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August 30, 2018

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

**Re: Petition of UGI Utilities, Inc. – Electric Division for Approval of Phase II of its
Energy Efficiency and Conservation Plan
Docket No. M-2015-2477174**

Dear Secretary Chiavetta:

Enclosed for filing on behalf of UGI Utilities, Inc. – Electric Division (“UGI Electric”) is the Report for the period June 1, 2017 through May 31, 2018, Program Year 6 of UGI Electric’s Energy Efficiency and Conservation Plan.

Copies of this document have been served as indicated on the enclosed Certificate of Service.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Danielle Jouenne".

Danielle Jouenne
Counsel for UGI Utilities, Inc. – Electric Division

Enclosure

cc: Certificate of Service
Cornelia R. Schneck, Bureau of Technical Utility Services, at cschneck@pa.gov

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of UGI Utilities, Inc. – Electric
Division for Approval of Phase II of its
Energy Efficiency and Conservation Plan

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Docket No: M-2015-2477174

CERTIFICATE OF SERVICE

I hereby certify that I have, this 30th day of August 2018, served a true and correct copy of the foregoing document in the manner and upon the persons listed below in accordance with requirements of 52 Pa. Code § 1.54 (relating to service by a participant):

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Danielle Jouenne

Report to the Pennsylvania Public Utility Commission

**UGI Utilities, Inc. – Electric Division
Energy Efficiency and Conservation Plan Program Year 6
(June 1, 2017-May 31, 2018)**

Docket No. M-2015-2477174

Prepared by UGI Electric
Filing Date: August 30, 2018

Table of Contents

1	INTRODUCTION	2
2	OVERVIEW	3
2.1	Portfolio Summary.....	4
2.2	Residential Program Summary	5
2.3	Commercial/Industrial Program Summary.....	6
3	RESIDENTIAL PROGRAMS.....	7
3.1	Appliance Rebate Program	7
3.2	School Energy Education Program.....	9
3.3	Energy Efficient Lighting Program	11
3.4	Appliance Recycling Program	13
3.5	Fuel Switching Program	15
3.6	Home Energy Assessment Program.....	17
3.7	Low Income Water Heater Pilot Program	19
3.8	Customer Energy Education Program	21
4	COMMERCIAL PROGRAMS.....	22
4.1	Custom Incentive Program	22
4.2	HVAC Tune-Up Program	24
4.3	Small Commercial Fuel Switching Program	26

1 INTRODUCTION

Act 129 of 2008, P.L. 1592 (Act 129) amended the Pennsylvania Public Utility Code, 66 Pa. C.S. §§ 101 et seq., to, *inter alia*, require the Pennsylvania Public Utility Commission (“PUC” or “Commission”) to develop and adopt an Energy Efficiency and Conservation (“EE&C”) program by January 15, 2009. Under Act 129, the Commission’s EE&C program requires electric distribution companies (“EDCs”) serving 100,000 customers and greater to adopt and implement cost-effective energy efficiency and conservation plans to reduce energy demand and energy consumption within the service territory of each EDC. UGI Electric, which serves approximately 62,000 electric customers, is not mandated under Act 129 to implement an EE&C Plan.

In December 2009, a Secretarial Letter was issued by the PUC at Docket No. M-2009-2142851 directing EDCs with fewer than 100,000 customers to consider the voluntary adoption of EE&C Plans similar to those mandated by Act 129 (“EE&C Secretarial Letter”). In November 2010, UGI Utilities, Inc. – Electric Division (“UGI Electric” or the “Company”) filed a voluntary EE&C Plan (“Phase I”) with the PUC in response to the EE&C Secretarial Letter.

On April 9, 2015, UGI Electric filed a Petition at Docket No. M-2010-2210316 to continue its Phase I EE&C Plan until its Phase II was approved (“Phase I Continuation Petition”). On April 16, 2015, UGI Electric filed its Phase II EE&C Plan for approval by the PUC at Docket No. M-2015-2477174. The Phase II EE&C Plan is designed to expend no more than 2% of annual revenues for the 12-month period ended May 31, 2008, on an annual basis, which totals approximately \$7.5 million for the duration of Phase II. By its order entered May 19, 2015, the PUC approved the Company’s Phase I Continuation Petition. The Commission approved the Phase II Plan (as amended by settlement in the proceeding) by its order entered June 9, 2016. UGI Electric submitted its Phase II EE&C Compliance Plan with the PUC on August 9, 2016.

On March 21, 2017, UGI Electric filed its Petition to extend its Phase II EE&C Plan for one year. There were no changes to the overall or Residential and Commercial/Industrial budget caps. However, UGI Electric proposed to move funding between programs within the same customer class based on participation. The PUC approved the Extension Petition on May 4, 2017. Accordingly, UGI Electric’s EE&C Phase II Plan is set to expire on May 31, 2019. The Company submitted a new, Phase III (2019-2024) filing on August 21, 2018. UGI Electric’s voluntary EE&C Plan is not subject to Act 129 energy and demand savings requirements. However, UGI Electric’s initial and subsequent voluntary EE&C Plans have used Act 129 requirements and Commission implementation orders for guidance in plan development.

UGI Electric respectfully submits this report documenting the results of its EE&C Plan for Program Year 6 (June 1, 2017 through May 31, 2018). The results set forth below represent a portfolio of cost-effective energy efficiency programs that benefit the customer through decreased energy costs while maintaining a cost-effective TRC value. Program Year 6 resulted in a TRC value of **1.68** for residential customer classes and **2.07** for commercial customer classes. When accounting for administrative overhead, the overall portfolio TRC value is **1.62**.

