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March 23, 2012

VIA EXPRESS MAIL

RECEIVED

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

MAR 23 2012

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**Re: Petition of UGI Utilities, Inc. – Electric Division for Approval of its Energy Efficiency and Conservation Plan; Docket No. M-2010-2210316**

Dear Secretary Chiavetta:

In compliance with the Commission's Opinion & Order entered on March 16, 2012 in the above-captioned proceeding ("March 16 Order"), enclosed for filing is the original plus three copies of the revised blackline of the Energy Efficiency & Conservation Plan ("Second Revised Plan") of UGI Utilities, Inc. – Electric Division (the "Company"). Specifically, pages 5 and 61 of the Second Revised Plan have been modified in accordance with the March 16 Order.

In the March 16 Order, the Commission required the Company to file a revised blackline copy of its Energy Efficiency & Conservation Plan showing the requirement that natural gas appliances eligible for fuel switching incentive payments must carry an EPA ENERGY STAR performance rating, where available, to be eligible for an incentive.

Specifically, in the March 16 Order, the Commission stated the following:

...[in the October 2011 Order] we directed UGI to modify the Home Energy Efficiency Incentives Program to require that natural gas appliances must carry an EPA ENERGY STAR performance rating, where available, to be eligible for an incentive. *October 2011 Order* at 36, 49.

The description of the Home Energy Efficiency Incentives program contained in the Revised Plan still indicates that appliances eligible for an incentive are "[a]ll natural gas water heaters," "[a]ll natural gas dryers" and "[a]ll natural gas furnaces." Revised Plan at 61. The Revised Plan does not require that appliances that are eligible for an incentive carry an EPA ENERGY STAR performance rating, where available. Therefore, the Home Energy Efficiency Incentives Program is not in compliance with the *October 2011 Order*, and we direct UGI to

revise its Revised Plan so that natural gas appliances must carry an EPA ENERGY STAR performance rating, where available, to be eligible for a fuel switching incentive.

March 16 Order, p. 11 (emphasis added).

In Ordering Paragraph no. 2, the Commission stated:

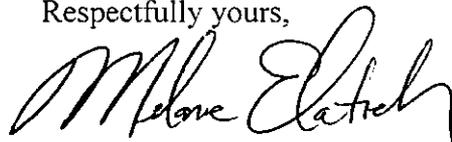
That UGI Utilities, Inc. – Electric Division shall file a revised blacklined copy of its Energy Efficiency and Conservation Plan that requires that appliances eligible for fuel switching incentive payments must carry an EPA ENERGY STAR performance rating, where available, to be eligible for an incentive. The revised blacklined copy of the Energy Efficiency and Conservation Plan shall be filed with the Commission and served on all Parties of record in this proceeding within thirty days of the entry date of this Opinion and Order.

March 16 Order, Ordering Paragraph No. 2 (emphasis added).

The Commission's March 16 Order expressly recognizes that not all natural gas appliances eligible for fuel switching incentive payments under the Energy Efficiency and Conservation Plan will have an EPA ENERGY STAR performance rating available. This is currently the case with natural gas clothes dryers. As such, the Company has noted on pages 5 and 61 of the Second Revised Plan that the EPA ENERGY STAR performance rating currently is not available for natural gas clothes dryers and, until the ENERGY STAR rating becomes available, the Company will direct incentive payments toward natural gas dryers without the rating.

Copies of this filing have been served on the Parties of record in this proceeding. Should you have any questions concerning this filing, please feel free to contact me.

Respectfully yours,



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*Counsel for UGI Utilities, Inc. – Electric Division*

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SECRETARY'S BUREAU**

Enclosure

Cc: Paul Diskin, Director, Bureau of Technical Utility Services  
Darren Gill, Deputy Director, Bureau of Technical Utility Services  
Chuck Covage, Senior Analyst, Bureau of Technical Utility Services  
Service List (as indicated)

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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**UGI Utilities, Inc. – Electric Division**  
**Energy Efficiency and Conservation Plan**

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**Docket No. M-2010-2210316**

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**MAR 23 2012**

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

**March 23, 2012~~December 19, 2011~~**

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## SECTION 1: PLAN OVERVIEW

UGI Utilities, Inc. – Electric Division (“UGI Electric” or the “Company”) has constructed an Energy Efficiency and Conservation Plan (“EE&C Plan” or “Plan”) in accordance with the Pennsylvania Public Utility Commission’s (“Commission”) Secretarial Letter of December 23, 2009 at Docket No. M-2009-2142851 (“Secretarial Letter”). The EE&C Plan includes a portfolio of energy efficiency, conservation, and consumption reduction measures, programs, and education initiatives. The portfolio includes the following programs:

1. Appliance Rebate Program (Residential Sector/Low Income Customers)<sup>1</sup>
2. School Energy Education Program (Residential Sector/Low Income Customers)
3. Compact Fluorescent Lighting Campaign (Residential Sector/Low Income Customers)
4. Appliance Recycling Program (Residential Sector/Low Income Customers)
5. Home Energy Efficiency Incentives – Fuel Switching (Residential Sector/Low Income Customers)
6. Appliance Rebate Program (Commercial and Industrial Sector/Governmental Customers)
7. Commercial and Industrial Custom Incentive Program (Commercial and Industrial Sector/Governmental Customers)
8. HVAC Tune-up Program (Commercial and Industrial Sector/Governmental Customers)
9. Combined Heat and Power (Commercial and Industrial Sector/Governmental Customers)

These nine programs are designed to meet the goals and guidelines established in the Commission’s Secretarial Letter. All of the programs are voluntary, at the customer’s choice. The programs offer UGI Electric’s customers a wide range of energy efficiency and conservation measures to decrease electric consumption and, in turn, customers’ electric costs.

In designing its EE&C Plan, UGI Electric followed the guidelines set forth within the Commission’s Secretarial Letter with regard to energy reduction and other plan parameters. In particular, UGI Electric’s EE&C Plan:

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<sup>1</sup> 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.

- includes programs and individual measures designed to achieve UGI Electric’s targeted electricity consumption reduction levels of 5% energy savings by 2015, or approximately 52,700 MWh;
- includes programs and individual measures that are anticipated to produce peak load reductions of approximately 1% annually, although the Company did not design the programs and measures with the specific purpose of achieving any peak load reduction targets;
- is designed to expend approximately 2% of annual revenues for the annual period ending May 31, 2008, which equates to a total program cost of approximately 7.5 million;
- within the 7.5 million budget, proposes a residential class cost recovery cap of 4.7 million, plus or minus \$0.5 million, and a non-residential cost recovery cap of 2.8 million, plus or minus \$0.5 million, over the three year Plan;
- provides incentives to achieve energy consumption reductions for low-income customers;
- offers energy efficiency and conservation programs to all customer classes;
- is a cost-effective plan based on Total Resource Cost (“TRC”) Test criterion;
- properly allocates the cost of individual measures to the customer class(es) that receive(s) the benefit of those measures;
- anticipates the use of internal UGI Electric Staff and Conservation Service Providers (“CSPs”), as necessary, to implement the programs, monitor their progress, and verify the Plan results;
- includes procedures to measure, evaluate, and verify performance of the programs and the Plan as a whole;
- details a process for an annual evaluation of the Plan results; and
- includes a 1307 mechanism, the Energy Efficiency and Conservation Rider (“EEC Rider”), for recovery of all applicable Plan costs.

The EE&C Plan contains a variety of programs that are key components to achieving the desired energy consumption reductions and resulting peak demand savings. In choosing the portfolio of programs, UGI Electric considered the Commission-approved efficiency programs utilized by other Pennsylvania electric distribution companies (“EDC”), as well as

other available cost-effective energy efficiency and conservation measures, considering UGI Electric's size and particular service territory.

The EE&C Plan is the product of significant input from stakeholders, internal UGI Electric Staff, and UGI Electric's expert EE&C advisor, Paul Raab. UGI Electric has attempted to incorporate reasonable ideas, insights, program features, and implementation details voiced by stakeholders to the extent possible and feasible.

UGI Electric utilized the expertise of in-house strategic development Staff combined with the energy efficiency expertise of a consultant who has worked in the energy efficiency and conservation field for many years. Cognizant of the guidelines in the Commission's Secretarial Letter and the related requirements of Act 129, UGI Electric and its consultant, Mr. Paul Raab, used an approximate 2% of annual revenues<sup>2</sup> expenditure guideline. UGI Electric also adopted a 5% total energy consumption reduction target in constructing a portfolio of measures and programs targeting all customer classes on the UGI Electric system. For each customer segment, a set of programs was developed in order to provide a range of program options with the goal of meeting the identified energy consumption reduction target.

The process for development of the Plan consisted of five basic elements:

1. establishing a set of guiding principles;
2. assessing energy efficiency and conservation resource potentials;
3. developing and balancing the portfolio;
4. providing opportunities for stakeholders to participate and contribute to Plan development; and
5. refining the Plan consistent with the objectives set forth in the Commission's Secretarial Letter and Act 129, generally.

Because UGI Electric is committed to a long-term investment in energy efficiency, the following guiding principles aided the development of UGI Electric's Plan content:

1. Customer Service – The Plan was developed in a way that is easy to understand to enable customers to take energy efficiency actions that will save money and support the environment.
2. Proven Solutions and Sustainable Savings – The Plan focuses on proven, cost-effective energy efficiency measures as part of an extensive path to long-term and sustainable energy efficiency.

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<sup>2</sup> UGI Electric utilized annual revenues for the twelve-month period ended May 31, 2008.

3. Flexibility – The Plan provides customers flexibility by offering a wide variety of programs in which they can participate. To support customers' actions, the Plan provides numerous measures, customer education initiatives, energy efficiency information, financial incentives, and services. For the Company, the Plan provides flexibility by allowing UGI Electric to consider the results of the programs and determine whether any adjustments are necessary in order to achieve the desired energy savings on a whole and/or maintain Plan cost-effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan or the expenditure caps for each customer class

A summary of the plans and anticipated savings by class is set forth below.

	Program Name	Program Market	Program Summary	Program Years Operated	Program Life MWh Savings	Demand Savings MW	% of Portfolio MWh Savings
Residential Portfolio Programs	Appliance Recycling	All customers	Free pickup, recycling and disposal	2012-2015	5,521	0.6	10.5%
	Appliance Rebate	All customers	Rebates for energy efficient appliances	2012-2015	1,260	0.7	2.4%
	CFL	All customers / Low Income	Up-stream incentives on Energy Star CFL	2012-2015	16,531	1.9	31.4%
	School Energy Education Program	All customers / Low Income	Energy education of customers	2012-2015	8,451	1.0	16.0%
	Water Heater Fuel Switching	All customers / Low Income	Incentive for cost effective, Energy Star fuel switching appliance	2012-2015	8,483	1.0	16.1%
	Solar Thermal Water Heater Fuel Switching	All customers / Low Income	Incentive for cost effective fuel switching appliance	2012-2015	190	0.0	0.4%
	Dryer Fuel Switching	All customers	Incentive for cost effective, Energy Star (when available)* fuel switching appliance	2012-2015	387	0.0	0.7%
	Space Heater Fuel Switching	All customers	Incentive for cost effective, Energy Star fuel switching appliance	2012-2015	1,162	1.9	2.2%
	<b>Total</b>				<b>41,984</b>	<b>7.2</b>	<b>79.7%</b>

	Program Name	Program Market	Program Summary	Program Years Operated	Program Life MWh Savings	Demand Savings MW	% of Portfolio MWh Savings
Commercial and Industrial Portfolio Programs	C&I Appliance Rebate	All customers	Rebates for energy efficient equipment	2012-2015	808	0.13	1.5%
	C&I CHP	All customers	Incentives for installing a Combined Heat and Power system	2012-2015	3,654	0.52	6.9%
	C&I HVAC Tune-up	All customers	Incentives for tune-up and retrofit of HVAC equipment	2012-2015	1,120	—	2.1%
	C&I Custom	All customers	Incentives for custom energy efficiency measures	2012-2015	5,072	0.58	9.6%
	C&I Solar Thermal Water Heating	All customers	Incentives for custom energy efficiency measures	2012-2015	63	0.01	0.1%
	<b>Total</b>				<b>10,716</b>	<b>1.24</b>	<b>20.3%</b>

\*EPA ENERGY STAR performance rating currently is not available for natural gas clothes dryers. Until the ENERGY STAR rating becomes available for this appliance, the Company will direct incentive payments toward natural gas dryers without the rating.

A summary of the program budget is reflected below.

**Budget and Parity Analysis Summary**

Customer Class	Total Budget	% of Total EEC Budget	% of Total Customer Revenue	Difference
Residential	\$3,385,542	45%	64%	19%
C&I	\$3,032,628	40%	36%	-4%
Additional Staff, Program Setup and Development	\$1,101,000	15%	-----	-----
Total	\$7,519,169	-----	-----	-----

**Program Efficiency Analysis Summary**

Customer Class	TRC NPV Benefits	TRC NPV Cost	TRC Net Benefits	TRC Benefit/Cost Ratio
Residential	\$28,053,005	\$10,975,794	\$17,077,211	2.56
C&I	\$9,159,095	\$6,169,374	\$2,989,721	1.48
Additional Staff, Program Setup and Development	\$0	\$1,044,594	(\$1,044,594)	"NA"
Total	\$37,212,100	\$18,189,763	\$19,022,338	2.05

The chosen programs are detailed in Section 2 (Program Descriptions) of this Plan. The Plan is cost-effective under the TRC test, as demonstrated in Section 3 of the Plan (Cost Effectiveness).

