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January 11, 2022

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, 2020 through September 30, 2021, which is Program Year 2 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 11, 2022



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 2 (FY2021)
October 1, 2020 - September 30, 2021**

Prepared by UGI Utilities, Inc. - Gas Division
Filing Date: January 11, 2022

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1 EXECUTIVE SUMMARY

This Annual Report covers the second 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 2 (FY2021) covers the period of October 1, 2020, through September 30, 2021. As highlighted below, the EE&C Plan continued the success of last year into and throughout FY2021:

- Costs for the EE&C Portfolio (including CHP) were \$10.5 million, or 87% of budgeted costs. Excluding CHP, the Energy Efficiency (EE) programs spent \$10.3 million, or 90% of budgeted costs.
- Savings for the EE programs (excluding CHP) were 225,831 MMBtus, or 97% of projections.
- The EE programs (excluding CHP) provided \$24.1 million in present value of net benefits to customers with a benefit-to-cost ratio (BCR) of 2.53 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 \$14.5 million in present value of net benefits to customers with a BCR of 1.92.
- The Combined Heat and Power (CHP) Program paid one incentive of \$250,000 in FY2021. UGI Gas spent an additional \$12,368 on administration and evaluation activity during the fiscal year.
- Despite the COVID-19 pandemic, the Residential Prescriptive Program achieved 121% of annual natural gas savings projections, while the Nonresidential Custom Program achieved 95% of annual savings projections. Continuing COVID-19 impacts had a more negative effect on the Residential Retrofit and Nonresidential Prescriptive programs.
- The Residential New Construction Program achieved 481% of annual natural gas savings projections due to continued strong demand in the Pennsylvania new construction market. To address the overperformance, UGI Gas filed a petition for approval of minor EE&C Plan changes, which would reallocate approximately \$4.5 million from the Residential Retrofit Program to the Residential New Construction Program. The Pennsylvania Public Utility Commission (Commission) approved that petition by Secretarial Letter on July 21, 2021, at Docket No. R-2018-3006814.

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 FY2021 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 FY2021, 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 \$10.3 million or 90% of projected FY2021 spending, while annual savings of 225,831 MMBtus were 97% of FY2021 projections. The savings were primarily driven by the continued success of the Residential Prescriptive and Residential New Construction programs. The EE programs provided \$24.1 million in present value of net benefits, with a BCR of 2.53 where the market price of CO₂ and DRIPE were counted. Where DRIPE and CO₂ were excluded from the calculation, the EE programs provided \$14.5 million in present value of net benefits, with a BCR of

1.92. The following tables provide a high-level overview of the EE&C Portfolio's spending and savings for FY2021.

Table 1. EE&C PORTFOLIO SUMMARY - FY2021			
Component (Nominal \$)	Actual	Budget	%
Portfolio Spending	\$10,531,500	\$12,093,350	87 %
EE Program	\$10,269,132	\$11,458,350	90 %
CHP Program	\$262,368	\$635,000	41 %
EE Program Natural Gas Savings			
Annual (MMBtus)	225,831	233,604	97 %
Lifetime (MMBtus)	4,380,682	4,610,820	95 %
CHP Net Primary Energy Savings			
Annual (MMBtus)	60,911	339,710	18 %
Lifetime (MMBtus)	1,218,213	5,095,657	24 %

Table 2. EE&C PORTFOLIO SUMMARY - PHASE			
Component (Nominal \$)	Actual	Budget	%
Portfolio Spending	\$19,177,405	\$63,369,600	30 %
EE Program	\$18,898,175	\$59,927,100	32 %
CHP Program	\$279,231	\$3,442,500	8 %
EE Program Natural Gas Savings			
Annual (MMBtus)	408,412	1,279,547	32 %
Lifetime (MMBtus)	7,950,180	25,457,795	31 %
CHP Net Primary Energy Savings			
Annual (MMBtus)	60,911	1,755,747	3 %
Lifetime (MMBtus)	1,218,213	26,336,204	5 %