2 OVERVIEW

UGI Electric has constructed its EE&C Plan in accordance with the EE&C Secretarial Letter. The Company's EE&C Plan includes a portfolio of energy efficiency, conservation, and consumption reduction measures, programs, and education initiatives. During Program Year 6, the EE&C portfolio included the following programs:

1. Appliance Rebate Program (Residential/Low Income Customers)
2. School Energy Education Program (Residential/Low Income Customers)
3. Energy Efficient Lighting Program (Residential/Low Income Customers)
4. Appliance Recycling Program (Residential/Low Income Customers)
5. Fuel Switching Program (Residential /Low Income Customers)
6. Home Energy Assessment Program (Residential Customers/Low Income Customers)
7. Low Income Water Heater Pilot Program (Low Income Customers)
8. Custom Incentive Program (Commercial/Industrial/Governmental Customers)
9. HVAC Tune-up Program (Commercial/Industrial/Governmental Customers)
10. Fuel Switching Program (Small Commercial Customers)
11. Customer Energy Education Program (Residential)

These eleven programs were designed to meet the goals and guidelines established in the Commission's Secretarial Letter. All the EE&C programs are voluntary and offer UGI Electric customers a wide range of energy efficiency and conservation measures to decrease electric consumption and, in turn, customer's annual energy costs. In Program Year 6, the combined portfolio of residential and commercial/industrial programs maintained a positive Total Resource Cost ("TRC") Benefit Cost Ratio ("BCR").

2.1 Portfolio Summary

In summary, UGI Electric offered eleven energy efficiency programs to approximately 62,000 customers within the service territory. The combined portfolio of programs had TRC Net Benefits of \$967,451, TRC BCR of 1.62, and total spending of \$1,187,867. UGI Electric will continue marketing and educating customers to drive continued participation.

Table 1. Portfolio Savings and Costs:

Benefits/Cost Component	Residential	Commercial/ Industrial	Portfolio Wide	Portfolio Total
Annual Savings (MWh)	2,245	1,288		3,533
Capacity Savings (MW)	0.270	0.159		0.429
Total Resource Cost	\$822,737	\$657,905	\$206,261	\$1,686,903
Direct Participant Costs	\$436,644	\$445,808	\$0	\$882,452
Direct Utility Costs	\$635,938	\$345,668	\$206,261	\$1,187,867
Customer Incentives	\$249,794	\$133,571	\$0	\$383,366
CSP Labor	\$348,802	\$212,097	\$206,261	\$767,160
CSP Materials and Supplies	\$166	\$0	\$0	\$166
Communications	\$37,176	\$0	\$0	\$37,176

Table 2. Portfolio Cost-Effectiveness:

Benefits/Cost Component	Residential	Commercial	Portfolio Wide	Portfolio Total
TRC NPV Benefits	\$1,258,274	\$1,263,100	\$0	\$2,521,373
TRC NPV Costs	\$751,050	\$610,881	\$192,039	\$1,553,969
TRC Net Benefits	\$507,270	\$652,219	(\$192,039)	\$967,451
TRC Benefit/Cost Ratio	1.68	2.07	0.00	1.62

2.2 Residential Program Summary

During Program Year 6, the UGI Electric EE&C Portfolio offered eight different programs, (including the Customer Education Program) to residential customers. As outlined below, UGI Electric’s residential sector programs were cost-effective, with a TRC BCR of 1.68 and approximately \$507,000 in net benefits.

Spending on the residential portfolio was \$635,938, which is within PUC-approved program budgets.

Table 3. Residential Program Participation and Energy Savings:

Program	Participation	Energy Savings MWh	NPV Benefits	NPV Costs	TRC Value
Appliance Rebates	889	160	\$183,732	\$144,321	1.27
School Energy Education Program	693	140	\$228,820	\$35,545	6.44
Energy Efficient Lighting Program	30,257	1042	\$369,561	\$342,900	1.08
Appliance Recycling Program	425	434	\$236,846	\$54,183	4.37
Residential Fuel Switching Program	23	330	\$163,043	\$63,520	2.57
Home Energy Assessment Program	203	132	\$73,030	\$71,966	1.01
Low Income Water Heater Pilot	2	6	\$3,241	\$4,802	0.67
Customer Education			\$0	\$33,813	-
TOTAL	32,492	2,245	\$1,258,274	\$751,004	1.68

Table 4. Residential Program Savings and Costs:

Benefits/Cost Component	Appliance Rebate	School Energy Education	Energy Efficient Lighting	Appliance Recycling	Fuel Switching	Home Energy Assessment	Low Income Water Heater Pilot	Customer Education	Total
Annual Savings (MWh)	160	140	1,042	434	330	132	6	0	2,245
Capacity Savings (MW)	0.043	0.027	0.120	0.062	0.002	0.015	0.000	0.000	0.270
Total Resource Cost	\$155,010	\$42,934	\$368,295	\$61,280	\$71,840	\$81,631	\$5,431	\$36,317	\$822,737
Direct Participant Costs	\$109,479	\$33,489	\$196,495	\$19,360	\$71,840	\$550	\$5,431	\$0	\$436,644
Direct Utility Costs	\$119,310	\$42,934	\$267,395	\$61,280	\$22,140	\$81,131	\$5,431	\$36,317	\$635,938
Customer Incentives	\$73,780	\$33,489	\$95,595	\$19,360	\$22,140	\$0	\$5,431	\$0	\$249,794
CSP Labor	\$45,530	\$8,587	\$171,634	\$41,920	\$0	\$81,131	\$0	\$0	\$348,802
CSP Materials and Supplies	\$0	\$0	\$166	\$0	\$0	\$0	\$0	\$0	\$166
Communications	\$0	\$859	\$0	\$0	\$0	\$0	\$0	\$36,317	\$37,176