Assuming Commission approval, all programs are expected to begin implementation approximately 90 days after approval. If implemented by that date, the first annual report would be provided approximately 15 months after later, with subsequent reports being provided on an annual basis thereafter. The following timeline illustrates UGI Electric's anticipated implementation schedule.



UGI Electric understands that customer engagement is critical to the success of the Plan. UGI Electric also understands that certain barriers exist to customer participation, not the least of which is the current economic situation. With these risks in mind, UGI Electric developed a number of customer programs that provide tangible customer benefits. Ongoing customer support throughout the Plan process will be a crucial function performed by UGI Electric Staff and the CSPs that UGI Electric engages to promote and implement the Plan. Finally, coordination with trade allies and other market participants through outreach, training, and education to raise customer awareness of UGI Electric's available programs stands to minimize the risks associated with Plan implementation. A more complete description of UGI Electric's implementation and management strategy is provided in Section 4 of this EE&C Plan.

UGI Electric anticipates employing tracking, reporting, and analyses of program progress that will enable ongoing monitoring, management, analysis, and reporting with regard to Plan activities. UGI Electric will focus on anticipation, prevention, and detection of problems or errors with regard to Plan implementation so as to minimize impediments to Plan success. UGI Electric anticipates working closely with its CSPs to ensure that qualified individuals are performing the required actions to carry out the Plan. In addition, UGI Electric will comply with the Commission's requirement in its Secretarial Letter to submit an annual report regarding Plan results. Finally, UGI Electric has developed its Plan with the idea that updates or revisions to the Plan can be achieved on an ongoing basis to address customer participation levels and to achieve Plan success. A more detailed description of UGI Electric's reporting and tracking systems and quality assurance, evaluation, measurements, and verification is provided in Section 5.

In conformance with the Commission's Secretarial Letter, UGI Electric has utilized an approximate 2% cost level for Plan design. For UGI Electric, this equates to an approximate \$7.5 million total Plan cost for the life of the Plan. In its Act 129 Implementation Order, the Commission found that EDCs should be permitted to recover the incremental costs incurred to design, create, and obtain Commission approval of a plan.<sup>3</sup> Thus, the total Plan cost of \$7.5 million also includes the costs that UGI Electric incurred or will incur to design, create, and obtain approval of the EE&C Plan.

Consistent with the Implementation Order, UGI Electric has designed the Plan to provide that EE&C measures are paid for by the same customer class that receives the energy efficiency and conservation benefits of those measures by assigning the costs related to each measure to those classes that will receive the benefits. The cost recovery mechanism, the EEC Rider, is described in more detail in Section 6 of the Plan. UGI Electric has included *pro forma* tariff pages to implement the EEC Rider as Appendix A to this Plan. Consistent with other EDC Act 129 plans, UGI Electric has designed the EEC Rider to apply to all default service and choice customers.

Plan costs are likely to vary year-to-year, and UGI Electric proposes to recover those costs on a year-to-year basis by way of a 1307 recovery mechanism designed to track actual

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<sup>3</sup> January 16, 2009 Implementation Order of the Pennsylvania Public Utility Commission, Docket No. M-2008-2069887 at 33 (Implementation Order).

yearly expenditures by class. Even though UGI Electric anticipates costs to ramp up for many of its programs, it does not expect a great difference between the expenditures incurred in Year One of the Plan versus Year Three of the Plan. Accordingly, distribution of cost recovery is anticipated to be relatively even over the course of the Plan.

UGI Electric proposes to reconcile the revenues collected under its cost recovery mechanism on an annual basis. In addition, UGI Electric proposes to conduct a final reconciliation of total revenue collected to total Plan expenditures (up to the budget caps) at the conclusion of the three-year Plan period and to recover any resulting over/under collections during the following year. The annual reconciliation and end of Plan reconciliation will be subject to Commission review and potential audit, as the Commission deems necessary.

## SECTION 2: PROGRAM DESCRIPTIONS

### A. RESIDENTIAL SECTOR PROGRAMS<sup>4</sup>

#### 1. Appliance Rebate Program (Residential Sector/Low Income Customers)

##### **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 HVAC, lighting equipment, and electric 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 6,944 installed measures through 2015, with a total reduction of approximately 1,260 MWh

##### **Target Market**

UGI Electric's Residential Appliance Rebate Program will be available to all residential customers, including low income customers and new residential construction using a consistent implementation strategy, incentive mechanism, and administrative process.

The table below outlines eligibility parameters for the residential sector.

**Customer Eligibility Parameters**

<b>Customer type</b>	Residential
<b>Building Type</b>	Single family, multifamily, mobile home
<b>Building Vintage</b>	Existing and new construction
<b>Building ownership</b>	Owner or tenant with owner approval

##### **Program Description**

The program promotes the purchase and installation of a wide range of high-efficiency equipment. The Residential Appliance Rebate Program provides customers and potential customers with financial incentives to offset the higher purchase costs of energy-efficient equipment and offers information on the features and benefits of energy-efficient equipment.

<sup>4</sup> 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.

Targeted equipment includes electric heating, cooling, lighting, water heating, appliance, and other measures (ENERGY STAR–labeled equipment is specified where available).

**Implementation Strategy**

UGI Electric will select a qualified CSP (“Rebate CSP”) through a Request for Proposal (“RFP”) to provide customer intake, eligibility verification, rebate processing, and tracking. Customers will be required to submit a program application with documentation of the equipment purchase and installation(s) for verification and rebate processing. UGI Electric will provide overall strategic direction and program management for the program and promotional, education, trade ally support, and other administrative functions.

**Key steps in program participation**

1. Customers may be directed to the program through UGI Electric’s customer education activities, the Company website, equipment dealers or by contacting an equipment installation contractor/trade ally for a service call.
2. Customers will generally work with the equipment/appliance retailer or installation contractor to fill out program applications and ensure the required documentation is submitted to the program CSP for processing.
3. The CSP will review documentation to verify the applicant is a UGI Electric customer and the installed equipment meets the minimum efficiency standard.
4. Customers installing eligible high-efficiency equipment will schedule the work directly with their equipment dealer or installation contractor.
5. The CSP shall process rebate checks for qualified equipment.

**Risks and Risk Management Strategy**

The table below presents key market risks to an effective Residential Appliance Rebate Program as well as the strategies the program will use to address each risk.

**Risks and Risk Management Strategies**

Market Risks	Management Strategies
Higher first cost of energy-efficient equipment	Offer rebates to offset higher incremental cost.
Changing technology may impact lifecycle cost	Educate customers on the long-term energy cost-saving benefits of higher efficiency equipment.
Economic environment may limit customer’s ability to purchase energy-efficient equipment and appliances	Market program and general efficiency awareness to customers Add new programs or measures and/or increase eligible equipment efficiency levels as technology improves
Customers needing emergency replacement may not know about the program	Provide web-based information with downloadable forms and brochures.
Customers choose to buy less-efficient equipment	Promote general efficiency awareness to customers and trade allies

### **Anticipated Costs to Participating Customers**

Customer incremental costs (*i.e.*, the cost differential between standard and high-efficiency measures) will vary depending on the type of equipment purchased and the efficiency level of eligible equipment selected by the customer. In general, rebates are designed to cover a portion of the customer incremental cost.

### **Ramp-up and Education Strategy**

This program relies on both customer education and point-of-sale dealer and installer information for promotion. UGI Electric will work with merchants to promote the program. This education strategy may include:

1. Promote program in UGI Electric's customer bill insert
2. Communicate and provide access to program information on the Company's website
3. Educate using appropriate media forms and communication channels
4. Outreach to and coordinated advertising with trade allies
5. Publish and distribute program brochure

### **Eligible Measures and Incentive Strategy**

The program provides a financial incentive in the form of a rebate on a per-unit basis to customers installing qualifying equipment and technologies. Rebates will be a fixed amount per device, paid by check to customers who complete a rebate application, submit the required documentation of the equipment purchase to UGI Electric's CSP, and receive CSP approval.

The table below shows UGI Electric's proposed list of eligible equipment, incentive levels, and efficiency qualifications. The following table shows the list of equipment deemed appropriate for the residential sector. Residential customers may claim a rebate for each listed measure.<sup>5</sup>

<b>Eligible Measures</b>		
<b>Measure</b>	<b>Eligibility Rating</b>	<b>Incentive</b>
Central Air Conditioner	SEER 14.5	\$150
Central Air Conditioner	SEER 15 and above	\$225
Room AC (1 <sup>st</sup> unit)	ENERGY STAR	\$25
Room AC (2nd unit)	ENERGY STAR	\$25

<sup>5</sup> There is an exception for the window air conditioner recycling measure, which allows for a second unit to be recycled and the associated rebate claimed.

Programmable Thermostat	ENERGY STAR	\$50
Air-Source Heat Pump	SEER 14.5	\$250
Air-Source Heat Pump	SEER 15	\$325
Air-Source Heat Pump	SEER 16	\$400
Heat Pump Hot Water Heater	ENERGY STAR, EF $\geq$ 2.0, or COP $\geq$ 2.0	\$300
Dishwasher	ENERGY STAR	\$30
Clothes Washer	ENERGY STAR	\$75
Refrigerator	ENERGY STAR	\$50
Dehumidifier	ENERGY STAR	\$10
Light Fixture	ENERGY STAR	\$10

SEER = Seasonal Energy-Efficiency Ratio

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

#### **Implementation Schedule and Milestones**

Planning and implementation tasks and schedule for the Appliance Rebate Program follow. Some tasks will be led by UGI Electric; other tasks will be led by the program CSP, with oversight from UGI Electric.

### Program Schedules and Milestones

Schedule	Milestones
Weeks 1 to 2	Finalize detailed work scopes, selection criteria and quality assurance protocols for CSP
Weeks 2 to 5	Issue RFP for CSP
-----	Execute program implementation contract with selected CSP
Week 6	Secure CSP
Weeks 6 to 10	Conduct outreach to merchants
Weeks 6 to 9	Develop tracking procedures
Weeks 6 to 12	Program training
Weeks 6 to 12	Finalize customer education material and program applications
	Launch Program

#### **Evaluation, Measurement, and Verification (“EM&V”)**

UGI will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control (“QC”) will be integral to the delivery of all programs in UGI Electric’s EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and various CSPs
- Applying rigorous screening and qualifying protocols in engaging CSPs
- Checking 3% of rebate claims processed by the CSP to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible

- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

The program CSP, or UGI Electric Staff if no CSP involvement is indicated, will track all of the data necessary to verify all program activities and outcomes. For the Appliance Rebate Program, this data will include:

- Participant information: account number, rate class, copy of most recent electric bill, and contact information
- Measure information: make and model number of new appliance, type and quantity of measures installed, and efficiency rating
- Expenditures, savings, and peak load impacts
- New construction information: developer contact information, builder contact information, and confirmation of new account activation (most recent bill)

The CSP shall provide periodic reports to UGI Electric for measurement and verification.

UGI Electric will conduct a self-review on an annual basis and report to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets for various measures accordingly based on consumer demand

#### **Administrative Requirements**

A member of UGI Electric Staff will oversee this program, supported by other internal Staff. Anticipated administrative requirements and participant roles for the program follow.

1. We will have an internal UGI Electric Staff that will have overall program implementation responsibility.
2. The CSP will process applications, provide rebates, and provide information for the preparation of reports.
3. UGI Electric Staff will create an education program using appropriate media forms and communication channels to generate awareness for the program

#### **Estimated Participation**

Participation levels were developed based on estimated participation levels of other EDCs and adjusted to reflect UGI Electric's smaller customer base.

## Projected Participation

Measure	Year 1	Year 2	Year 3	Total
Central Air Conditioners	60	120	150	330
Room Air Conditioners	385	768	960	2,113
Programmable Thermostats	97	192	241	530
Air-Source Heat Pumps	40	79	100	219
Dishwasher	71	143	177	391
Energy Star Refrigerator	217	434	542	1,193
Energy Star Dehumidifier	22	43	54	119
ENERGY STAR Light Fixtures	336	706	1,007	2,049
<b>Total</b>	<b>1,228</b>	<b>2,485</b>	<b>3,231</b>	<b>6,944</b>

## Program Budget, Costs and Cost-Effectiveness

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 1,260 MWh. The annual budget allocation, cumulative MWh savings through 2015, and overall program cost-effectiveness for the residential customer sector are shown in the table below.<sup>6</sup> Key assumptions used in calculating the measure-level savings are shown in Appendix B.

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	222	449	589	1,260
Capacity Savings (MW)	0.134	0.265	0.336	0.735
Total Resource Cost	\$ 172,452	\$ 276,524	\$ 325,432	\$ 774,407
Direct Participant Costs	\$ 100,452	\$ 204,524	\$ 253,432	\$ 558,407
Direct Utility Costs	\$ 129,535	\$ 186,951	\$ 217,320	\$ 533,806
Customer Incentives	\$ 57,535	\$ 114,951	\$ 145,320	\$ 317,806
CSP Labor	\$ 24,000	\$ 24,000	\$ 24,000	\$ 72,000
CSP Materials and Supplies	\$ 24,000	\$ 24,000	\$ 24,000	\$ 72,000
Communications	\$ 24,000	\$ 24,000	\$ 24,000	\$ 72,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 308,323	\$ 669,467	\$ 811,903	\$ 1,789,693
TRC NPV Costs	\$ 172,452	\$ 264,227	\$ 297,133	\$ 733,812
TRC Net Benefits	\$ 135,871	\$ 405,240	\$ 514,770	\$ 1,055,881
TRC Benefit/Cost Ratio	1.79	2.53	2.73	2.44

## Other Information

Customers who install or commit to installing qualifying equipment under this program on or after the first of the month following Commission approval of this Plan will qualify for rebates. Installations must be made during the life of the Plan.