2.2.1 Summary of Program Costs

Table 3. EE&C PORTFOLIO COSTS AND PARTICIPATION BY PROGRAM - FY2021				
Program	Total	Incentive	Non-Incentive	Customers*
Residential Prescriptive (RP)	\$6,046,102	\$5,696,000	\$350,102	13,723
Nonresidential Prescriptive (NP)	\$229,824	\$133,872	\$95,952	50
Residential Retrofit (RR)	\$515,056	\$158,028	\$357,028	244
Residential New Construction (RNC)	\$2,110,863	\$1,605,713	\$505,150	1,123
Nonresidential Custom (NC)	\$676,908	\$360,363	\$316,545	34
Portfolio Wide (PW)	\$690,380	\$0	\$690,380	0
Energy Efficiency Total	\$10,269,132	\$7,953,974	\$2,315,158	15,174
Combined Heat and Power (CHP)	\$262,368	\$250,000	\$12,368	1
Portfolio Total	\$10,531,500	\$8,203,974	\$2,327,526	15,175

*Represents unique customers who have received a rebate.

2.2.2 Summary of Program Savings

Table 4. ENERGY EFFICIENCY PORTFOLIO SAVINGS BY PROGRAM - FY2021							
Program	Natural Gas (MMBtu)		Electric Energy (MWh)		Capacity	Water Savings (Gal)	
	Annual	Lifetime	Annual	Lifetime	MW-yr.	Annual	Lifetime
Residential Prescriptive (RP)	149,231	2,648,983	3,141.0	51,053.0	0.693	0	0
Nonresidential Prescriptive (NP)	9,116	164,311	0.0	0.0	0.000	282,264	4,233,960
Residential Retrofit (RR)	1,995	57,564	28.5	760.5	0.016	54,148	547,272
Residential New Construction (RNC)	45,114	1,037,624	2,361.2	54,308.4	1.240	2,761,506	63,514,638
Nonresidential Custom (NC)	20,375	472,201	38.8	1,309.7	0.037	27,894	557,880
Energy Efficiency Total	225,831	4,380,682	5,569.6	107,431.5	1.986	3,125,812	68,853,750

Table 5. CHP PROGRAM SAVINGS

Savings	FY2021		Phase	
	Annual	Lifetime	Annual	Lifetime
Net Primary Fuel Savings (MMBtus)	60,911	1,218,213	60,911	1,218,213

2.2.3 Summary of Program Cost Effectiveness

Table 6. EE&C PORTFOLIO COST-EFFECTIVENESS BY PROGRAM - FY2021 - 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)	\$17,777,196	\$9,762,752	\$8,014,445	1.82	\$23,330,636	\$9,762,752	\$13,567,885	2.39
Nonresidential Prescriptive (NP)	\$947,673	\$294,322	\$653,351	3.22	\$1,213,371	\$294,322	\$919,049	4.12
Residential Retrofit (RR)	\$296,655	\$591,998	(\$295,343)	0.50	\$389,351	\$591,998	(\$202,647)	0.66
Residential New Construction (RNC)	\$8,810,723	\$3,195,583	\$5,615,140	2.76	\$11,806,770	\$3,195,583	\$8,611,187	3.69
Nonresidential Custom (NC)	\$2,362,893	\$1,344,869	\$1,018,024	1.76	\$3,069,597	\$1,344,869	\$1,724,729	2.28
Portfolio Wide (PW)	\$0	\$555,109	(\$555,109)	0.00	\$0	\$555,109	(\$555,109)	0.00
Energy Efficiency Total	\$30,195,139	\$15,744,631	\$14,450,507	1.92	\$39,809,725	\$15,744,631	\$24,065,094	2.53
Combined Heat and Power (CHP)	\$3,934,933	\$2,445,965	\$1,488,969	1.61	\$8,319,881	\$2,445,965	\$5,873,916	3.40
Portfolio Total	\$34,130,072	\$18,190,596	\$15,939,476	1.88	\$48,129,606	\$18,190,596	\$29,939,010	2.65