Table 5. Residential Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual
TRC NPV Benefits	\$1,258,274
TRC NPV Costs	\$751,050
TRC Net Benefits	\$507,224
TRC Benefit/Cost Ratio	1.68

2.3 Commercial/Industrial Program Summary

During Program Year 6, the UGI Electric EE&C portfolio offered three different programs to commercial and industrial customers. UGI Electric’s commercial sector programs were cost-effective, with a TRC BCR of 2.07 and approximately \$652,000 in net benefits.

Spending on the commercial portfolio was \$345,668, which is within PUC-approved program budgets.

Table 6. Commercial/Industrial Program Actuals:

Program Year 6 Actuals					
Program	Participation	Energy Savings MWh	NPV Benefits	NPV Costs	TRC Value
Custom Incentive	47	1250	\$1,255,354	\$579,566	2.17
HVAC Tune-Up	33	37	\$7,746	\$31,315	0.25
Fuel Switching	0	0	\$0	\$0	-
Total	80	1288	\$1,263,100	\$610,881	2.07

Table 7: Commercial Savings and Program Costs:

Benefits/Cost Component	C&I Custom Incentive	C&I HVAC Tune-up	Small Commercial Fuel Switching	Total
Annual Savings (MWh)	1250	37	0	1,288
Capacity Savings (MW)	0.159	0.000	0.000	0.159
Total Resource Cost	\$622,488	\$35,417	\$0	\$657,905
Direct Participant Costs	\$442,058	\$3,750	\$0	\$445,808
Direct Utility Costs	\$312,197	\$33,472	\$0	\$345,668
Customer Incentives	\$131,766	\$1,805	\$0	\$133,571
CSP Labor	\$180,430	\$31,667	\$0	\$212,097
CSP Materials and Supplies	\$0	\$0	\$0	\$0
Communications	\$0	\$0	\$0	\$0

Table 8. Commercial/Industrial Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual
TRC NPV Benefits	\$1,263,100
TRC NPV Costs	\$610,881
TRC Net Benefits	\$652,219
TRC Benefit/Cost Ratio	2.07

3 RESIDENTIAL PROGRAMS¹

3.1 Appliance Rebate Program

(Residential/Low Income Customers)

Program Objectives:

The objectives of the Residential Appliance Rebate Program include:

1. Provide customers with opportunities to reduce their energy costs and increase their energy efficiency
2. Encourage customers to install high-efficiency appliances
3. Encourage the use of high-efficiency/ENERGY STAR-rated equipment
4. Promote strategies that encourage and support market transformation for high-efficiency appliances and equipment
5. Achieve approximately 4,927 installed measures through 2019, with a total reduction of approximately 605 MWh

Program Description:

The Appliance Rebate Program promotes the purchase and installation of a wide range of ENERGY STAR equipment and provides customers with financial incentives to offset the higher purchase costs of energy-efficient equipment. Targeted equipment includes electric heating, cooling, water heating and various other appliances.

Program Review:

In February 2018, UGI Electric engaged Energy Federation Inc. (“EFI”) as the CSP responsible for managing customer intake, eligibility verification, rebate processing, and program participation tracking for the Appliance Rebate program. EFI is the existing CSP responsible for processing rebates for the EE&C programs of UGI Utilities, Inc. – Gas Division and affiliates UGI Central Penn Gas, Inc. and UGI Penn Natural Gas, Inc. The Company therefore anticipates recognizing operational efficiencies from centralizing all of these programs under this existing CSP.

As part of this program, customers are required to submit an application with documentation of the equipment purchase(s) and installation(s) for verification and rebate processing. UGI Electric provides overall strategic direction and program management for the program, as well as promotional, educational, trade ally support, and other administrative functions.

Marketing to residential customers is managed through various marketing channels to increase customer awareness in targeted areas. UGI Electric utilizes bill inserts and social media to encourage residential customers to purchase energy efficient appliances. The Appliance Rebate Program exceeded cost-effectiveness goals for Program Year 6. The program had a TRC BCR of 1.27 and provided \$39,411 in net benefits.

¹ It should be noted that all Residential Sector programs also apply to governmental entities and the following non-profit entities: firehouses, ambulance providers, and senior centers.