<sup>6</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

**2. School Energy Education Program  
(Residential Sector/Low Income Customers)**

**Objectives**

The objectives of the Residential School Energy Education Program include:

1. Provide customers with opportunities to reduce their energy costs and increase their energy efficiency
2. Encourage customers to weatherize their homes by providing an energy efficiency toolkit
3. Educate students on various energy types, energy generation and consumption, home energy use, and ways to increase energy efficiency in a home
4. Leverage UGI Electric’s School Energy Education Program by giving away the School Energy Education Toolkit to 4<sup>th</sup> through 7<sup>th</sup> graders in UGI Electric’s service territory
5. Obtain participation of approximately 4,500 customers through 2015, with a total reduction of approximately 8,469 MWh

**Target Market**

This program targets residential customers with students in 4<sup>th</sup> through 7<sup>th</sup> grade. Participants must have electric service. The table below outlines eligibility parameters.

**Customer Eligibility Parameters**

<b>Customer type</b>	Residential
<b>Building Type</b>	Any dwelling unit
<b>Building Vintage</b>	Existing
<b>Building ownership</b>	Owner or tenant with owner approval

**Program Description**

The Residential School Energy Education Program is designed to educate 4<sup>th</sup> through 7<sup>th</sup> grade students on various energy types, energy consumption and generation, home energy use, and ways to save energy in a home.

Think! Energy is typically delivered through school presentations. Teachers and schools are recruited throughout UGI Electric’s service territory. In consultation with the state department of education, presentations are scheduled to avoid testing schedules, vacation periods and other school activities.

Students and teachers at one grade level attend a one-hour presentation on energy literacy and energy efficiency. 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 custom-designed PowerPoint presentation guides the discussion, and hands-on learning activities are employed to build understanding among students.

The culmination of the school presentation is the distribution of take-home energy efficiency kits. After the completion of the school presentation, teachers ensure that each student who has returned a signed parent permission/participation slip takes home a kit. As part of a homework assignment, students then install devices with a parent and record installation and other home energy usage and behavior information on a "Household Report Card" Scantron form. Teachers, incentivized by a performance-based \$100 mini-grant, collect Household Report Cards and return to NEF by a predetermined deadline. NEF analyzes and summarizes installation and usage information and reports to the sponsoring utility.

### **Implementation Outline**

The implementation strategy for the program includes the following key components:

- Program content aligned with grade-appropriate academic standards as defined by the state department of education
- Determining school eligibility and targeting schools for participation
- Recruiting teachers and conducting additional education activities
- Creating a website interface and registration portal
- Registering teachers online and scheduling presentations
- Preparing curriculum and presentation materials
- Developing energy efficiency kits
- Assembling and shipping "Take Action!" energy efficiency kits
- Working with utility sponsor to invite local media representatives
- Conducting school presentations
- Awarding incentives
- Gathering and analyzing program data using the Household Report Card
- Reporting estimated energy savings
- Program evaluation and final reporting

UGI Electric will leverage existing energy efficiency education programs and the Reading is Fundamental program by providing a free energy efficiency toolkit to all 4<sup>th</sup> through 7<sup>th</sup> graders in UGI Electric's service territory. The toolkits will include:

- Two (2) 13W compact fluorescent light bulbs
- Oxygenics<sup>®</sup> high efficiency showerhead (2.0 gallons per minute)
- Shower timer

- Kitchen aerator (1.5 gallons per minute)
- Electroluminescent Limelite night light
- Refrigerator thermometer
- Flow rate test bag
- Digital water temperature thermometer
- Fun facts slide chart
- Think! Energy light switch stickers

UGI Electric will educate middle school students on various energy types, ways to generate electricity, the source fuel used in the generation process, and on home energy consumption.

**Implementation Strategy**

UGI Electric will select NEF to oversee the School Energy Education program.

UGI Electric’s Staff and NEF will manage the program, and will handle acquiring the materials, mailing, record keeping, and reporting.

**Risks and Risk Management Strategy**

The table below presents key market risks to an effective Residential School Energy Education Program, as well as the strategies the program will use to address each risk.

<b>Risks and Risk Management Strategies</b>	
<b>Market Risks</b>	<b>Management Strategies</b>
Cost of energy efficiency education and kit	Educate students and households on home energy consumption and ways to save energy. Offer free energy efficiency toolkits to students
Economic environment may limit customer’s ability to purchase energy efficient toolkit	
Lack of program awareness among customers	Partner with middle schools and leverage RIF to offer energy education classes from 4 <sup>th</sup> through 7 <sup>th</sup> grade

**Anticipated Costs to Participating Customers**

UGI Electric anticipates that this program will cost customers zero dollars.

**Ramp-up and Education Strategy**

This program relies on both getting the schools involved and generating awareness at the local level.

1. Promote program in UGI Electric’s customer bill insert and in the middle schools
2. Communicate and provide access to program information on the Company’s website
3. Present program information at community events

### Eligible Measures and Incentive Strategy

The energy efficiency toolkit will be free to 4<sup>th</sup> through 7<sup>th</sup> grade students within UGI Electric's service territory.

Eligible Measures		
Measure	Eligibility Rating	Incentive
<ul style="list-style-type: none"> <li>• Two (2) 13W compact fluorescent light bulbs</li> <li>• Oxygenics® high efficiency showerhead (2.0 gpm)</li> <li>• Shower timer</li> <li>• Kitchen aerator (1.5 gpm)</li> <li>• Electroluminescent Limelite night light</li> <li>• Refrigerator thermometer</li> <li>• Flow rate test bag</li> <li>• Digital water temperature thermometer</li> <li>• Fun facts slide chart</li> <li>• Think! Energy light switch stickers</li> </ul>	<p>Measure must save electricity, CFLs ENERGY STAR, aerator 1.5 gallons per minute</p>	<p>Free to 4<sup>th</sup> through 7<sup>th</sup> grade students within UGI Electric service territory</p>

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

### Implementation Schedule and Milestones

Planning and implementation tasks and schedule for the Residential School Energy Education Program follow. Some tasks will be led by UGI Electric, while other tasks will be led by NEF, with oversight from UGI Electric.

### Program Schedule and Milestones

Schedule	Milestones
Weeks 1 to 2	Negotiate contract with NEF as Residential School Energy Education Program CSP
Week 3	Execute contract with NEF
Weeks 4 to 11	Partner with local schools
Weeks 4 to 12	Program training
Weeks 4 to 8	Finalize customer education material and program applications.
	Launch Program

#### **Evaluation, Measurement and Verification**

UGI will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency.

NEF will track all of the data necessary to verify all program activities and outcomes. For the School Energy Education Program, this data will include:

- Participant information: contact information
- School information: site (facility) location and teacher involved
- Expenditures, savings, and peak load impacts

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

NEF shall provide periodic reports to UGI Electric for measurement and verification.

UGI Electric will conduct a self-review on an annual basis and report to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly based on consumer demand

**Administrative Requirements**

UGI Electric Staff will oversee this program supported by NEF. Anticipated administrative requirements and participant roles for the program follow:

1. The UGI Electric Staff will oversee all program operations
2. UGI Electric Staff and NEF will track all program activities

**Estimated Participation**

Participation levels were developed based on estimated participation levels of other EDCs and adjusted to reflect UGI Electric’s smaller customer base.

<b>Projected Participation</b>				
<b>Measure</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
School Energy Education Toolkit	1,500	1,500	1,500	4,500
<b>Total</b>	<b>1,500</b>	<b>1,500</b>	<b>1,500</b>	<b>4,500</b>

**Program Budget, Costs and Cost-Effectiveness**

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 8,469 MWh. The annual budget allocation, cumulative MWh savings, and overall program cost-effectiveness for the residential customer sector are shown in the table below.<sup>7</sup> Key assumptions used in calculating the measure-level savings are shown in Appendix B.

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<sup>7</sup> These costs do not include an allocated portion of UGI Electric’s \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	2,817	2,817	2,817	8,451
Capacity Savings (MW)	0.323	0.323	0.323	0.968
Total Resource Cost	\$ 100,000	\$ 100,000	\$ 100,000	\$ 300,000
Direct Participant Costs	\$ 90,000	\$ 90,000	\$ 90,000	\$ 270,000
Direct Utility Costs	\$ 100,000	\$ 100,000	\$ 100,000	\$ 300,000
Customer Incentives	\$ 90,000	\$ 90,000	\$ 90,000	\$ 270,000
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 10,000	\$ 10,000	\$ 10,000	\$ 30,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 598,468	\$ 608,699	\$ 612,374	\$ 1,819,541
TRC NPV Costs	\$ 100,000	\$ 95,553	\$ 91,304	\$ 286,858
TRC Net Benefits	\$ 498,468	\$ 513,145	\$ 521,070	\$ 1,532,683
TRC Benefit/Cost Ratio	5.98	6.37	6.71	6.34

3. **Compact Fluorescent Lighting Campaign**  
**(Residential Sector/Low Income Customers)**

**Objectives**

The objectives of the Compact Fluorescent Lighting (“CFL”) Campaign include:

1. Provide a mechanism for customers to easily obtain discounted ENERGY STAR–qualified CFLs
2. Develop and execute strategies aimed at transforming the market for ENERGY STAR–qualified CFLs 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 CFLs
4. Promote consumer awareness and understanding of the ENERGY STAR label
5. Distribute approximately 424,000 CFLs through 2015, with a total reduction of approximately 16,531 MWh

**Target Market**

This program will be available to all UGI Electric customers. For the purposes of the Plan, the program does not allocate budget or attribute savings or impacts to the Large Commercial and Industrial Sector.

**Program Description**

This program encourages customers to purchase new ENERGY STAR-rated CFL bulbs. The program has two components:

1. A retail upstream lighting incentive that will significantly reduce the customer cost of ENERGY STAR CFL bulbs
2. CFL distribution to UGI Electric’s Customer Assistance Program (“CAP”) participants. UGI will send a package of CFLs to CAP participants each year at no cost to the customer, utilizing the same CSP as the retail upstream lighting incentive

**Implementation Strategy**

A CFL CSP will manage an upstream CFL Campaign, including negotiating bulk pricing, recruitment, and coordination with retail stores, education and outreach to retailers, and tracking and providing program reports. The selected CSP will target a broad range of retailers, including big box and chain stores as well as smaller local and independent stores throughout UGI Electric’s territory. Also, the selected CSP will deliver free CFLs to low income residential customers in UGI Electric’s CAP program. UGI Staff will provide overall strategic direction and program management for the program and, supported by a CSP’s promotional, education, trade ally support, and other administrative functions, including:

1. Customers may purchase discounted CFLs at a participating retailer, where CFL discounts are applied at the register; customers may become aware of the program through the CFL CSP, UGI Electric, or retailer education and promotional activities

2. Retailer provides documentation of CFL sales results to CFL CSP
3. CFL CSP tracks results and reports periodically to UGI Electric
4. CFL CSP will provide free CFLs to UGI Electric CAP customers

**Risks and Risk Management Strategy**

The table below presents key market risks to an effective CFL Campaign, as well as the strategies the program will use to address each risk.

<b>Risks and Risk Management Strategies</b>	
<b>Market Risks</b>	<b>Management Strategies</b>
Cost of energy efficient bulbs	Provide upstream incentive and distributions
Lack of customer awareness	Robust education strategies, including point-of-sale promotions and discounts CSP outreach to retailers to solicit participation
Willingness of retailer to stock CFLs	
Other retail CFL promotions may be more attractive	
Negative media attention associated with CFL mercury content and CFL disposal	Ongoing retailer communications, training, outreach, and education Provide customer education and outreach on the proper handling and disposal of CFLs and mercury content
CFL performance	
Proper disposal of CFLs containing mercury	Provide locations for customers to dispose of mercury CFLs, which will be required as part of the CSP contract

**Anticipated Costs to Participating Customers**

The average customer cost of a standard CFL under this program is expected to be \$1.50 (after the incentive).

**Ramp-up Strategy**

UGI Electric will utilize CFL CSP(s) to deliver this program. In its contractual agreements with the competitively-selected CFL CSP, UGI Electric expects to detail achievable CFL distribution goals. The CFL CSP will be expected to develop and execute an education and delivery plan that achieves the goals.

**Education Strategy**

Education for this program will be led by the CFL CSP with support from UGI Electric Staff. The education strategy may include:

1. Promote program in UGI Electric’s customer bill insert
2. Communicate and provide access to program information on the Company’s website
3. Educate customers using appropriate media forms and communication channels

4. In-store educational display
5. Coordinate education opportunities with trade allies
6. Publish and distribute program brochure

**Eligible Measures and Incentive Strategy**

The CFL CSP will negotiate bulk pricing and manage the delivery of upstream incentives to participating CFL manufacturers, which are expected to cover approximately 50% of the retail cost of CFLs and 100% of the cost of distribution of bulbs.