2.3 Progress in Support of Commitments

UGI Gas made significant progress toward its savings goals, achieving 97% of its FY2021 annual MMBtu projections, while keeping administration costs to only 64% of projections. The success of FY2021 can be largely attributed to the success of the RP Program, for which customer incentives were 106% of projections, and the RNC Program, for which customer incentives were 448% of projections. Overall, UGI Gas has spent \$19.2 million phase-to-date, or approximately 30% 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 49% for the phase to date.

Program	Utility Cost	Incremental Participant Cost	Total Cost	%Utility
Nonresidential Prescriptive (NP)	\$474,176	\$168,058	\$642,234	74 %
Nonresidential Custom (NC)	\$1,294,272	\$1,642,161	\$2,936,433	44 %
Total	\$1,768,449	\$1,810,219	\$3,578,667	49 %

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 May and July 2021, with one email sent to builders and developers and another sent to customers living in multi-family buildings.

UGI Gas communicated with the Housing Alliance throughout the fiscal year, culminating in a webinar on September 16, 2021, presenting UGI Gas incentive opportunities to more than 50 stakeholders. UGI Gas also facilitated an informational email sent to current clients and funding recipients of PHFA in September.

In FY2021, UGI Gas identified 361 rebates in the RP and NP program that were tied to buildings with more than one unit, which represented \$41,300 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 FY2021, UGI Gas referred 4 customers to the Company’s LIURP Team.

2.3.1 Portfolio Costs

Table 8. EE&C PORTFOLIO COSTS BY CATEGORY - FY2021			
Component (Nominal \$)	Actual	Budget	%
Direct Utility Costs	\$10,531,500	\$12,093,350	87 %
Customer Incentives	\$8,203,974	\$8,385,350	98 %
Administration	\$1,844,899	\$2,900,000	64 %
Marketing	\$243,229	\$413,000	59 %
Inspections	\$82,474	\$195,000	42 %
Evaluations	\$156,924	\$200,000	78 %
Incremental Participant Costs	\$11,136,987	\$19,813,900	56 %

Table 9. EE&C PORTFOLIO COSTS BY CATEGORY - PHASE			
Component (Nominal \$)	Actual	Budget	%
Direct Utility Costs	\$19,177,405	\$63,369,600	30 %
Customer Incentives	\$14,759,486	\$46,377,100	32 %
Administration	\$3,477,472	\$13,287,000	26 %
Marketing	\$386,823	\$2,027,000	19 %
Inspections	\$181,645	\$983,500	18 %
Evaluations	\$371,979	\$695,000	54 %
Incremental Participant Costs	\$17,215,940	\$109,327,605	16 %

2.3.2 Portfolio Savings

Table 10. EE&C PORTFOLIO SAVINGS - FY2021			
Type	Actual	Projected	%
EE Programs			
Natural Gas (MMBtus)			
Annual	225,831	233,604	97 %
Lifetime	4,380,682	4,610,820	95 %
Electric Energy (MWh)			
Annual	5,569.6	604.1	922 %
Lifetime	107,431.5	10,513.1	1022 %
Capacity Savings (MW)	1.986	0.158	1257 %
Water Savings (Gallons)			
Annual	3,125,812	5,553,241	56 %
Lifetime	68,853,750	71,492,558	96 %
CHP Program			
Net Primary Energy Savings			
Annual (MMBtus)	60,911	339,710	18 %
Lifetime (MMBtus)	1,218,213	5,095,657	24 %