Table 9. Program Participation:

Total Measures		
Measure	PY6 Actual	PY6 Budget
Central Air Conditioners	12	20
Clothes Washer	195	200
Room Air Conditioners	57	274
Programmable Thermostats	33	55
Air-Source Heat Pumps	26	22
Ductless Mini-Split Heat Pumps	74	26
Dishwasher	237	364
Refrigerator	193	587
Dehumidifier	62	98
Total	889	1646

Table 10. Program Savings and Costs:

Benefits/Cost Component	Appliance Rebate Program	
	PY6 Actual	PY6 Budget
Savings (MWh)	160	212
Capacity Savings (MW)	0.043	0.061
Total Resource Cost	\$155,010	\$250,192
Direct Participant Costs	\$109,479	\$195,692
Direct Utility Costs	\$119,310	\$141,925
Customer Incentives	\$73,780	\$87,425
CSP Labor	\$45,530	\$24,000
CSP Materials and Supplies	\$0	\$20,500
Communications	\$0	\$10,000

Table 11. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$183,732	\$149,498
TRC NPV Costs	\$144,321	\$208,326
TRC Net Benefits	\$39,411	(\$58,828)
TRC Benefit/Cost Ratio	1.27	0.72

3.2 School Energy Education Program

(Residential/Low Income Customers)

Program Objectives:

The objectives of the School Energy Education Program include:

1. Provide customers with opportunities to reduce their energy costs and increase their energy efficiency
2. Educate students on various energy types, energy generation and consumption, home energy use, and ways to increase energy efficiency in a home
3. Distribute energy efficiency toolkits to 4th through 7th grade students in UGI Electric's service territory
4. Obtain participation of approximately 2,850 customers through 2019, with a total reduction of approximately 1,756 MWh

Program Description:

The School Energy Education Program is designed to educate 4th through 7th grade students on various energy types, energy consumption and generation, home energy use, and ways to save energy. Students and teachers attend a one-hour presentation on energy efficiency called "Think! Energy". Under the direction of two National Energy Foundation ("NEF") professional instructors, students learn how to "Think!" about energy, then "Talk" with others about what they have learned, and ultimately "Take Action!" in their own homes to use energy more efficiently. A customized PowerPoint presentation guides the discussion, and hands-on learning activities are employed to build understanding among students. Participating teachers and schools are recruited throughout UGI Electric's service territory. In consultation with the Pennsylvania Department of Education, presentations are scheduled to avoid testing schedules, vacation periods and other school activities.

Program Review:

National Energy Foundation (NEF), the CSP for this program, registers participating schools, facilitates a PowerPoint presentation to students, and distributes energy efficiency toolkits which contain various energy efficient measures. All participating students are asked to return a *Household Report Card* providing data on household behaviors and device installations. NEF compiles the information from the Household Report Card Scantron forms to create a customized report with program results for UGI Electric.

For Program Year 6, NEF partnered with twenty-nine teachers while presenting to seven different schools (grades 4th-7th) within the UGI Electric territory. Once the presentations were completed, 693 energy efficiency toolkits were distributed to the students. The School Energy Education Program continues to be very cost effective with a TRC BCR of 6.44 and net benefits of \$193,274, including gas and water savings in addition to the electric savings.

Table 12. Program Participation:

Total Measures		
Measure	PY6 Actual	PY6 Budget
Energy Efficiency Toolkit	693	975
Total	693	975

Table 13. Program Savings and Costs:

School Energy Education Program		
Benefits/Cost Component	PY6 Actual	PY6 Budget
Savings (MWh)	140	585
Capacity Savings (MW)	0.027	0.058
Total Resource Cost	\$42,934	\$73,500
Direct Participant Costs	\$33,489	\$0
Direct Utility Costs	\$42,934	\$78,375
Customer Incentives	\$33,489	\$63,375
CSP Labor	\$8,587	\$13,000
CSP Materials and Supplies	\$0	\$0
Communications	\$859	\$2,000

Table 14. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$228,820	\$383,049
TRC NPV Costs	\$35,545	\$70,684
TRC Net Benefits	\$193,274	\$312,365
TRC Benefit/Cost Ratio	6.44	5.42

3.3 Energy Efficient Lighting Program

(Residential/Low Income Customers)

Program Objectives:

The objectives of the Energy Efficient Lighting Program include:

1. Provide a mechanism for customers to easily obtain discounted ENERGY STAR-qualified LEDs
2. Develop and execute strategies aimed at transforming the market for ENERGY STAR-qualified LEDs with the goal of increasing the number of qualified products purchased and installed in UGI Electric's service territory
3. Increase consumer awareness and understanding of the energy-efficiency of LEDs
4. Promote consumer awareness and understanding of the ENERGY STAR label
5. Distribute approximately 91,800 LEDs through 2019, with a total reduction of approximately 3,465 MWh

Program Description:

The Energy Efficient Lighting Program encourages customers to purchase new ENERGY STAR-rated LED bulbs. The program has two components:

1. A retail upstream lighting incentive that significantly reduces the customer cost of ENERGY STAR LED bulbs
2. LED distribution to UGI Electric's Customer Assistance Program ("CAP") participants. UGI Electric distributes a package of LEDs to CAP participants each year at no cost to the customer, utilizing the same CSP as the retail upstream lighting incentive

Program Review:

The CSP for this program manages the upstream LED Lighting Program, including negotiating bulk pricing, education, recruitment, and coordination with retail stores, as well as tracking program data and providing monthly and annual program reports to UGI Electric. The program, through its CSP, also delivers free LEDs to low income residential customers who participate in the Company's low-income Customer Assistance Program, along with distribution at various food banks throughout the territory. In Program Year 7 Franklin Energy, selected through an RFP process, will be replacing Ecova as the CSP for this program as Ecova has withdrawn from serving the Company's service territory.

Marketing to residential customers is managed through various marketing channels to increase customer awareness in targeted areas. The marketing strategy includes a mix of social media and outreach events, some of which are focused primarily on low-income customers. In addition, UGI Electric utilizes bill inserts to encourage residential customers to purchase ENERGY STAR LED bulbs. The Energy Efficient Lighting Program was cost effective with a TRC BCR of 1.08 and net benefits of \$26,662.