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company may not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

**Implementation Schedule and Milestones**

Planning and implementation tasks and schedule for the CFL Campaign follow. Some tasks will be led by UGI Electric; other tasks will be led by the program CSP, with oversight from UGI Electric.

**Program Schedule and Milestones**

Schedule	Milestones
Weeks 1 to 2	Finalize RFP, including scope of work, selection criteria, and quality assurance protocols for CFL CSP
Weeks 2 to 4	Issue RFP for CFL CSP
-----	Execute implementation contract with selected CSP
Weeks 5 to 7	Recruit participating retailers
Week 8	Select and execute contract with manufacturers
Weeks 8 to 12	Finalize customer education materials
Weeks 8 to 12	Develop tracking and allocation procedures
Weeks 5 to 8	Determine reporting data requirements for program evaluation
	Launch Program

**Evaluation, Measurement, and Verification**

UGI will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure, and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and various CSPs
- Applying rigorous screening and qualifying protocols in engaging CSPs

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

The program CSP, or UGI Electric Staff if no CSP involvement is indicated, will track all of the data necessary to verify all program activities and outcomes. For the Residential CFL program, this data will include:

- Expenditures, savings, and peak load impacts
- Retailer information: retail location, contact information, type, and quantity of products sold
- For the CFL distribution: contact information

CSP shall provide periodic reports to UGI for measurement and verification.

UGI Electric will conduct a self-review on an annual basis and report to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly based on consumer demand

UGI Electric expects impact evaluation of this program will rely mainly on estimates of savings established in the Technical Reference Manual ("TRM") and information on measure installations, including but not limited to:

1. Number of CFLs distributed
2. Reporting shall be electronic, with periodic reports supplied to UGI Electric from the CSP

### Administrative Requirements

UGI Electric Staff will oversee this program and the CSP. External Staffing requirements will be a function of the selected CSP work scope, proposed program management structure, and internal needs. Anticipated administrative requirements and participant roles for the program follow.

1. UGI Electric Staff will oversee all program operations and program CSP, and will work with trade allies, other Pennsylvania utilities, if appropriate, and stakeholders
2. The CFL CSP will track all program activities and report to UGI Electric

### Estimated Participation

Program participation rates were developed using customer count information and trends for similar, successful programs. The overall budget is driven by the goal of attaining the cumulative targeted savings and satisfying the TRC test. The anticipated number of CFLs purchased by and given away to residential customers is shown below.

Measure	Year 1	Year 2	Year 3	Total
CFLs Purchased	139,287	139,287	139,287	417,860
CFLs Distributed (CAP customers only)	2,000	2,000	2,000	6,000
<b>Total</b>	<b>141,287</b>	<b>141,287</b>	<b>141,287</b>	<b>423,860</b>

### Program Budget, Costs, and Cost-effectiveness

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 16,531 MWh. The annual budget allocation, cumulative MWh savings through 2015, and overall program cost-effectiveness for the residential customer sector are shown in the table below.<sup>8</sup> Key assumptions used in calculating measure-level savings are shown in Appendix B.

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<sup>8</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	5,510	5,510	5,510	16,531
Capacity Savings (MW)	0.629	0.629	0.629	1.887
Total Resource Cost	\$ 462,988	\$ 462,988	\$ 462,988	\$ 1,388,965
Direct Participant Costs	\$ 282,573	\$ 282,573	\$ 282,573	\$ 847,719
Direct Utility Costs	\$ 376,804	\$ 376,804	\$ 376,804	\$ 1,130,411
Customer Incentives	\$ 196,388	\$ 196,388	\$ 196,388	\$ 589,165
CSP Labor	\$ 116,561	\$ 116,561	\$ 116,561	\$ 349,684
CSP Materials and Supplies	\$ 38,854	\$ 38,854	\$ 38,854	\$ 116,561
Communications	\$ 25,000	\$ 25,000	\$ 25,000	\$ 75,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 2,295,228	\$2,362,880	\$ 2,431,055	\$ 7,089,162
TRC NPV Costs	\$ 462,989	\$ 442,401	\$ 422,729	\$ 1,328,119
TRC Net Benefits	\$ 1,832,239	\$1,920,478	\$ 2,008,326	\$ 5,761,043
TRC-Benefit/Cost Ratio	4.96	5.34	5.75	5.34

**4. Appliance Recycling Program  
(Residential Sector/Low Income Customers)**

**Objectives**

The objectives of the Appliance Recycling Program include:

1. Encourage customers to dispose of their existing, inefficient appliances when they purchase new ones 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. Decommissioning to ensure appliances are not resold in a secondary market
5. Recycle approximately 3,195 refrigerators and freezers through 2015, with a total reduction of approximately 5,521 MWh

**Target Market**

The program primarily targets residential customers, but it is available to all UGI Electric customers with a working, residential-grade refrigerator or freezer. Refrigerators must be at least 10 cubic feet in size. For the purposes of this Plan, the Appliance Recycling Program allocates budget attributes savings and impacts only to the residential sector.

**Customer Eligibility Parameters**

<b>Customer type</b>	All
<b>Building Type</b>	All
<b>Building Vintage</b>	All
<b>Building ownership</b>	Owner or tenant

**Program Description**

A customer incentive will be offered for customers who turn in eligible appliances. The program provides free pick-up and disposal of old, inefficient refrigerators and freezers. Units must be plugged in and functioning when picked up.

All units are disposed of in an environmentally responsible manner. This involves removing hazardous materials such as chlorinated fluorocarbons from the refrigerant and foam insulation, preparing refrigerant for reclamation, and recycling other materials such as metal and plastic.

### **Implementation Strategy**

An Appliance Recycling CSP will provide turnkey services to manage and administer the program, including:

1. Education
2. Call center services, including customer intake and scheduling
3. Processing applications and rebates
4. Tracking program data
5. Providing customer and transaction information to UGI Electric

UGI Electric's Staff will provide overall strategic direction and program management for the program. Key steps in program participation may include the following:

1. CSP schedules and executes appliance collection contract
2. CSP verifies customer and appliance eligibility
3. CSP picks up and transports appliances to recycling facility
4. CSP recycles applicable components and appropriately disposes of remaining components
5. CSP tracks customer data, appliances, and outcomes throughout process
6. CSP processes rebate payment and delivers to customers

No changes in the implementation strategy are expected in different program years.

### **Risks and Risk Management Strategy**

The table below presents the key market risks to an effective Appliance Recycling Program, as well as the strategies the program will use to address each risk.

**Market Risks and Management Strategies**

<b>Market Risks</b>	<b>Management Strategies</b>
Time required for customer to be available for pick up	CSP responsible to work with customer to ensure the pick up is as convenient as possible \$35 incentive to compensate for time invested
Need to fill out rebate forms	Provide simple rebate forms
Lack of program awareness among customers	Appliance Recycling CSP helps customers fill out forms
Customers do not see benefit of harvesting qualified appliance(s)	Education strategy will leverage ENERGY STAR brand Consumer education and outreach \$35 incentive to enhance benefit to customer

### **Anticipated Costs to Participating Customers**

There are no costs incurred by customers in this program.

### **Ramp-up Strategy**

UGI Electric will utilize a turn-key Appliance Recycling CSP to deliver this program. In its contractual agreements with the competitively-selected Appliance Recycling CSP, UGI Electric will provide specific but achievable appliance recycling goals that ramp up by program year and will be reviewed periodically. The Appliance Recycling CSP will be expected to develop and execute a delivery plan that achieves the goals.

### **Education Strategy**

Customer education for this program will be conducted by the selected Appliance Recycling CSP with support from UGI Electric. The education strategy may include:

1. Promote program in UGI Electric customer bill insert
2. Communicate and provide access to program information on the Company's website
3. Promote program using appropriate media forms and communication channels
4. Use existing ENERGY STAR refrigerator harvesting materials as a resource; include program on ENERGY STAR "Find a Fridge or Freezer Recycling Program" web page

### **Eligible Measures and Incentive Strategy**

There are two distinct incentives associated with the program:

1. Free pick-up and disposal of refrigerator or freezer
2. Appliance rebate

There is a limit of two rebates for refrigerators and freezers per customer address. Appliance eligibility parameters and rebates are shown in the table below.

<b>Eligible Measures</b>		
<b>Measure</b>	<b>Eligibility Rating</b>	<b>Incentive</b>
Refrigerator	Working unit; $\geq 10$ CU FT.	\$35
Freezer	Working Unit	\$35

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired

energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

**Implementation Schedule and Milestones**

Planning and implementation tasks and schedule for the Appliance Recycling Program follow. Some tasks will be led by UGI Electric; other tasks will be led by the program CSP, with oversight from UGI Electric.

**Program Schedule and Milestones**

Schedule	Milestones
Weeks 1 to 2	Finalize RFP, including scope of work, selection criteria, and quality assurance protocols for Appliance Recycling CSP
Weeks 2 to 4	Issue RFP for Appliance Recycling CSP
Week 5	Execute Implementation contract with selected CSP
Weeks 6 to 9	Determine reporting data requirements for program evaluation
Weeks 8 to 12	Develop customer information and education materials
Weeks 8 to 12	Develop customer information website
	Launch Program

**Evaluation, Measurement, and Verification**

UGI Electric will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure, and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric’s EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and CSP
- Applying rigorous screening and qualifying protocols in engaging the CSP
- Checking 3% of recycled appliances to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

The program CSP, or UGI Electric Staff if no CSP involvement is indicated, will track all of the data necessary to verify all program activities and outcomes. For the Residential Appliance Recycling Program, this data will include:

- Participant information: account number, rate class, copy of most recent electric bill, EE&C customer segment, and contact information
- Measure information: make and model number of old appliance, type, size, and quantity
- Expenditures, savings, and peak load impacts

The CSP shall provide periodic reports to UGI for measurement and verification.

UGI Electric will conduct a self-review on an annual basis and report to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly, based on consumer demand

UGI Electric expects impact evaluation of this program will rely on estimates of savings established in the TRM.

#### **Administrative Requirements**

UGI Electric Staff will oversee this program. External staffing requirements will be a function of the selected CSP's work scope, proposed program management structure, and internal needs. Anticipated administrative requirements and participant roles for the program follow.

1. UGI Electric Staff will oversee all program operations and program CSP, and will work with trade allies, other Pennsylvania utilities, and stakeholders
2. The Appliance Recycling CSP will track all program activities and report to UGI Electric

### Estimated Participation

Program participation levels were developed based on estimated participation levels of other EDCs adjusted to reflect UGI Electric's smaller customer base. The resulting quantity of appliances recycled is shown below.

#### Projected Participation

Measure	Year 1	Year 2	Year 3	Total
Refrigerators and Freezers	355	1,420	1,420	3,195
<b>Total</b>	<b>355</b>	<b>1,420</b>	<b>1,420</b>	<b>3,195</b>

### Program Budget, Costs, and Cost-effectiveness

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 5,521 MWh. The annual budget allocation, cumulative MWh savings through 2015, and overall program cost-effectiveness for the residential customer sector are shown in the table below.<sup>9</sup> Key assumptions used in calculating measure-level savings are shown in Appendix B.

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	613	2,454	2,454	5,521
Capacity Savings (MW)	0.070	0.280	0.280	0.629
Total Resource Cost	\$ 133,250	\$ 293,000	\$ 293,000	\$ 719,250
Direct Participant Costs	\$ 53,250	\$ 213,000	\$ 213,000	\$ 479,250
Direct Utility Costs	\$ 133,250	\$ 293,000	\$ 293,000	\$ 719,250
Customer Incentives	\$ 53,250	\$ 213,000	\$ 213,000	\$ 479,250
CSP Labor	\$ 48,000	\$ 48,000	\$ 48,000	\$ 144,000
CSP Materials and Supplies	\$ 12,000	\$ 12,000	\$ 12,000	\$ 36,000
Communications	\$ 20,000	\$ 20,000	\$ 20,000	\$ 60,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 371,816	\$ 1,518,784	\$ 1,549,166	\$ 3,439,766
TRC NPV Costs	\$ 133,250	\$ 279,971	\$ 267,522	\$ 680,743
TRC Net Benefits	\$ 238,566	\$ 1,238,813	\$ 1,281,644	\$ 2,759,023
TRC Benefit/Cost Ratio	2.79	5.42	5.79	5.05

<sup>9</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

**B. COMMERCIAL AND INDUSTRIAL SECTOR PROGRAMS**

**1. Appliance Rebate Program  
(Commercial and Industrial Sector/Governmental Customers)**

**Objectives**

The objectives of the 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 energy devices and equipment
3. Encourage the use of high-efficiency/ENERGY STAR-rated equipment
4. Promote strategies that encourage and support market transformation for high-efficiency devices and equipment
5. Achieve approximately 4,146 installed measures through 2015, with a total reduction of 808 MWh

**Target Market**

UGI Electric’s Appliance Rebate Program will be available to commercial and industrial (“C&I”) customers, which includes governmental customers. The Plan divides the program into individual market sectors, with target customers, participation, budgets, savings, and other appropriate details broken out for each sector. However, UGI Electric expects to use a consistent implementation strategy, incentive mechanism, and administrative process to deliver the program across the C&I sector. The table below outlines eligibility targets for the C&I sector.