Table 11. EE&C PORTFOLIO SAVINGS - PHASE			
Type	Actual	Projected	%
EE Programs			
Natural Gas (MMBtus)			
Annual	408,412	1,279,547	32 %
Lifetime	7,950,180	25,457,795	31 %
Electric Energy (MWh)			
Annual	9,717.0	7,524.3	129 %
Lifetime	186,110.6	143,844.9	129 %
Capacity Savings (MW)	3.21	2.36	136 %
Water Savings (Gallons)			
Annual	7,217,774	21,932,270	33 %
Lifetime	113,348,992	299,291,194	38 %
CHP Program			
Net Primary Energy Savings			
Annual (MMBtus)	60,911	1,755,747	3 %
Lifetime (MMBtus)	1,218,213	26,336,204	5 %

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 \$6,046,102 in FY2021, of which \$5,696,000 were customer incentives. The program provided first year gas savings of 149,231 MMBtus (121% of plan projections) and lifetime gas savings of 2,648,983 MMBtus (111% of plan projections). Under the TRC Test, including DRIPE and CO₂, the RP Program provided \$13.6 million in present value of net benefits (2018\$) with a BCR of 2.39. Without DRIPE or CO₂, the RP Program provided \$8 million in present value of net benefits (2018\$) with a BCR of 1.82. The annual and lifetime MWh savings significantly exceeded projections due to the overperformance of smart thermostats, which accounted for 11,920 rebates issued. Residential furnaces also provide far greater electric savings than originally projected because electronically commutated fan motors (ECMs) are now required.

The RP Program saw participation remain higher than forecast for FY2021. The steady customer participation went hand in hand with contractor participation, and the program exceeded its FY2021 participation and savings targets. In total, 13,723 customers participated in the RP Program in FY2021, with 1,244 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	11,920
Residential Furnace	4,111
Combi Boiler	1,171
Tankless Water Heater	653
Residential Boiler	359
Total	18,214

3.1.2.1 Marketing Activity

Due to the success of the RP Program in FY2020, much of the same marketing strategy was continued into FY2021. The strategy continued to include outreach to HVAC contractors, customer bill inserts, digital advertising on social media, email marketing, a successful Black Friday promotion, 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 2-day promotion (4/21-4/22), 7,917 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 FY2021, 383 inspections were performed, with one inspection failing. The cause for the failed inspection was the customer decided not to install the thermostat. In cases where the installed equipment still qualified, rebates were paid; where the installed equipment did not qualify, rebates were not issued.

In FY2021, \$60,735 was spent on evaluation costs (87% of projections). 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 FY2021

There are no program updates to report at this time.

3.1.4 Residential Prescriptive Program Results

Component (Nominal \$)	FY2021 - Actual	FY2021 - Budget	%
Direct Utility Costs	\$6,046,102	\$5,833,900	104 %
Customer Incentives	\$5,696,000	\$5,378,900	106 %
Administration	\$132,275	\$159,000	83 %
Marketing	\$121,686	\$134,000	91 %
Inspections	\$35,406	\$92,000	38 %
Evaluations	\$60,735	\$70,000	87 %
Incremental Participant Costs	\$5,710,396	\$3,302,221	173 %

Type	FY2021 - Actual	FY2021 - Projected	%
Natural Gas (MMBtus)			
Annual	149,231	123,609	121 %
Lifetime	2,648,983	2,393,590	111 %
Electric Energy (MWh)			
Annual	3,141.0	74.4	4222 %
Lifetime	51,053.0	818.4	6238 %
Capacity Savings (MW)	0.693	0.000	0 %
Water Savings (Gallons)			
Annual	0	0	0 %
Lifetime	0	0	0 %

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$23,330,636	\$43,175,395
TRC NPV Costs	\$9,762,752	\$18,883,008
TRC Net Benefits	\$13,567,885	\$24,292,387
TRC Benefit/Cost Ratio	2.39	2.29

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$17,777,196	\$33,228,341
TRC NPV Costs	\$9,762,752	\$18,883,008
TRC Net Benefits	\$8,014,445	\$14,345,333
TRC Benefit/Cost Ratio	1.82	1.76

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 \$229,824 in FY2021, of which \$133,872 were customer incentives. The program provided first year gas savings of 9,116 MMBtus (17% of plan projections) and lifetime gas savings of 164,311 MMBtus (14% of plan projections). Under the TRC Test, including DRIPE and CO₂, the NP Program provided \$919,049 in present value of net benefits (2018\$) with a BCR of 4.12. Without factoring in DRIPE or CO₂, the NP Program provided \$653,351 in present value of net benefits (2018\$) with a BCR of 3.22.