Table 15. Program Participation:

Total LEDs		
Measure	PY6 Actual	PY6 Budget
LED Purchase	25,249	24,000
LED Give-Away*	5,008	8,500
Total LEDs	30,257	32,500

*This number includes the Customer Assistance Program (CAP) recipients and other low income give-away events.

Table 16. Program Savings and Costs:

Benefits/Cost Component	Residential Energy Efficient Lighting	
	PY6 Actual	PY6 Budget
Savings (MWh)	1042	1,227
Capacity Savings (MW)	0.120	0.161
Total Resource Cost	\$368,295	\$687,500
Direct Participant Costs	\$196,495	\$617,500
Direct Utility Costs	\$267,395	\$432,620
Customer Incentives	\$95,595	\$362,620
CSP Labor	\$171,634	\$55,000
CSP Materials and Supplies	\$166	\$8,000
Communications	\$0	\$7,000

Table 17. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$369,561	\$1,096,139
TRC NPV Costs	\$342,900	\$620,035
TRC Net Benefits	\$26,662	\$476,105
TRC Benefit/Cost Ratio	1.08	1.77

3.4 Appliance Recycling Program

(Residential/Low Income Customers)

Program Objectives:

The objectives of the Appliance Recycling Program include:

1. Encourage customers to dispose of their existing, inefficient appliances when they purchase a new appliance or eliminate a second unit that may not be needed
2. Reduce the use of secondary, inefficient appliances
3. Ensure appliances are disposed of in an environmentally responsible manner
4. Recycle approximately 2,250 refrigerators and freezers and 600 window air conditioning units through 2019, with a total reduction of approximately 2,509 MWh

Program Description:

This Program provides free pick-up and disposal of old, inefficient refrigerators, freezers, and room air conditioners. Units must be between 10 and 30 cubic feet, plugged in, and functioning when picked up in order to be eligible. Incentives of \$50 are paid to customers who recycle eligible refrigerators and freezers, and \$15 for eligible room air conditioners.

All units are disposed of in an environmentally responsible manner. This involves safely disposing of hazardous materials such as chlorofluorocarbon gases found in foam insulation, preparing refrigerant for reclamation, and recycling other materials such as metal and plastic.

Program Review:

Reclim, the CSP for this Program, provides customer intake, eligibility verification, appliance collection, recycling, rebate processing, and participation tracking.

Marketing to residential customers is managed through various marketing channels to increase customer awareness in targeted areas. UGI Electric utilizes bill inserts and social media to encourage residential customers to recycle eligible appliances.

The program was very cost effective in Program Year 6, with a TRC BCR of 4.37 and net benefits of \$182,663.

Table 18. Program Participation:

Total Measures		
Measure	PY6 Actual	PY6 Budget
Refrigerators and Freezers	371	750
Room Air Conditioners	54	200
Total	425	950

Table 19. Program Savings and Costs:

Benefits/Cost Component	Appliance Recycling Program	
	PY6 Actual	PY6 Budget
Savings (MWh)	434	836
Capacity Savings (MW)	0.062	0.128
Total Resource Cost	\$61,280	\$182,000
Direct Participant Costs	\$19,360	\$102,000
Direct Utility Costs	\$61,280	\$120,500
Customer Incentives	\$19,360	\$40,500
CSP Labor	\$41,920	\$48,000
CSP Materials and Supplies	\$0	\$12,000
Communications	\$0	\$20,000

Table 20. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$236,846	\$430,718
TRC NPV Costs	\$54,183	\$164,140
TRC Net Benefits	\$182,663	\$266,578
TRC Benefit/Cost Ratio	4.37	2.62

3.5 Fuel Switching Program

(Residential/Low Income Customers)

Program Objectives:

The objectives of the Fuel Switching Program include:

1. Contribute to UGI Electric's energy savings goals
2. Encourage a "full fuel cycle" approach to energy efficiency
3. Obtain participation of approximately 264 customers through 2019, with a total reduction of approximately 741 MWh

Program Description:

UGI Electric encourages energy efficiency on a total fuel cycle basis by promoting the use of natural gas appliances, where such appliances are more cost-effective under the TRC test than electric counterparts.

Natural gas appliances such as furnaces, water heaters, and clothes dryers use less energy and emit less carbon than electric appliances. In addition, natural gas appliances have an annual operating cost advantage over their electric counterparts.

Fuel Switching Program Components:

- Water heating fuel switching (natural gas and solar thermal)
- Space heating fuel switching
- Clothes dryer fuel switching

Program Review:

UGI Electric EE&C Staff conducts customer intake, eligibility verification, rebate processing, and tracking. Customers are required to submit an application with documentation of the equipment purchase(s) and installation(s) for verification and rebate processing. UGI Electric provides overall strategic direction and program management, as well as promotional, educational, trade ally support, and other administrative functions.

Marketing to residential customers is managed through various marketing channels to increase customer awareness in targeted areas. UGI Electric utilizes bill inserts, social media, and HVAC Contractor outreach to encourage residential customers to consider switching to more economical natural gas space heating, water heating, and clothes drying.

The Fuel Switching program exceeded MWh savings and cost-effectiveness goals for Program Year 6. The program had a TRC BCR of 2.57 and provided \$99,523 in net benefits.