**Customer Eligibility Parameters**

<b>Customer type</b>	Commercial and Industrial
<b>Building Type</b>	Commercial, Industrial
<b>Building Vintage</b>	Existing and new construction
<b>Building ownership</b>	Owner or tenant with owner approval

**Program Description**

The program promotes the purchase and installation of a wide range of high-efficiency equipment. The C&I Appliance Rebate Program provides customers and potential customers with financial incentives to offset the higher purchase costs of energy-efficient equipment and offers information on the features and benefits of energy-efficient equipment. Targeted equipment includes electric heating, cooling, lighting, water heating, appliance, and other measures (ENERGY STAR-labeled equipment is specified where available). (See Eligible Measures and Incentive Strategy)

**Implementation Strategy**

UGI Electric will select a qualified CSP through a Request for Proposal (“RFP”) to provide customer intake, eligibility verification, rebate processing, and tracking. Customers will be required to submit a program application with documentation of the equipment purchase and installation(s) for verification and rebate processing. UGI Electric will provide overall strategic direction and program management for the program and promotional, education, trade ally support, and other administrative functions.

Key steps in program participation include:

1. Customers may be directed to the program through UGI Electric’s customer education activities, the Company website, equipment dealers, or by contacting an equipment installation contractor/trade ally for a service call
2. Customers will generally work with the equipment/appliance retailer or installation contractor to fill out program applications and ensure the required documentation is submitted to the program CSP for processing
3. The CSP will review documentation to verify the applicant is a UGI Electric customer and the installed equipment meets the minimum efficiency standard
4. Customers installing eligible high-efficiency equipment will schedule the work directly with their equipment dealer or installation contractor
5. The CSP shall process rebate checks for qualified equipment

**Risks and Risk Management Strategy**

The table below presents key market risks to an effective C&I Appliance Rebate Program as well as the strategies the program will use to address each risk.

**Risks and Risk Management Strategies**

<b>Market Risks</b>	<b>Management Strategies</b>
Higher first cost of energy-efficient equipment	Offer rebates to offset higher incremental cost Educate customers on the long-term energy cost-saving benefits of higher-efficiency equipment
Changing technology may impact life cycle cost	Market program and general efficiency awareness to customers
Economic environment may limit customer’s ability to purchase energy-efficient equipment and appliances	Add new programs or measures and/or increase eligible equipment efficiency levels as technology improves
Customers needing emergency replacement may not know about the program	Provide web-based information with downloadable forms and brochures Promote general efficiency awareness to customers and trade allies
Customers choose to buy less efficient equipment	

### Anticipated Costs to Participating Customers

Customer incremental costs (*i.e.*, the cost differential between standard and high-efficiency measures) will vary, depending on the type of equipment purchased and the efficiency level of eligible equipment selected by the customer. In general, rebates are designed to cover a portion of the customer incremental cost.

### Education Strategy

In addition to the education strategy and tactics discussed in Section 2.A.1., under the Residential Appliance Rebate Program, UGI Electric may use the following education strategies to promote this program to its C&I customers:

1. Targeted education to business trade associations, building owner/manager associations, economic development organizations, customer advocacy groups, and trade allies such as architects, engineers, real estate developers, energy services companies, HVAC companies, and other equipment dealers and installers
2. Targeted education to specific C&I customers

### Implementation Schedule and Milestones

Planning and implementation tasks and a schedule for the C&I Appliance Rebate Program follow. Some tasks will be led by UGI Electric; other tasks will be led by the program CSP, with oversight from UGI Electric.

#### Program Schedule and Milestones

Schedule	Milestones
Weeks 1 to 2	Finalize detailed work scopes, selection criteria, and quality assurance protocols for CSP
Weeks 2 to 5	Issue RFP for CSP
-----	Execute program implementation contract with selected CSP
Week 6	Secure CSP
Weeks 6 to 10	Conduct outreach to merchants
Weeks 7 to 9	Develop tracking procedures
Weeks 9 to 12	Program training
Weeks 9 to 12	Finalize customer education material and program applications

### **Evaluation, Measurement, and Verification**

UGI will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure, and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and various CSPs
- Applying rigorous screening and qualifying protocols in engaging CSPs
- Checking 3% of rebate claims to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

The program CSP, or UGI Electric Staff if no CSP involvement is indicated, will track all of the data necessary to verify all program activities and outcomes. For the C&I Appliance Rebate program, this data will include:

- Participant information: account number, rate class, copy of most recent electric bill, EE&C customer segment, and contact information
- Measure information: make and model number of new appliance and efficiency rating
- Expenditures, savings, and peak load impacts
- New construction information: developer contact information, builder contact information, and confirmation of new account activation (most recent bill)

CSP shall provide periodic reports to UGI for measurement and verification

UGI Electric will conduct a self-review on an annual basis and report to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year

- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly, based on consumer demand

**Administrative Requirements**

A member of UGI Electric Staff will oversee this program, supported by other internal Staff. Anticipated administrative requirements and participant roles for the program are:

1. We will have an internal UGI Electric Staff that will have overall program implementation responsibility
2. The CSP will process applications, provide rebates, and provide information for the preparation of reports
3. UGI Electric Staff will create an education program using appropriate media forms and communication channels to generate awareness for the program

**Eligible Measures and Incentive Strategy**

The program provides financial incentive in the form of a prescriptive rebate on a per-unit basis to customers installing qualifying equipment and technologies. Rebates will be a fixed amount per device, paid by check to customers who complete a rebate application and submit documentation of the equipment purchase to UGI Electric’s CSP.

The table below shows UGI Electric’s proposed list of eligible equipment, incentive levels, and efficiency qualifications.

Measure	Eligibility Rating	Incentive
Programmable Thermostat	ENERGY STAR	\$55/unit
Anti-Sweat Heater Controls	Variable Temperature Controls (Humidistat)	\$34/case door
Ice Maker	High-Efficiency	\$115/unit
Faucet Aerators	1.5 gallons per minute	\$0.50/unit
Steam Cookers	ENERGY STAR	\$40/unit
ENERGY STAR Office Equipment	ENERGY STAR	30% of incremental measure cost up to \$50
Residential-size Refrigerator	ENERGY STAR	\$50

<b>Qualifying Energy Star Office Equipment</b>
ES Computer
ES Copiers
ES Fax
ES Monitor
ES Printers
ES Scanners
ES Vending Machines
ES Water Cooler
ES Res-Sized Refrigerators

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

#### **Estimated Participation**

Estimated Participation for each measure is shown below.

#### **Projected Participation**

<b>Measure</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Thermostat – Programmable	150	150	150	450
Anti-Sweat Heater Controls	8	8	8	24
Ice Maker	3	3	3	9
Faucet Aerators	801	801	801	2,403
Steam Cookers	3	3	3	9
Energy Star Office Equipment	387	387	387	1,161
Residential Size Refrigerator	30	30	30	90
<b>Total</b>	<b>1,382</b>	<b>1,382</b>	<b>1,382</b>	<b>4,146</b>

#### **Program Budget, Costs, and Cost-Effectiveness**

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 808 MWh. The annual budget allocation, cumulative MWh savings through 2015, and overall program cost-effectiveness for the C&I customer sector are shown in the table below.<sup>10</sup> Key assumptions used in calculating measure-level savings are shown in Appendix B.

<sup>10</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

<b>Benefits/Cost Component</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Savings (MWh)	269	269	269	808
Capacity Savings (MW)	0.042	0.042	0.042	0.127
Total Resource Cost	\$ 127,462	\$ 127,462	\$ 127,462	\$ 382,386
Direct Participant Costs	\$ 63,962	\$ 63,962	\$ 63,962	\$ 191,886
Direct Utility Costs	\$ 93,738	\$ 93,738	\$ 93,738	\$ 281,213
Customer Incentives	\$ 30,238	\$ 30,238	\$ 30,238	\$ 90,713
CSP Labor	\$ 16,000	\$ 16,000	\$ 16,000	\$ 48,000
CSP Materials and Supplies	\$ 16,000	\$ 16,000	\$ 16,000	\$ 48,000
Communications	\$ 31,500	\$ 31,500	\$ 31,500	\$ 94,500
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

<b>TRC Test</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
TRC NPV Benefits	\$ 251,892	\$ 252,963	\$ 253,811	\$ 758,666
TRC NPV Costs	\$ 137,462	\$ 131,349	\$ 125,509	\$ 394,320
TRC Net Benefits	\$ 114,430	\$ 121,614	\$ 128,302	\$ 364,346
TRC Benefit/Cost Ratio	1.83	1.93	2.02	1.92

2. **Commercial and Industrial Custom Incentive Program**  
**(Commercial and Industrial Sector/Governmental Customers)**

**Objectives**

The objectives of the Commercial and Industrial (“C&I”) Custom Incentive Program include:

1. Encourage the installation of high-efficiency equipment not included in UGI Electric’s other C&I EE&C Programs by customers in new and existing facilities
2. Encourage the installation of residential sized solar thermal water heaters where appropriate in lieu of electric water heating
3. Encourage equipment repairs and optimization and operational or process changes that reduce electricity consumption and peak demand
4. Encourage a “whole facility” approach to energy-efficiency
5. Increase customer awareness of the features and benefits of electric energy efficient equipment
6. Increase the market penetration of high-efficiency equipment
7. Support emerging technologies and non-typical efficiency solutions in cost-effective applications
8. Encourage advanced energy efficiency strategies required for certification by national market transformation programs such as Leadership in Energy and Environmental Design (LEED), architecture 2030, ENERGY STAR Buildings, or Energy Policy Act of 2005 tax credits
9. Obtain approximately 1,479 participants through 2015, with a total reduction of approximately 5,135 MWh

**Target Market**

UGI Electric’s C&I Custom Incentive Program targets all new and existing commercial and industrial facilities. The program will be available for any type of new or replacement energy-efficient equipment not eligible for a prescriptive rebate through UGI Electric’s other EE&C Programs. The program also covers retro-commissioning, repairs, optimization, and operational or process changes. All measures, packages of measures, and process changes must be cost-effective, as substantiated through a technical analysis. Additionally, customers installing residential sized solar thermal water heaters in lieu of an electric water heater would be eligible for an equipment rebate.

The Plan includes the C&I sector, which includes governmental customers. UGI Electric expects to use a consistent implementation strategy, incentive mechanism, and administrative process to deliver the program across these market sectors. The table below outlines eligibility parameters for the C&I sector.

### Customer Eligibility Parameters

<b>Customer type</b>	Commercial and Industrial
<b>Building Type</b>	Commercial and Industrial
<b>Building Vintage</b>	Existing and new construction
<b>Building ownership</b>	Owner or tenant with owner approval

#### **Program Description**

This 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 will be required to provide documentation that their proposed efficiency upgrades pass UGI Electric's cost-effectiveness threshold and technical criteria.

UGI Electric will encourage customers building new facilities to pursue advanced building performance certification such as LEED or ENERGY STAR Buildings.

#### **Implementation Strategy**

UGI Electric's Staff will work with customers to identify, evaluate and approve custom projects. UGI will establish an outreach campaign to potential trade allies to promote the program.

Since the C&I Custom program is fluid by nature, UGI Electric will heavily promote the custom program through a variety of channels such as newspaper, radio, and magazine advertising. In addition, UGI Electric's local staff will reach out to C&I customers to inform them about the program and the savings it could provide.

UGI Electric plans to retain CSP(s) on an as-needed basis who are C&I energy efficiency experts to help evaluate and analyze proposed projects. As required, the CSP will study the customer's proposal and will provide an unbiased third-party opinion on the feasibility, energy efficiency and savings, and the TRC project values. Retaining a third-party CSP will ensure that the project meets TRM and Quality Control standards.

UGI Electric's Staff will provide overall strategic direction and program management for the program and perform evaluation and other administrative functions. The project development process for the Custom Incentive Program is more fluid than other programs and may not follow a precise work path. The following workflow is an example of a typical scenario through which an equipment-based custom efficiency project may proceed:

1. Customers may be directed to the program through education efforts, or other UGI Electric EE&C programs

2. A trade ally (e.g., energy services firms, engineering firms, providers of energy efficiency products and services, etc.) works with the customer to evaluate their facility's energy efficiency opportunities and develop potential project ideas
3. A professional engineering firm or other qualified contractor, under contract to the customer, performs a detailed technical study of potential projects and evaluates their cost-effectiveness
4. UGI Electric and/or CSP evaluate the customer's technical study report to qualify projects, which involves confirming project incremental cost, potential energy and capacity savings data, and evaluating cost-effectiveness
5. Customers will schedule installation of eligible high-efficiency equipment upgrades, operational or process changes, or other eligible measures directly with an installation contractor
6. Verifying equipment installation, operational, or process changes or other eligible work for all participants, which will be a part of the measurement and verification process
7. Processing rebates for qualified equipment or extensive building efficiency projects

#### **Program Schedules and Milestones**

<b>Schedule</b>	<b>Milestones</b>
Weeks 1 to 4	Execute and sign RPF with a professional engineering firm with energy efficiency evaluation expertise
Weeks 1 to 4	Finalize outreach to merchants and trade allies
Weeks 1 to 4	Finalize tracking procedures
Weeks 1 to 4	Program training
Weeks 1 to 4	Finalize customer education material and program applications and website.
	Launch Program

#### **Risk and Risk Management Strategy**

The table below presents key market risks to an effective Custom Incentive Program, as well as the strategies the program will use to address each risk.