UGI Gas utilized the services of Energy Federation, Inc. (EFI) to process rebates, provide customer service, and perform quality assurance inspections. 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 FY2021.

Equipment	Rebates Issued
Commercial Water Heater	43
Commercial Boiler	15
Commercial Fryer	13
Efficient Unit Heater	12
Dishwasher (Low Temp – Stationary Single Tank Door)	3
Steam Trap	1
Total	87

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. The NP program marketing continued to be affected by the COVID-19 pandemic, as there were limited opportunities for face-to-face outreach, networking and event attendance. Distributors also reported 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). In-person outreach and networking events were cancelled due to COVID-19, but UGI Gas did advertise on the PRLA website, and participated in a webinar on September 21. This market segment continued to be disproportionately impacted by the pandemic.

3.2.2.2 Inspection and Evaluation Activity

EFI, the CSP responsible for processing rebates, also was retained to provide inspections on a randomly selected 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 business. Payment of the rebate was withheld from applications flagged for inspection until such activity was completed. NP inspections were combined with inspections in the RP program. Due to the relatively small number of NP applications compared with RP, no NP projects were selected in the random process in FY2021.

In FY2021, \$44,467 was spent on evaluation costs (89% of plan projections). 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 FY2021

There are no program updates to report at this time.

3.2.4 Nonresidential Prescriptive Program Results

Component (Nominal \$)	FY2021 - Actual	FY2021 - Budget	%
Direct Utility Costs	\$229,824	\$1,008,450	23 %
Customer Incentives	\$133,872	\$817,450	16 %
Administration	\$45,443	\$77,000	59 %
Marketing	\$6,042	\$54,000	11 %
Inspections	\$0	\$10,000	0 %
Evaluations	\$44,467	\$50,000	89 %
Incremental Participant Costs	\$117,010	\$1,122,027	10 %

Type	FY2021 - Actual	FY2021 - Projected	%
Natural Gas (MMBtus)			
Annual	9,116	54,847	17 %
Lifetime	164,311	1,185,671	14 %
Electric Energy (MWh)			
Annual	0.0	53.1	0 %
Lifetime	0.0	685.9	0 %
Capacity Savings (MW)	0.000	0.007	0 %
Water Savings (Gallons)			
Annual	282,264	3,297,976	9 %
Lifetime	4,233,960	48,902,518	9 %

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$1,213,371	\$2,354,146
TRC NPV Costs	\$294,322	\$562,476
TRC Net Benefits	\$919,049	\$1,791,670
TRC Benefit/Cost Ratio	4.12	4.19

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$947,673	\$1,871,153
TRC NPV Costs	\$294,322	\$562,476
TRC Net Benefits	\$653,351	\$1,308,677
TRC Benefit/Cost Ratio	3.22	3.33

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 \$35 per annual MMBtu saved was paid to a new home, heated with natural gas, that achieved savings of 10% over 2015 IECC or greater. A \$40 per annual MMBtu incentive was paid to homes that achieved savings of 10% over code and achieved Energy Star® certification. The increase in 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 \$2,110,863, of which \$1,605,713 was customer incentives. The program provided first year gas savings of 45,114 MMBtus, 481% of plan projections. Under the TRC Test, including DRIPE and CO₂, the RNC Program provided \$8.6 million in present value of net benefits (2018\$) with a BCR of 3.69. Without DRIPE or CO₂, the RNC Program provided \$5.6 million in present value of net benefits (2018\$) with a BCR of 2.76.

