 14,456,886
TRC Benefit/Cost Ratio	6.68	4.64

Benefits/Cost Component	FY2022	Phase
TRC NPV Benefits	\$ 3,415,212	\$ 7,350,146
TRC NPV Costs	\$ 1,513,625	\$ 3,974,558
TRC Net Benefits	\$ 1,901,587	\$ 3,375,588
TRC Benefit/Cost Ratio	2.26	1.85

4 Attachments

4.1 Technical Reference Manual

In FY2022, there were no changes made to the Technical Reference Manual (TRM) used to calculate savings for the UGI Gas EE&C Plan.