### Market Risks and Management Strategies

Market Risks	Management Strategies
Higher first cost of energy efficient equipment	Offer customized incentives on equipment and consider technical study offered by customer to offset higher costs
Not a high priority; limited access to discretionary cash/credit	
Lack of program awareness and “emergency replacement” scenario among target customers	Education strategy focused on decision makers and facility operators Education of equipment dealers, distributors, and installers or other trade allies
Procurement policies that specify low first cost instead of life cycle cost	
Tenant/landlord issues	

Customer incremental costs (*i.e.*, the cost differential between standard and high-efficiency measures) will vary depending on the type of equipment or project installed or other work performed. All rebates, exclusive of solar thermal water heaters, are designed to return up to 80% of the TRC value of the proposed project up to the remaining budget amount. UGI Electric reserves the right to limit the rebate amount to \$100,000 to any individual customer. Rebates for solar thermal water heaters will be \$138 per application.

#### Ramp-up and Education Strategy

This Incentive Program is expected to be an attractive option for C&I customers with more complex buildings and building equipment (*e.g.*, data centers and industrial process facilities) and for larger customers.

UGI Electric’s Staff will create an education strategy, which may include:

1. Communicate and provide access to program information on the Company’s website
2. Coordinate education opportunities with trade allies
3. Target education to high-potential market sectors

#### Eligible Measures and Incentive Strategy

The table below shows UGI Electric’s proposed incentive levels. As noted above, UGI Electric reserves the right to limit the rebate amount to \$100,000 to any individual customer.

#### Eligible Equipment Measures

Measure	Eligibility Rating	Incentive (Up to Remaining Budget Amount)
Solar Thermal Water Heater	Switching from Electric	\$138
Traffic Signals	TRC >1	Up to 80% of TRC value

Street Lighting	TRC >1	Up to 80% of TRC value
Outdoor Lighting	TRC >1	Up to 80% of TRC value
Custom Industrial Processes	TRC >1	Up to 80% of TRC value
Building Retrofits	TRC >1	Up to 80% of TRC value
Cooling Tower-Decrease Approach Temperature	TRC >1	Up to 80% of TRC value
Cooling Tower-Two-Speed Fan Motor	TRC >1	Up to 80% of TRC value
Water-Cooled Chiller, Screw Chiller	TRC >1	Up to 80% of TRC value
Water-Cooled Chiller, Screw Chiller	TRC >1	Up to 80% of TRC value
Heat Pump – Air Source	TRC >1	Up to 80% of TRC value
Heat Pump – Air Source	TRC >1	Up to 80% of TRC value
Motors	TRC >1	Up to 80% of TRC value
Commercial Reach-In Refrigerator	TRC >1	Up to 80% of TRC value
Compressor VSD Retrofit	TRC >1.	Up to 80% of TRC value
Floating Head Pressure Control	TRC >1	Up to 80% of TRC value
Strip Curtains for Walk-Ins	TRC >1	Up to 80% of TRC value
Occupancy Sensors	TRC >1	Up to 80% of TRC value
Time Clocks and Timers	TRC >1	Up to 80% of TRC value
ASD/VSD	TRC >1	Up to 80% of TRC value
Ceiling Insulation	TRC >1	Up to 80% of TRC value
Wall Insulation	TRC >1	Up to 80% of TRC value
Other Custom Applications	TRC >1	Up to 80% of TRC value

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility

ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

#### **Implementation Schedule and Milestones**

Given the nature of the C&I Custom Incentive Programs, planning and implementation tasks and schedule for the C&I Custom Incentive Program will be determined as needed.

#### **Evaluation, Measurement, and Verification**

UGI will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and various CSPs
- Applying rigorous screening and qualifying protocols in engaging CSPs
- Checking a significant percentage of custom projects to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

The program CSP, or UGI Electric Staff if no CSP involvement is indicated, will track all of the data necessary to verify all program activities and outcomes. For the C&I Custom program, this data may include:

- Participant information: account number, rate class, copy of most recent electric bill, EE&C customer segment, and contact information
- Project information: site (facility) location, project specifications, total project cost, project application date, project approval date, and project completion date
- Measure information: make and model number of new appliance, type and quantity of measures installed, efficiency rating, and service rendered
- Expenditures, savings, and peak load impacts

- Trade ally information, if available: contact information, dates of program involvement, and installation standards used
- New construction information: developer contact information, builder contact information, and confirmation of new account activation (most recent bill)

UGI Electric will track the energy usage for custom measures and compare it to historical trends, adjusted for weather and other relevant factors. Customers must provide detailed engineering studies with proposed measures efficiency rating, the TRM values for various proposed measures, and the costs associated with each component. UGI Electric will make a decision based on the cost-effectiveness of the total proposal and the TRM values. Customer information will be collected for verification and auditing.

UGI Electric anticipates self-review on an annual basis and reports to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare them against the target for the year
- Conduct on-site inspections of a significant amount of custom measure installations to verify accuracy and prevent fraud
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly, based on consumer demand

#### **Administrative Requirements**

UGI Electric Staff will oversee this program.

#### **Estimated Participation**

Participation levels were estimated based on estimated participation levels of other EDCs and adjusted to reflect UGI Electric’s smaller customer base.

#### **Projected Participation**

<b>Measure</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Custom Measure	493	493	493	1,479

#### **Program Budget, Costs, and Cost-Effectiveness**

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 5,135 MWh. The annual budget allocation, cumulative MWh savings, and overall program cost-effectiveness for the commercial and industrial customer sectors are shown in the table below.<sup>11</sup> Key assumptions used in calculating measure-level savings are shown in Appendix B.

<sup>11</sup> These costs do not include an allocated portion of UGI Electric’s \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

### Non-Solar Thermal Water Heating Measures

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	1,691	1,691	1,691	5,072
Capacity Savings (MW)	0.193	0.193	0.193	0.6
Total Resource Cost	\$ 910,005	\$ 910,005	\$ 910,005	\$ 2,730,015
Direct Participant Costs	\$ 805,005	\$ 805,005	\$ 805,005	\$ 2,415,015
Direct Utility Costs	\$ 515,000	\$ 515,000	\$ 515,000	\$ 1,545,000
Customer Incentives	\$ 410,000	\$ 410,000	\$ 410,000	\$ 1,230,000
CSP Labor	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000
CSP Materials and Supplies	\$ 25,000	\$ 25,000	\$ 25,000	\$ 75,000
Communications	\$ 50,000	\$ 50,000	\$ 50,000	\$ 150,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 1,251,882	\$ 1,267,441	\$ 1,278,967	\$ 3,798,290
TRC NPV Costs	\$ 900,016	\$ 859,995	\$ 821,753	\$ 2,581,764
TRC Net Benefits	\$ 351,865	\$ 407,446	\$ 457,214	\$ 1,216,526
TRC Benefit/Cost Ratio	1.39	1.47	1.56	1.47

### Solar Thermal Water Heating Measures

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	21	21	21	63
Capacity Savings (MW)	0.004	0.004	0.004	0.011
Total Resource Cost	\$ 48,500	\$ 48,500	\$ 48,500	\$ 145,500
Direct Participant Costs	\$ 48,000	\$ 48,000	\$ 48,000	\$ 144,000
Direct Utility Costs	\$ 1,880	\$ 1,880	\$ 1,880	\$ 5,640
Customer Incentives	\$ 1,380	\$ 1,380	\$ 1,380	\$ 4,140
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 500	\$ 500	\$ 500	\$ 1,500
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

Solar Thermal Water Heater Fuel Switching TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 21,550	\$ 21,657	\$ 21,703	\$ 64,910
TRC NPV Costs	\$ 48,500	\$ 46,343	\$ 44,283	\$ 139,126
TRC Net Benefits	\$ (26,950)	\$ (24,686)	\$ (22,579)	\$ (74,216)
TRC Benefit/Cost Ratio	0.44	0.47	0.49	0.47
[Note: TRC NPV Benefits includes electricity savings from fuel switching.]				

### Other Information

Customers that install qualifying equipment under this program during the life of the Plan will qualify for rebates. Customers who submit qualified and approved projects to UGI Electric will receive a budget commitment for their proposal. Receipt of the funds is contingent on project completion during the life of the Plan.

3. **HVAC Tune-up Program**  
(Commercial and Industrial Sector/Governmental Customers)

**Objectives**

The objectives of the Commercial HVAC Tune-up Program include:

1. Optimize HVAC unit performance
2. Assist commercial customers in lowering their energy bills and operating costs
3. Obtain participation by approximately 704 customers through 2015 2014, with a total reduction of approximately 1,120 MWh

**Target Market**

UGI Electric's HVAC Tune-up Program targets existing buildings with packaged commercial HVAC systems. The program will offer incentives paid to HVAC contractors who perform qualifying measures.

The Plan applies to the C&I sector, which includes governmental customers. The table below outlines eligibility targets.

**Customer Eligibility Parameters**

<b>Customer type</b>	Commercial and Industrial
<b>Building Type</b>	Commercial and Industrial
<b>Building Vintage</b>	Existing buildings
<b>Building ownership</b>	Owner or tenant with owner approval

**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. The efficiency opportunities can be broken into three main areas:

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

**Implementation Strategy**

UGI Electric will competitively select an HVAC Tune-up CSP to manage and administer the program, including contractor recruitment, contractor training, providing ongoing contractor field support, education, processing applications and rebates, tracking program data, and reporting to UGI Electric. HVAC Contractors will provide technical assessments and install

energy efficiency improvements on customers' HVAC systems. UGI Electric energy efficiency Staff will provide overall strategic direction and program management for the program and, supported by the CSP, education, trade ally support, evaluation, and other administrative functions. Key steps in program participation include:

1. Trained contractors will use diagnostic tools to assess HVAC unit performance, tune-up systems, and install energy efficiency equipment to improve performance
2. Contractors will complete necessary program paperwork to apply for an incentive. and the CSP will record all applications, while the program will process and issue an incentive check to the contractor for qualifying applications
3. The CSP will provide monthly reports to UGI Electric that outline program accomplishments, challenges, contractor and customer feedback, projected saving forecasts, and other program information, and will also document problems and urgent issues as they arise

A quality assurance plan will be developed to ensure that contractors are performing program services properly and that the program is realizing energy savings. At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan."

#### **Risk and Risk Management Strategy**

The table below presents key market risks to an effective C&I HVAC Program, as well as the strategies the program will use to address each risk.

### Market Risks and Management Strategies

Market Risks	Management Strategies
HVAC contractors have limited time and/or resources to implement program components	Provide financial incentives to contractors to compensate their time and encourage participation Contractor education Education plan encouraging contractor participation
Limited number of qualified contractors	
Customer/contractor may have uncertainties regarding savings and payback	Specific education and information to customers to ensure awareness of UGI Electric incentives
Customers think they receive the service as part of an existing maintenance agreement	
Landlord/tenant issues	
Economic environment may limit customers' ability to upgrade equipment and technology	
Customer not aware of incentives to contractors	

#### Anticipated Costs to Participating Customers

In general, measure rebates are designed to cover approximately 50% of the customer incremental cost. Estimated customer post-incentive costs by measure are outlined in the table below:

Measure	Post-Incentive Cost
Basic diagnostic testing (no economizer)	\$25
Basic diagnostic testing (economizer is present)	\$50
Refrigerant Charge/Airflow (single compressor)	\$125
Refrigerant Charge/Airflow (multiple compressors)	\$175
Thermostat Modification	\$25
Economizer Adjustment	\$150
Thermostat Replacement	\$100
Economizer Control Package	\$100

#### Ramp-up Strategy

UGI Electric will utilize an HVAC Tune-up CSP to deliver this program. The delivery process will require the CSP to work with participating contractors to help them identify opportunities and sell program services to their existing maintenance and new customers. In its contractual agreements with the HVAC Tune-up CSP, UGI Electric expects to outline specific but achievable participation goals that ramp up by program year. The HVAC Tune-up CSP will be expected to develop and execute an education and delivery plan that achieves the goals.

### Education Strategy

This program relies on customer education, CSP, and trade ally promotion. The selected HVAC Tune-up CSP will work with UGI Electric's staff to create an education strategy for this program, which may include:

1. Communicate and provide access to program information on the Company's website
2. Educate using appropriate media forms and communication channels
3. Coordinate promotional opportunities with trade allies
4. Targeted education to specific sectors identified as having a high level of unrealized energy-efficiency potential, such as office buildings and data centers

### Eligible Measures and Incentive Strategy

The program provides a financial incentive in the form of a prescriptive rebate for specific diagnostic tests and installation of qualifying equipment and technologies associated with commercial packaged HVAC systems. Rebates will be a fixed amount per measure, paid by check to HVAC contractors who complete an application and submit documentation to UGI Electric's HVAC CSP. The table below shows UGI Electric's proposed incentive levels.

**Eligible Equipment Measures**

Measure	Incentive
Basic diagnostic testing (no economizer)	\$25
Basic diagnostic testing (economizer is present)	\$50
Refrigerant Charge/Airflow (single compressor)	\$125
Refrigerant Charge/Airflow (multiple compressors)	\$175
Thermostat Modification	\$25
Economizer Adjustment	\$150
Thermostat Replacement	\$100
Economizer Control Package	\$100

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

### Implementation Schedules and Milestones

Planning and implementation tasks and schedule for the HVAC Tune-up Program follow. Some tasks will be led by UGI Electric; other tasks will be led by the CSP, with oversight from UGI Electric.