UGI Gas utilized the services of Performance Systems Development (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
10% Above Code	988
10% Above Code + Energy STAR	135
Total	1,123

3.3.2.1 Marketing Activity

In 2021, 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 62 HERS ratings reviewed by PSD. All reviewed ratings passed inspection.

3.3.3 Program Updates for FY2021

As approved by the Commission in its July 21, 2021 Secretarial Letter at Docket No. R-2018-3006814, UGI Gas reallocated approximately \$4.5 million from the Residential Retrofit Program to the Residential New Construction Program.

3.3.4 Residential New Construction Program Results

Component (Nominal \$)	FY2021 - Actual	FY2021 - Budget	%
Direct Utility Costs	\$2,110,863	\$584,200	361 %
Customer Incentives	\$1,605,713	\$358,200	448 %
Administration	\$470,837	\$155,000	304 %
Marketing	\$0	\$55,000	0 %
Inspections	\$34,313	\$16,000	214 %
Evaluations	\$0	\$0	0 %
Incremental Participant Costs	\$1,768,630	\$216,823	816 %

Table 24. PROGRAM SAVINGS			
Type	FY2021 - Actual	FY2021 - Projected	%
Natural Gas (MMBtus)			
Annual	45,114	9,377	481 %
Lifetime	1,037,624	187,534	553 %
Electric Energy (MWh)			
Annual	2,361.2	376.3	628 %
Lifetime	54,308.4	7,525.2	722 %
Capacity Savings (MW)			
	1.240	0.110	1127%
Water Savings (Gallons)			
Annual	2,761,506	0	0 %
Lifetime	63,514,638	0	0 %

Table 25. PROGRAM COST-EFFECTIVENESS (BASE CASE + DRIPE & CO2) PV Year (2018)		
Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$11,806,770	\$20,616,565
TRC NPV Costs	\$3,195,583	\$4,790,026
TRC Net Benefits	\$8,611,187	\$15,826,539
TRC Benefit/Cost Ratio	3.69	4.30

Table 26. PROGRAM COST-EFFECTIVENESS (BASE CASE) PV Year (2018)		
Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$8,810,723	\$15,490,767
TRC NPV Costs	\$3,195,583	\$4,790,026
TRC Net Benefits	\$5,615,140	\$10,700,741
TRC Benefit/Cost Ratio	2.76	3.23

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 customer charge for the evaluation, from the contractor, was \$50. 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.

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 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 27. RESIDENTIAL RETROFIT INCENTIVE SCHEDULE

Improvement Type	Incentive to Customer
Efficient Space Heating System	\$500 - \$1,800
Heating Pipe Insulation	\$5 - \$15 per ft.
Air Infiltration Reduction	\$150 - \$500
Roof/Ceiling Insulation	\$0.35 - \$2 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

3.4.2 Program Highlights

UGI Gas utilized the services of Performance Systems Development (PSD) as the program implementer for the RR Program. The RR Program spent \$515,056 in FY21, of which \$158,028 were customer incentives. The program provided first-year gas savings of 1,995 MMBtus, 8% of plan projections. The program provided lifetime gas savings of 57,564 MMBtus, 14% of plan projections. Under the TRC Test, including DRIPE and CO₂, the RR Program provided (\$202,647) in present value of net benefits (2018\$) with a BCR of 0.66. Without DRIPE or CO₂, the RR Program provided (\$295,343) in present value of net benefits (2018\$) with a BCR of 0.50. Below is a chart of participation by rebate type in the RR program:

Table 28. PROGRAM PARTICIPATION

Measure	Rebate Count
Home Energy – Assessments	232
Home Energy – Jobs	81
Ceiling Insulation	83
Energy Star® Smart Thermostat	61
Air Sealing	58
Wall Insulation	38
Low-Flow Fixtures	25
Water Heater Pipe Insulation	11
Tank Temperature Turn-Down	9
Duct Sealing	4
Heating Pipe Insulation	4
Energy Star® Furnace	3
Energy Star® Tankless Water Heater	2
Total	611

3.4.2.1 Marketing Activity

Marketing for this program in FY2021 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

A total of 12 field inspections and 1 virtual inspection were conducted in the RR Program.