Table 21. Program Participation:

Total Measures		
Measure	PY6 Actual	PY6 Budget
Water Heater Fuel Switching	7	26
Water Heater Solar	0	1
Dryer Fuel Switching	3	40
Space Heating Fuel Switching	13	23
Total	23	90

Table 22. Program Savings and Costs:

Benefits/Cost Component	Residential Fuel Switching	
	PY6 Actual	PY6 Budget
Savings (MWh)	330	256
Capacity Savings (MW)	0.002	0.806
Total Resource Cost	\$71,840	\$179,050
Direct Participant Costs	\$71,840	\$169,050
Direct Utility Costs	\$22,140	\$61,660
Customer Incentives	\$22,140	\$51,660
CSP Labor	\$0	\$0
CSP Materials and Supplies	\$0	\$0
Communications	\$0	\$10,000

Table 23. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$163,043	\$310,408
TRC NPV Costs	\$63,520	\$315,238
TRC Net Benefits	\$99,523	(\$4,829)
TRC Benefit/Cost Ratio	2.57	0.98

3.6 Home Energy Assessment Program

(Residential Sector/Low Income Customers)

Program Objectives:

The objectives of the Residential Home Energy Assessment Program include:

1. Provide customers with opportunities to reduce their energy costs and increase their energy savings;
2. Encourage customers to install high-efficiency HVAC, lighting equipment, and electric appliances;
3. Provide customers with energy-saving solutions and home energy audits;
4. Provide immediate energy savings to customers by installing energy saving measures; and
5. Achieve approximately 780 audits through 2019, with a total reduction of approximately 586 MWh.

Program Description:

As initially designed, the Home Energy Assessment Program provides the selected CSP with financial incentives to offset the cost of home assessments to UGI Electric customers. The cost of the assessment (including direct install measures) is expected to be approximately \$500, with the customer contributing \$50 of this cost. During the assessment, the CSP educates the customer on how to save money based on the customer's usage, as well as educate the customer on the benefits of upgrading to energy-efficient equipment. In addition, the Home Energy Assessment Program provides immediate energy savings to the customer in the form of direct install energy saving measures. The measures are paid for by UGI Electric and include the installation of up to ten LEDs, two faucet aerators, one smart strip plug, water pipe insulation and water heater thermostat setback.

Program Review:

Franklin Energy Services is the qualified CSP to provide customer intake, eligibility verification, customer invoicing, marketing and program participation for the Home Energy Assessment Program.

Marketing to residential customers is managed through various marketing channels, including email, direct email, bill inserts, and digital advertising.

On December 21, 2017, UGI received approval from the PUC to waive the customer fee of \$50 per home energy assessment.

The waiver of the customer fee went into effect on February 1, 2018. Once the fee was eliminated, participation in the program and associated savings increased substantially. For the eight months prior to the customer fee being waived, eleven customers participated in the program. In the four months of PY6 after the fee was waived, 192 customers participated, and the program continues to see a strong pipeline of participants.

For PY6, the total cost per audit, including administration and customer contributions, was approximately \$400. The Home Energy Assessment Program achieved 132 MWh in first-year electric savings, due almost entirely to the four months of participation after the customer fee was

waived. The program was also cost effective for the year, with a TRC BCR of 1.01, and net benefits of \$1,064. Details for the PY6 costs, savings, and cost-effectiveness are in the tables below.

Table 25. Program Participation:

Total Audits		
Measure	PY6 Actual	PY6 Budget
Home Energy Assessment	203	260

Table 26. Program Savings and Costs:

Benefits/Cost Component	Home Energy Assessment	
	PY6 Actual	PY6 Budget
Savings (MWh)	132	195
Capacity Savings (MW)	0.015	0.022
Total Resource Cost	\$81,681	\$150,000
Direct Participant Costs	\$550	\$13,000
Direct Utility Costs	\$81,131	\$137,000
Customer Incentives	\$0	\$0
CSP Labor	\$81,131	\$85,080
CSP Materials and Supplies	\$0	\$31,920
Communications	\$0	\$20,000

Table 27. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$73,030	\$136,489
TRC NPV Costs	\$71,966	\$135,280
TRC Net Benefits	\$1,064	\$1,209
TRC Benefit/Cost Ratio	1.01	1.01

3.7 Low Income Water Heater Pilot Program

(Residential Sector/Low Income Customers)

Program Objectives:

The objectives of the Residential Low-Income Water Heater Pilot Program include:

1. Provide 15 low income customers, in Phase II, participating in UGI Electric's Low-Income Usage Reduction Program ("LIURP") with an ENERGY STAR rated natural gas water heater where natural gas is already present and their current electric water heaters are less efficient
2. Provide LIURP participants with opportunities to reduce their energy costs and increase their energy efficiency
3. Achieve approximately 15 installed measures through 2019, with a total reduction of approximately 50 MWh.

Program Description:

The program provides 15 low income customers who participate in UGI Electric's LIURP with a free high efficiency natural gas water heater where natural gas is present, and their current electric water heater is not efficient. The LIURP offers free energy conservation measures to high usage, low income households to help make energy bills more affordable. UGI Electric's EE&C Staff partners with UGI Electric's LIURP Team to offer this energy saving measure to prequalified LIURP customers.

Program Review:

UGI Electric leveraged the Scranton-Lackawanna Human Development Agency ("SLHDA"), who also partners with UGI Electric's LIURP Team, to install high efficiency gas water heaters for the two customers who qualified for this program. The TRC BCR for this Program was 0.67, but the impact on net benefits was only (\$1,551). Going forward, the Company will continue to canvass for low income customers who may be a good fit for this pilot program.