### Program Schedule and Milestones

Schedule	Milestones
Weeks 1 to 2	Finalize RFP, including scope of work, selection criteria, and quality assurance protocols for program CSP
Weeks 2 to 4	Issue RFP for program CSP
-----	Execute program implementation contract with selected program CSP
Weeks 5 to 7	Provide outreach to trade allies and other interested stakeholders
Weeks 7 to 12	Train internal Staff and trade allies
Weeks 10 to 14	Develop customer education materials
Weeks 7 to 14	Develop program forms, tracking database, and incentive process
Weeks 7 to 14	Develop tracking and allocation procedures
Week 7 to 14	Establish communication and reporting schedule
Weeks 15 to 16	Finalize education approach details
Week 7 to 10	Determine data requirements for program evaluation
	Launch Program

#### **Evaluation, Measurement, and Verification**

UGI Electric will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure, and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and various CSPs
- Applying rigorous screening and qualifying protocols in engaging CSPs
- CSP or UGI Electric shall check 3% of rebate claims to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

The program CSP will track all of the data necessary to verify all program activities and outcomes. For the C&I HVAC Tune-Up program, this data will include:

- Participant information: account number, rate class, copy of most recent electric bill, EE&C customer segment, and contact information
- Measure information: type and quantity of measures installed, efficiency rating, and service rendered
- Expenditures, savings, and peak load impacts
- Trade ally information: contact information, dates of program involvement, and installation standards used

CSP shall provide periodic reports to UGI for measurement and verification. CSP shall have automated capability in analyzing measure savings and will verify that contractor performed the measure listed.

UGI Electric anticipates self-review on an annual basis and reports to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly, based on consumer demand

#### **Administrative Requirements**

UGI Electric Staff will oversee this program. External Staffing requirements will be a function of the selected CSP's work scope, proposed program management structure, and internal needs. Anticipated administrative requirements and participant roles for the program follow:

1. UGI Electric Staff will oversee the program operations
2. UGI Electric Staff will handle customer calls and direct customers to the program
3. The HVAC Tune-up CSP will administer the program, recruit, liaise with and train contractors, track project and customer data, review and verify program applications, process rebates, and report to UGI Electric

4. Trade allies (HVAC installers) perform tune-up work

**Estimated Participation**

Participation levels were estimated by examining the estimates of other EDCs proposing similar programs. The resulting number of installations for each measure is shown below.

**Projected Participation**

Measure	Year 1	Year 2	Year 3	Total
Basic Package	22	112	155	289
Refrigerant/Airflow (Single Compressor)	5	27	39	71
Refrigerant/Airflow (Multiple Compressors)	0	2	2	4
Thermostat Modification	12	61	85	158
Economizer Adjustment	5	20	27	52
Thermostat Replacement	7	32	44	83
Economizer Control Package	3	19	25	47
<b>Total</b>	<b>54</b>	<b>273</b>	<b>377</b>	<b>704</b>

**Program Budget, Costs, and Cost-Effectiveness**

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 1,120 MWh. The annual budget allocation, cumulative MWh savings, and overall program cost-effectiveness for the C&I customer sector are shown in the table below.<sup>12</sup> Key assumptions used in calculating measure-level savings are shown in Appendix B.

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	88	434	598	1,120
Capacity Savings (MW)	-	-	-	-
Total Resource Cost	\$ 90,557	\$ 117,222	\$ 129,623	\$ 337,402
Direct Participant Costs	\$ 6,557	\$ 33,222	\$ 45,623	\$ 85,402
Direct Utility Costs	\$ 87,875	\$ 103,550	\$ 110,900	\$ 302,325
Customer Incentives	\$ 3,875	\$ 19,550	\$ 26,900	\$ 50,325
CSP Labor	\$ 28,000	\$ 28,000	\$ 28,000	\$ 84,000
CSP Materials and Supplies	\$ 28,000	\$ 28,000	\$ 28,000	\$ 84,000
Communications	\$ 28,000	\$ 28,000	\$ 28,000	\$ 84,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 33,739	\$ 162,558	\$ 219,911	\$ 416,209
TRC NPV Costs	\$ 90,560	\$ 112,003	\$ 118,353	\$ 320,916
TRC Net Benefits	\$ (56,821)	\$ 50,555	\$ 101,558	\$ 95,293
TRC Benefit/Cost Ratio	0.37	1.45	1.86	1.30

<sup>12</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

## **C. HOME ENERGY EFFICIENCY INCENTIVES**

### **1. Fuel Switching (Residential Sector/Low Income Customers)**

#### **Objectives**

The Residential 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 2,406 customers through 2015, with a total reduction of approximately 10,222 MWh

#### **Program Description**

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

Solar thermal water heaters and natural gas appliances such as furnaces, water heaters, and clothes dryers use less energy and emit less carbon than electric appliance equivalents on a total fuel cycle basis. In addition, natural gas appliances and solar thermal water heaters 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

#### **Target Market**

UGI Electric's Fuel Switching Program will be available to all residential customers, including new residential construction, using a consistent implementation strategy, incentive mechanism, and administrative process.

To be as cost-effective as possible, the program will target customers seeking to replace older, inefficient equipment. The table below outlines eligibility parameters for the residential sector.

### Customer Eligibility Parameters

<b>Customer type</b>	Residential/Low Income
<b>Building Type</b>	Single family, multi-family
<b>Building Vintage</b>	Existing and new construction
<b>Building ownership</b>	Owner or tenant with owner approval

### Implementation Strategy

UGI Electric will conduct customer intake, eligibility verification, rebate processing, and tracking. Customers will be required to submit a program application with documentation of the equipment purchase and installation(s) for verification and rebate processing. UGI Electric will provide overall strategic direction and program management, as well as promotional, education, trade ally support, and other administrative functions.

Key steps in program participation include:

1. Customers may be directed to the program through UGI Electric's education activities, the Company website, equipment dealers, or by contacting an equipment installation contractor/trade ally for a service call
2. Customers will generally work with the equipment/appliance retailer or installation contractor to fill out program applications and ensure the required documentation is submitted to UGI Electric for processing
3. UGI Electric will review documentation to verify the applicant is a UGI Electric customer and the installed equipment meets the minimum efficiency standard
4. UGI Electric will review documentation to verify the applicant installed natural gas appliances and removed the old electric one
5. Customers installing eligible high-efficiency equipment will schedule the work directly with their equipment dealer or installation contractor
6. UGI Electric will process rebate checks for qualified equipment

### Risks and Risk Management Strategy

The table below presents key market risks to an effective Fuel Switching Program as well as the strategies the program will use to address each risk.

### Risks and Risk Management Strategies

Market Risks	Management Strategies
Higher first cost of energy-efficient equipment	Offer rebates to offset higher incremental cost. Educate customers on the long-term energy cost-saving benefits of higher-efficiency equipment
Changing technology may impact life cycle cost	Market program and general efficiency awareness to customers
Economic environment may limit customer's ability to purchase energy-efficient equipment and appliances	Add new programs or measures and/or increase eligible equipment efficiency levels as technology improves
Customers needing emergency replacement may not know about the program	Provide web-based information with downloadable forms and brochures Promote general efficiency awareness to customers and trade allies
Customers choose to buy less efficient equipment.	Maintain communications and obtain input from trade allies

#### **Anticipated Costs to Participating Customers**

In general, rebates are designed to cover 30% of the customer incremental cost for water heaters and dryers and 22% of the customer incremental cost for space heating.

#### **Ramp-up and Education Strategy**

This program relies on both customer education and point-of-sale dealer and installer information for promotion. UGI Electric will work with merchants to promote the program. This education strategy may include:

1. Promote program in UGI Electric's customer bill insert
2. Communicate and provide access to program information on the Company's website
3. Educate using appropriate media forms and communication channels
4. Outreach to and coordinated advertising with trade allies
5. Publish and distribute program brochure

#### **Eligible Measures and Incentive Strategy**

The program provides a financial incentive in the form of a rebate on a per-unit basis to customers installing qualifying equipment and technologies. Rebates will be a fixed amount per device, paid by check to customers who complete a rebate application and submit documentation of the equipment purchase to UGI Electric.

The table below shows UGI Electric's proposed list of eligible equipment, incentive levels, and efficiency qualifications appropriate for the residential sector. Residential customers may claim a rebate for each listed measure.

Programs	Incentives	Eligible Appliances
Water Heater Fuel Switching (Natural Gas)	\$ 270	All-EPA ENERGY STAR-labeled natural gas water heaters
<i>Water Heater Fuel Switching (Solar Thermal)</i>	\$ 138	<i>All solar thermal water heaters</i>
Dryer Fuel Switching	\$ 250	All-EPA ENERGY STAR-labeled (when available)* natural gas dryers
Space Heating Fuel Switching	\$ 1,455	All-EPA ENERGY STAR-labeled natural gas furnaces

\*EPA ENERGY STAR performance rating currently is not available for natural gas clothes dryers. Until the ENERGY STAR rating becomes available for this appliance, the Company will direct incentive payments toward natural gas dryers without the rating.

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

#### **Implementation Schedule and Milestones**

Planning and implementation tasks and schedule for the Appliance Rebate Program follow. All tasks will be led by UGI Electric Staff.

#### **Program Schedules and Milestones**

Schedule	Milestones
Weeks 1 to 4	Develop program customer education website
Weeks 1 to 4	Finalize outreach to merchants and trade allies
Weeks 1 to 4	Finalize tracking procedures
Weeks 1 to 4	Program training
Weeks 1 to 4	Finalize education and customer education material and program applications
	Launch Program

### **Evaluation, Measurement, and Verification**

UGI Electric will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric Staff
- Checking a significant percentage of rebate claims to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

UGI Electric Staff will track all of the data necessary to verify program activities and outcomes. For the Residential Fuel Switching program, this data will include:

- Participant information: account number, rate class, copy of most recent electric bill, copy of most recent natural gas bill, EE&C customer segment, and contact information
- Measure information: make and model number of new appliance
- Expenditures, savings, and peak load impacts
- New construction information: developer contact information, builder contact information, and confirmation of new account activation (most recent bill)

UGI Electric will conduct a self-review on an annual basis and submit a report to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Spot check significant sample of installations to verify fuel switch and prevent fraud
- Adjust program measures based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly, based on consumer demand

### Administrative Requirements

UGI Electric Staff will oversee this program, internal education, and administrative Staff, and key account managers.

### Estimated Participation

Participation levels were developed by balancing competing concerns. The levels were set low enough so as to be achievable, but not so high as to become too costly relative to UGI Electric's other program budgets.

#### Projected Participation

Measure	Year 1	Year 2	Year 3	Total
Water Heater Fuel Switching (Natural Gas)	580	580	580	1,740
<b>Total</b>	<b>580</b>	<b>580</b>	<b>580</b>	<b>1,740</b>

Measure	Year 1	Year 2	Year 3	Total
<i>Water Heater Fuel Switching (Solar Thermal)</i>	<i>30</i>	<i>30</i>	<i>30</i>	<i>90</i>
<b>Total</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>90</b>

Measure	Year 1	Year 2	Year 3	Total
Dryer Fuel Switching	120	120	120	360
<b>Total</b>	<b>120</b>	<b>120</b>	<b>120</b>	<b>360</b>

Measure	Year 1	Year 2	Year 3	Total
Space Heating Fuel Switching	72	72	72	216
<b>Total</b>	<b>72</b>	<b>72</b>	<b>72</b>	<b>216</b>

### Program Budget, Costs and Cost-Effectiveness

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 10,222 MWh. The annual budget allocation, cumulative MWh savings through 2015, and overall program cost-effectiveness for the residential customer sector are shown in the table below.<sup>13</sup> Key assumptions used in calculating the measure-level savings are shown in Appendix B.

<sup>13</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

<b>Water Heater Fuel Switching Benefits/Cost Component</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Savings (MWh)	2,828	2,828	2,828	8,483
Capacity Savings (MW)	0.323	0.323	0.323	0.968
Total Resource Cost	\$ 542,000	\$ 542,000	\$ 542,000	\$ 1,626,000
Direct Participant Costs	\$ 522,000	\$ 522,000	\$ 522,000	\$ 1,566,000
Direct Utility Costs	\$ 176,600	\$ 176,600	\$ 176,600	\$ 529,800
Customer Incentives	\$ 156,600	\$ 156,600	\$ 156,600	\$ 469,800
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 20,000	\$ 20,000	\$ 20,000	\$ 60,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

<b>Water Heater Fuel Switching TRC Test</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
TRC NPV Benefits	\$ 3,181,038	\$3,168,079	\$ 3,149,058	\$ 9,498,174
TRC NPV Costs	\$ 1,544,619	1,518,355	\$ 1,491,142	\$ 4,554,116
TRC Net Benefits	\$ 1,636,419	1,649,724	\$ 1,657,916	\$ 4,944,059
TRC Benefit/Cost Ratio	2.06	2.09	2.11	2.09
[Note: TRC NPV Benefits includes electricity savings from fuel switching. TRC NPV Costs include the additional natural gas cost.]				

<b>Dryer Fuel Switching Benefits/Cost Component</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Savings (MWh)	129	129	129	387
Capacity Savings (MW)	0.015	0.015	0.015	0.044
Total Resource Cost	\$ 119,600	\$ 119,600	\$ 119,600	\$ 358,800
Direct Participant Costs	\$ 99,600	\$ 99,600	\$ 99,600	\$ 298,800
Direct Utility Costs	\$ 50,000	\$ 50,000	\$ 50,000	\$ 150,000
Customer Incentives	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 20,000	\$ 20,000	\$ 20,000	\$ 60,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

<b>Dryer Fuel Switching TRC Test</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
TRC NPV Benefits	\$ 213,639	\$ 210,210	\$ 206,684	\$ 630,533
TRC NPV Costs	\$ 181,549	\$ 176,097	\$ 170,774	\$ 528,420
TRC Net Benefits	\$ 32,090	\$ 34,113	\$ 35,911	\$ 102,114
TRC Benefit/Cost Ratio	1.18	1.19	1.21	1.19
[Note: TRC NPV Benefits includes electricity savings from fuel switching. TRC NPV Costs include the additional natural gas cost.]				