3.4.3 Program Updates for FY2021

As approved by the Commission in its July 21, 2021 Secretarial Letter at Docket No. R-2018-3006814, UGI Gas reallocated approximately \$4.5 million from the Residential Retrofit Program to the Residential New Construction Program.

3.4.4 Residential Retrofit Program Results

Component (Nominal \$)	FY2021 - Actual	FY2021 - Budget	%
Direct Utility Costs	\$515,056	\$2,068,000	25 %
Customer Incentives	\$158,028	\$650,000	24 %
Administration	\$211,318	\$1,273,000	17 %
Marketing	\$114,251	\$89,000	128 %
Inspections	\$6,162	\$56,000	11 %
Evaluations	\$25,298	\$0	0 %
Incremental Participant Costs	\$207,031	\$647,227	32 %

Table 30. PROGRAM SAVINGS

Type	FY2021 - Actual	FY2021 - Projected	%
Natural Gas (MMBtus)			
Annual	1,995	24,340	8 %
Lifetime	57,564	415,413	14 %
Electric Energy (MWh)			
Annual	28.5	78.0	37 %
Lifetime	760.5	1,036.2	73 %
Capacity Savings (MW)			
	0.016	0.018	89 %
Water Savings (Gallons)			
Annual	54,148	2,255,265	2 %
Lifetime	547,272	22,590,040	2 %

Table 31. PROGRAM COST-EFFECTIVENESS (BASE CASE + DRIPE & CO2) PV Year (2018)

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$389,351	\$766,186
TRC NPV Costs	\$591,998	\$1,076,043
TRC Net Benefits	(\$202,647)	(\$309,858)
TRC Benefit/Cost Ratio	0.66	0.71

Table 32. PROGRAM COST-EFFECTIVENESS (BASE CASE) PV Year (2018)

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$296,655	\$586,823
TRC NPV Costs	\$591,998	\$1,076,043
TRC Net Benefits	(\$295,343)	(\$489,221)
TRC Benefit/Cost Ratio	0.50	0.55

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 Performance Systems Development (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 incentivized. The program spent \$676,908 in FY2021 (64% of budget), of which \$360,363 were customer incentives (53% of budget). The program provided first year gas savings of 20,375 MMBtus (95% of budget) and lifetime gas savings of 472,201 MMBtus (110% of budget). Under the TRC Test, including DRIPE and CO₂, the NC Program provided \$1.7 million in present value of net benefits (2018\$) with a BCR of 2.28. Without DRIPE or CO₂, the program provided \$1 million in present value of net benefits (2018\$) with a BCR of 1.76.

The NC Program provided incentives to 25 projects in FY2021. The projects were completed at colleges, schools, commercial/industrial facilities, religious organizations, government buildings, 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 and water heating measures, as well as building envelope upgrades.

3.5.2.1 *Marketing Activity*

UGI Gas utilized PSD to market the NC Program in FY2021. Marketing efforts included email outreach to larger managed accounts and direct collaboration with UGI Gas's relationship managers to identify project opportunities.

For FY2021, the marketing strategy moved away from outreach to vertical market segments and focused more on aggressive development of trade ally relationships, including engineering firms, contractors, and manufacturers. Emails and newsletters were also sent to UGI Gas commercial customers and contractors. PSD was also able to begin attending live networking events again.

3.5.2.2 Inspection and Evaluation Activity

In FY2021, 11 of the 25 completed projects were inspected by PSD and all passed prior to being paid incentives. The program spent \$24,928 on evaluation activity (50% of budget). 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 FY2021

There are no program updates to report at this time.