Table 27. Program Participation:

Total Measures		
Measure	PY6 Actual	PY6 Budget
Gas Water Heater	2	5
Total	2	5

Table 28. Program Savings and Costs:

Benefits/Cost Component	Low Income Water Heater Pilot	
	PY6 Actual	PY6 Budget
Savings (MWh)	6	17
Capacity Savings (MW)	0.0005	0.001
Total Resource Cost	\$5,431	\$7,500
Direct Participant Costs	\$5,431	\$7,500
Direct Utility Costs	\$5,431	\$7,500
Customer Incentives	\$5,431	\$7,500
CSP Labor	\$0	\$0
CSP Materials and Supplies	\$0	\$0
Communications	\$0	\$0

Table 29. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$3,241	\$16,971
TRC NPV Costs	\$4,802	\$12,780
TRC Net Benefits	(\$1,561)	\$4,191
TRC Benefit/Cost Ratio	0.67	1.33

3.8 Customer Education

(Residential Sector/Low Income Customers)

Program Objectives:

1. The objectives of the Customer Education Program include: Communicate conservation tips to UGI Electric customers; emphasize that there are many simple low-cost or no-cost steps to help residential homes become more energy efficient
2. Communicate the prices to compare and how they are calculated so that customers can make an informed choice when shopping for an electric generation supplier
3. Increase awareness regarding specific rebate programs in which customers may be eligible to participate

Program Description:

UGI Electric utilizes various forms of advertising to inform customers of energy savings tips, rebate programs, and choices for selecting an electric supplier. UGI Electric’s energy efficiency website, www.ugi.com/savesmart also offers customers energy saving tips and energy use calculators.

Program Review:

In Program Year 6, UGI Electric conducted a comprehensive marketing campaign throughout the Electric service territory which featured email, direct mail, bill inserts, and digital advertising focused on energy conservation tips and rebate programs. There were not any savings directly associated with these activities.

Table 30. Program Budget and Actuals:

Benefits/Cost Component	Customer Education Program	
	PY6 Actual	PY6 Budget
Savings (MWh)	\$0	\$0
Capacity Savings (MW)	\$0	\$0
Total Resource Cost	\$36,317	\$60,000
Direct Participant Costs	\$0	\$0
Direct Utility Costs	\$36,317	\$60,000
Customer Incentives	\$0	\$0
CSP Labor	\$0	\$0
CSP Materials and Supplies	\$0	\$0
Communications	\$36,317	\$60,000

Table 31. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	0	0
TRC NPV Costs	\$33,813	\$60,000
TRC Net Benefits	(\$33,813)	(\$60,000)
TRC Benefit/Cost Ratio	0	0

4 COMMERCIAL PROGRAMS

4.1 Custom Incentive Program

(Commercial/Industrial Customers)

Program Objectives:

The objectives of the Custom Incentive Program include:

1. Encourage the installation of high-efficiency equipment not included in UGI Electric's other EE&C Programs by Commercial & Industrial (C&I), Government, Non-Profit, & Educational (GNE) customers in new and existing facilities
2. Encourage equipment optimization, operational, or process changes that reduce electricity consumption
3. Encourage a "whole facility" approach to energy-efficiency
4. Increase customer awareness of the features and benefits of electric energy efficient equipment
5. Support emerging technologies and non-typical efficiency solutions in cost-effective applications
6. Obtain approximately 60 participants through 2019, with a total reduction of approximately 9,423 MWh

Program Description:

The Custom Incentive Program provides a delivery channel and financial incentives to customers installing a variety of custom measures suited to their particular business needs. To qualify for financial incentives, eligible customers are required to provide documentation that their proposed efficiency upgrades pass the TRC test for cost-effectiveness.

Included within the Custom Program is a Combined Heat & Power ("CHP") Program. If a customer inquires about a CHP project, UGI Electric will pre-screen the project and will only pay a rebate if the project is determined to be cost effective.

Program Review:

Franklin Energy, the CSP for this program, provides customer intake, eligibility verification, rebate processing, program participation tracking, verification, and auditing of customer projects. There was a total of 47 projects completed in Program Year 6. The program was very cost effective with a TRC BCR of 2.17, and net benefits of \$675,788. Franklin Energy is currently working a pipeline of potential projects to further drive participation in this program.

None of the Custom Projects that were completed in Program Year 6 involved CHP. However, CHP projects will continue to be available under this program.

Table 32. Program Budget and Actuals:

Total Projects		
Measure	PY6 Actual	PY6 Budget
Custom Projects	47	20
Total	47	20

Table 33. Program Savings and Costs:

C&I Custom Incentive Program		
Benefits/Cost Component	PY6 Actual	PY6 Budget
Savings (MWh)	1250	3141
Capacity Savings (MW)	0.159	0
Total Resource Cost	\$622,488	\$2,188,800
Direct Participant Costs	\$442,058	\$1,940,000
Direct Utility Costs	\$312,197	\$750,120
Customer Incentives	\$131,766	\$501,320
CSP Labor	\$180,430	\$247,800
CSP Materials and Supplies	\$0	\$0
Communications	\$0	\$1,000

Table 34. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$1,255,354	\$2,802,316
TRC NPV Costs	\$579,566	\$2,073,923
TRC Net Benefits	\$675,788	\$728,393
TRC Benefit/Cost Ratio	2.17	1.35

4.2 HVAC Tune-Up Program

(Commercial/Industrial Customers)

Program Objectives:

The objectives of the HVAC Tune-up Program include:

1. Optimize HVAC unit performance
2. Assist commercial customers in lowering their energy bills and operating costs
3. Incentivize approximately 1,632 measures through 2019, with a total reduction of approximately 2,004 MWh

Program Description:

The HVAC Tune-Up Program is designed to increase the operating performance of electric HVAC systems in commercial buildings. The program offers financial incentives to HVAC contractors to diagnose performance inefficiencies and make energy-saving retrofits. Customers are eligible for a HVAC tune-up once every three years with areas of focus including the following:

1. Refrigeration components
2. Air distribution system
3. Controls

Program Review:

Ecova, the CSP for this program, manages HVAC contractor recruitment, contractor training, providing ongoing contractor field support, education, processing applications and rebates, tracking program data, and reporting to UGI Electric. HVAC Contractors provide technical assessments and install energy efficiency improvements for commercial customers. UGI Electric provides overall strategic direction and program management for the program, while the CSP manages customer education, trade ally support, evaluation, and other administrative functions. During Program Year 6, the HVAC Tune-Up Program did not perform as well as expected, resulting in a TRC BCR of 0.25 and net benefits of (\$23,569). Although the TRC reflects a value less than 1.0, the UGI Electric EE&C Commercial/Industrial Portfolio, as a whole, maintains its cost-effectiveness under the TRC.

Due to challenges maintaining cost effectiveness with this program, UGI Electric filed a petition on August 31, 2017 to discontinue the HVAC Tune-Up Program. In an Opinion and Order entered on December 21, 2017, approval was granted by the PUC to discontinue this program.

Table 35. Program Participation:

Total Measures and Costs		
Measure	PY6 Actual	PY6 Budget
Basic diagnostic testing (no economizer)	7	90
Basic diagnostic testing (economizer is present)	3	90
Refrigerant/Airflow (Single Compressor)	10	90
Refrigerant/Airflow (Multiple Compressors)	0	45
Thermostat Modification	10	135
Economizer Adjustment	3	65
Thermostat Replacement	0	28
Economizer Control Package	0	1
Total	33	544

Table 36. Program Savings and Costs:

Benefits/Cost Component	C&I HVAC Tune-up Program	
	PY6 Actual	PY6 Budget
Savings (MWh)	37	668
Capacity Savings (MW)	0.000	0.000
Total Resource Cost	\$35,417	\$164,100
Direct Participant Costs	\$3,750	\$73,100
Direct Utility Costs	\$33,472	\$126,575
Customer Incentives	\$1,805	\$35,575
CSP Labor	\$31,667	\$65,000
CSP Materials and Supplies	\$0	\$25,000
Communications	\$0	\$1,000

Table 37. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$7,746	\$151,381
TRC NPV Costs	\$31,315	\$147,997
TRC Net Benefits	(\$23,569)	\$3,384
TRC Benefit/Cost Ratio	0.25	1.02

4.3 Small Commercial Fuel Switching Program

(Small Commercial Sector)

Program Objective:

The Small Commercial Fuel Switching program has several objectives:

1. Make significant contribution to UGI Electric's energy savings goals
2. Encourage a "full fuel cycle" approach to energy efficiency
3. Obtain participation of approximately 99 customers through 2019, with a total reduction of approximately 375 MWh

Program Description:

UGI Electric encourages energy efficiency on a total fuel cycle basis by promoting the use of natural gas appliances, where such appliances are more cost-effective under the TRC test than electric counterparts.

Natural gas appliances such as furnaces, water heaters, and clothes dryers use less energy and emit less carbon than electric appliances. In addition, natural gas appliances have an annual operating cost advantage over their electric counterparts.

Fuel Switching Program Components:

- ENERGY STAR rated water heater (natural gas and solar thermal)
- ENERGY STAR rated natural gas furnace or boiler
- Natural Gas Clothes dryer fuel switching

Program Review:

UGI Electric conducts customer intake, eligibility verification, rebate processing, and tracking. Customers are required to submit an application with documentation of the equipment purchase(s) and installation(s) for verification and rebate processing. UGI Electric provides overall strategic direction and program management, as well as promotional, educational, trade ally support, and other administrative functions.

Marketing to small commercial customers is the same as the residential marketing efforts since the equipment and rebates are the same. The strategy is managed through various marketing channels to increase customer awareness in targeted areas. UGI Electric utilizes bill inserts, social media, and HVAC Contractor outreach to encourage small commercial customers to consider switching to more economical natural gas space heating, water heating, and clothes drying.

Program Participation:

Although UGI Electric continues to offer this program to our Small Commercial Customers, there were no participants or administrative expenses incurred in Program Year 6.

Table 38. Program Savings and Cost:

Benefits/Cost Component	Small Commercial Fuel Switching Program	
	PY6 Actual	PY6 Budget
Savings (MWh)	0	125
Capacity Savings (MW)	0	0.291
Total Resource Cost	\$0	\$88,960
Direct Participant Costs	\$0	\$69,060
Direct Utility Costs	\$0	\$40,940
Customer Incentives	\$0	\$21,040
CSP Labor	\$0	\$0
CSP Materials and Supplies	\$0	\$0
Communications	\$0	\$19,900

Table 39. Program Cost Effectiveness:

Benefits/Cost Component	PY6 Actual	PY6 Budget
TRC NPV Benefits	\$0	\$176,828
TRC NPV Costs	\$0	\$164,535
TRC Net Benefits	\$0	\$12,293
TRC Benefit/Cost Ratio	0	1.07