3.5.4 Nonresidential Custom Program Results

Component (Nominal \$)	FY2021 - Actual	FY2021 - Budget	%
Direct Utility Costs	\$676,908	\$1,063,800	64 %
Customer Incentives	\$360,363	\$680,800	53 %
Administration	\$283,775	\$276,000	103 %
Marketing	\$1,250	\$41,000	3 %
Inspections	\$6,593	\$16,000	41 %
Evaluations	\$24,928	\$50,000	50 %
Incremental Participant Costs	\$964,920	\$1,345,834	72 %

Type	FY2021 - Actual	FY2021 - Projected	%
Natural Gas (MMBtus)			
Annual	20,375	21,431	95 %
Lifetime	472,201	428,612	110 %
Electric Energy (MWh)			
Annual	38.8	22.4	174 %
Lifetime	1,309.7	447.4	293 %
Capacity Savings (MW)	0.037	0.023	158 %
Water Savings (Gallons)			
Annual	27,894	0	--
Lifetime	557,880	0	--

Table 35. PROGRAM COST-EFFECTIVENESS (BASE CASE + DRIPE & CO2) PV Year (2018)

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$3,069,597	\$5,325,699
TRC NPV Costs	\$1,344,869	\$2,474,744
TRC Net Benefits	\$1,724,729	\$2,850,955
TRC Benefit/Cost Ratio	2.28	2.15

Table 36. PROGRAM COST-EFFECTIVENESS (BASE CASE) PV Year (2018)

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$2,362,893	\$4,119,516
TRC NPV Costs	\$1,344,869	\$2,474,744
TRC Net Benefits	\$1,018,024	\$1,644,772
TRC Benefit/Cost Ratio	1.76	1.66

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 1.4 MW CHP reciprocating internal combustion engine installed at a Rate LFD customer manufacturing facility. The project was completed in FY2020, EM&V spanned FY2020-FY2021, and the incentive was paid in FY2021. Administrative and evaluation costs in FY2021 totaled \$12,368. The project generates 60,911 MMBtu in annual net primary energy savings. Under the TRC test, including DRIPE and CO₂, the program provided \$5.9 million in present value of net benefits, with a BCR of 3.40. Without DRIPE and CO₂, the program provided \$1.5 million in present value of net benefits, with a BCR of 1.61.

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

There were no inspections performed in FY2021. The evaluation cost of \$1,497 represents the final portion of the EM&V for the single paid project.

3.6.3 Program Updates for FY2021

There are no program updates to report at this time.

3.6.4 Combined Heat and Power Program Results

Component (Nominal \$)	FY2021 - Actual	FY2021 - Budget	%
Direct Utility Costs	\$262,368	\$635,000	41 %
Customer Incentives	\$250,000	\$500,000	50 %
Administration	\$10,871	\$60,000	18 %
Marketing	\$0	\$40,000	0 %
Inspections	\$0	\$5,000	0 %
Evaluations	\$1,497	\$30,000	5 %
Incremental Participant Costs	\$2,369,000	\$13,179,768	18 %

Savings	Program Year		Inception to Date	
	Annual	Lifetime	Annual	Lifetime
Net Primary Fuel Savings (MMBtus)	60,911	1,218,213	60,911	1,218,213

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$8,319,881	\$8,319,881
TRC NPV Costs	\$2,445,965	\$2,460,932
TRC Net Benefits	\$5,873,916	\$5,858,948
TRC Benefit/Cost Ratio	3.40	3.38

Benefits/Cost Component	FY2021	Phase
TRC NPV Benefits	\$3,934,933	\$3,934,933
TRC NPV Costs	\$2,445,965	\$2,460,932
TRC Net Benefits	\$1,488,969	\$1,474,001
TRC Benefit/Cost Ratio	1.61	1.60

4 Attachments

4.1 Technical Reference Manual

In FY2021, there were no changes made to the Technical Reference Manual (TRM) used to calculate savings for the UGI Gas EE&C Plan.