<b>Space Heating Fuel Switching Benefits/Cost Component</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Savings (MWh)	387	387	387	1,162
Capacity Savings (MW)	0.630	0.630	0.630	1.891
Total Resource Cost	\$ 639,200	\$ 639,200	\$ 639,200	\$ 1,917,600
Direct Participant Costs	\$ 619,200	\$ 619,200	\$ 619,200	\$ 1,857,600
Direct Utility Costs	\$ 124,760	\$ 124,760	\$ 124,760	\$ 374,280
Customer Incentives	\$ 104,760	\$ 104,760	\$ 104,760	\$ 314,280
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 20,000	\$ 20,000	\$ 20,000	\$ 60,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

<b>Space Heating Fuel Switching TRC Test</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
TRC NPV Benefits	\$ 1,187,291	\$1,198,632	\$ 1,205,483	\$ 3,591,406
TRC NPV Costs	\$ 844,311	\$ 815,703	\$ 787,770	\$ 2,447,785
TRC Net Benefits	\$ 342,980	\$ 382,929	\$ 417,713	\$ 1,143,621
TRC Benefit/Cost Ratio	1.41	1.47	1.53	1.47
[Note: TRC NPV Benefits includes electricity savings from fuel switching. TRC NPV Costs include the additional natural gas cost.]				

<b>Solar Thermal Water Heater Fuel Switching Benefits/Cost Component</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Savings (MWh)	63	63	63	190
Capacity Savings (MW)	0.011	0.011	0.011	0.034
Total Resource Cost	\$ 145,000	\$145,000	\$ 145,000	\$ 435,000
Direct Participant Costs	\$ 144,000	\$144,000	\$ 144,000	\$ 432,000
Direct Utility Costs	\$ 5,140	\$ 5,140	\$ 5,140	\$ 15,420
Customer Incentives	\$ 4,140	\$ 4,140	\$ 4,140	\$ 12,420
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 1,000	\$ 1,000	\$ 1,000	\$ 3,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

<b>Solar Thermal Water Heater Fuel Switching TRC Test</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
TRC NPV Benefits	\$ 64,650	\$ 64,972	\$ 65,110	\$ 194,731
TRC NPV Costs	\$ 145,000	\$138,552	\$ 132,391	\$ 415,943
TRC Net Benefits	\$ (80,350)	\$(73,581)	\$ (67,282)	\$ (221,212)
TRC Benefit/Cost Ratio	0.45	0.47	0.49	0.47
Note: TRC NPV Benefits includes electricity savings from fuel switching.				

## **D. COMMERCIAL AND INDUSTRIAL EFFICIENCY INCENTIVES**

### **1. Combined Heat and Power (Commercial and Industrial Sector/Governmental Customers)**

#### **Objectives**

The Combined Heat and Power program has several objectives:

1. Increase energy efficiency by using Combined Heat and Power (“CHP”) for electricity generation and use of waste heat
2. Make significant contribution to UGI Electric’s energy savings goals
3. Encourage optimization and operational or process changes that reduce electricity consumption and peak demand
4. Encourage a “whole facility” approach to energy efficiency
5. Increase customer awareness of the features and benefits of electric distributed generation systems
6. Support emerging technologies and non-typical efficiency solutions in cost-effective applications
7. Obtain participation by approximately 9 customers through 2015, with a total reduction of approximately 3,654 MWh

#### **Program Description**

UGI Electric will encourage energy efficiency on a total fuel cycle basis by promoting the use of natural gas distributed electricity generation where the direct end use of natural gas is more efficient and cost-effective under the TRC test.

#### **Program Components**

- C&I combined heat and power

#### **Target Market**

UGI Electric’s C&I CHP Program will target all new and existing commercial and industrial facilities. All measures, packages of measures, and process changes must be cost-effective as substantiated through a technical analysis.

The Plan includes the C&I market sectors, which includes governmental customers. UGI Electric expects to use a consistent implementation strategy, incentive mechanism, and administrative process to deliver the program across these market sectors. The table below outlines eligibility parameters for the C&I sector.

### **Customer Eligibility Parameters**

<b>Customer type</b>	Commercial and Industrial
<b>Building Type</b>	Commercial and industrial
<b>Building Vintage</b>	Existing and new construction
<b>Building ownership</b>	Owner or tenant with owner approval

### **Program Description**

This CHP Program provides a delivery channel and financial incentives to customers installing a distributed electricity generation system. To qualify for financial incentives, eligible customers will be required to provide documentation that their proposed CHP system passes UGI Electric's cost-effectiveness threshold and technical criteria.

Incentives of \$1,500 per kW of CHP system will be offered up to \$90,000 per customer.

### **Implementation Strategy**

UGI Electric's Staff will work with customers to identify, evaluate, and approve custom projects. UGI will reach out to potential trade allies to promote the program.

UGI Electric's Staff will provide overall strategic direction and program management for the program and perform evaluation and other administrative functions. The project development process for the CHP Program is more fluid than other programs and may not follow a precise work path. The following workflow is an example of a typical scenario through which an equipment-based custom efficiency project may proceed:

1. Customers may be directed to the program through education efforts or other UGI Electric EE&C programs
2. A trade ally (*e.g.*, energy services firms, engineering firms, providers of energy-efficiency products and services, etc.) works with the customer to evaluate their facility's energy efficiency opportunities and develop potential project ideas
3. A professional engineering firm or other qualified contractor, under contract to the customer, performs a detailed technical study of potential projects and evaluates their cost-effectiveness
4. UGI evaluates the customer's technical study report to qualify projects. This involves confirming project incremental cost and potential energy and capacity savings data and evaluating cost-effectiveness
5. Customers will schedule installation of CHP equipment with an installation contractor
6. Verifying equipment installation, operational, or process changes or other eligible work for all participants, which will be a part of the measurement and verification process

## 7. Processing rebates for qualified equipment

No changes in the implementation strategy are expected in different program years.

### **Risk and Risk Management Strategy**

The table below presents key market risks to an effective CHP program, as well as the strategies the program will use to address each risk.

#### **Market Risks and Management Strategies**

<b>Market Risks</b>	<b>Management Strategies</b>
Higher first cost of CHP system	Offer customized incentives on CHP equipment and technical study to offset higher costs
Not a high priority; limited access to discretionary cash/credit	
Lack of program awareness and “emergency replacement” scenario among target customers	Education strategy focused on decision makers and facility operators. Education to high energy users who can use the waste heat produced by the CHP system
Low awareness	
Procurement policies that specify low first cost instead of life cycle cost	
Tenant/landlord issues	

### **Ramp-up and Education Strategy**

This program is expected to be an attractive option for C&I customers, which includes governmental customers, with high energy usage that have a use for the heat generated by the CHP system (*e.g.*, colleges and retirement homes).

UGI Electric’s Staff will create an education strategy, which may include:

1. Communicate and provide access to program information on the Company’s website
2. Coordinate advertising opportunities with trade allies
3. Targeted education to high-potential market sectors

### **Eligible Measures and Incentive Strategy**

<b>Measure</b>	<b>Incentive</b>
Combined Heat & Power	\$1,500 per kW of CHP system up to \$90,000 per customer

At this time, UGI Electric does not anticipate changes to its eligible measures or incentives during the Plan period. However, UGI Electric will perform an annual review of its

programs and may adjust measures, rebate levels, performance criteria, and/or eligibility ratings in the future as market conditions change. UGI Electric will review actual results from this program and determine whether any adjustments are needed to achieve the desired energy savings on a whole and/or maintain Plan cost effectiveness, provided however, the Company will not, without Commission approval, add new programs, deviate significantly from the approved program parameters, or exceed the total approved budget for the plan.

**Implementation Schedule and Milestones**

Given the nature of the C&I CHP Program, planning and implementation tasks and schedule for the Program may differ from the plan below.

**Program Schedules and Milestones**

Schedule	Milestones
Weeks 1 to 4	Develop program customer education website
Weeks 1 to 4	Finalize outreach to merchants
Weeks 1 to 4	Finalize tracking procedures
Weeks 1 to 4	Program training
Weeks 1 to 4	Finalize customer education material and program applications
	Launch Program

**Evaluation, Measurement, and Verification**

UGI Electric will strive to continuously improve the success of its Plan in order to enhance quality control, evaluate, measure and verify procedures to track program activities, monitor performance and progress toward targets, and take corrective action when warranted.

Quality control will be integral to the delivery of all programs in UGI Electric’s EE&C Plan. QC measures will be deployed at various stages of program design and implementation to ensure the highest industry standards of operational efficiency. These measures will include, but not be limited to, the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric Staff
- Checking 100% of installations to verify participant action

QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correction plan based on best practices and lessons learned

UGI Electric Staff will track all of the data necessary to verify all program activities and outcomes. For the C&I CHP Program, this data will include:

- Participant information: account number, rate class, copy of most recent electric bill, copy of most recent natural gas bill, EE&C customer segment, and contact information
- Project information: site (facility) location, project specifications, total project cost, project application date, project approval date, and project completion date
- Expenditures, savings, and peak load impacts
- New construction information: developer contact information, builder contact information, and confirmation of new account activation (most recent bill)

UGI Electric anticipates self-review on an annual basis and reports to the Commission within three months after the end of each program year. The self-review steps will include:

- Compile all records and compare it against the target for the year
- Check significant sample of installations to verify installation of CHP systems and prevent fraud and adjust program measures, based on effectiveness of the various measures
- Adjust education channels, messages, and trade ally groups, based on effectiveness
- Adjust budgets of various measures accordingly, based on consumer demand

**Administrative Requirements**

UGI Electric Staff will oversee this program, internal education, administrative staff, and key account managers.

**Estimated Participation**

Participation levels were developed by balancing competing concerns. The levels were set low enough so as to be achievable, but no so high as to become too costly relative to UGI Electric's other program budgets.

<b>Projected Participation</b>				
<b>Measure</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
Combined Heat & Power	2	3	4	9
<b>Total</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>9</b>

### Program Budget, Costs, and Cost-Effectiveness

Over the three-year planning horizon, the program is expected to achieve electricity consumption savings of approximately 3,654 MWh. The annual budget allocation, cumulative MWh savings, and overall program cost-effectiveness for the commercial and industrial customer sectors are shown in the table below.<sup>14</sup> Key assumptions used in calculating measure-level savings are shown in Appendix B.

Benefits/Cost Component	Year 1	Year 2	Year 3	Total
Savings (MWh)	812	1,218	1,624	3,654
Capacity Savings (MW)	0.116	0.174	0.232	0.522
Total Resource Cost	\$ 350,000	\$ 510,000	\$ 670,000	\$ 1,530,000
Direct Participant Costs	\$ 320,000	\$ 480,000	\$ 640,000	\$ 1,440,000
Direct Utility Costs	\$ 210,000	\$ 300,000	\$ 390,000	\$ 900,000
Customer Incentives	\$ 180,000	\$ 270,000	\$ 360,000	\$ 810,000
CSP Labor	\$ -	\$ -	\$ -	\$ -
CSP Materials and Supplies	\$ -	\$ -	\$ -	\$ -
Communications	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000
[Note: Total Resource Cost equals Direct Participant Costs plus Overhead (CSP Labor, CSP Materials and Supplies, and Communications)]				

TRC Test	Year 1	Year 2	Year 3	Total
TRC NPV Benefits	\$ 917,243	\$1,374,981	\$ 1,828,796	\$ 4,121,020
TRC NPV Costs	\$ 642,748	\$ 925,499	\$ 1,193,688	\$ 2,761,934
TRC Net Benefits	\$ 274,495	\$ 449,482	\$ 635,109	\$ 1,359,086
TRC Benefit/Cost Ratio	1.43	1.49	1.53	1.49
[Note: TRC NPV Benefits includes electricity savings from fuel switching. TRC NPV Costs include the additional natural gas cost.]				

<sup>14</sup> These costs do not include an allocated portion of UGI Electric's \$367,000 annual administrative costs to design, create, and implement the Plan. If an allocation of those costs was included here, it would not result in a TRC Benefit/Cost Ratio that was less than 1.0 for the Program as a whole over the three-year timeframe.

**SECTION 3: COST EFFECTIVENESS OF PLAN  
AND PROGRAM SUMMARY CHARTS**

In accordance with the Commission’s Secretarial Letter, UGI Electric designed its Plan to offer programs that meet the TRC test. The Plan as a whole, and all of the individual programs in the Plan, are cost-effective according to the TRC guidelines established by the Commission.

UGI Electric’s analysis indicates a TRC benefit-to-cost ratio of nearly 2.05 for the proposed portfolio. The Program Efficiency Analysis Summary is provided in the table, below. The analysis reveals that for the complement of Residential Programs, the TRC Benefit/Cost Ratio is 2.56. The TRC Benefit/Cost Ratio for the Commercial and Industrial Programs is 1.48. The total Plan TRC Benefit/Cost Ratio is 2.05. This benefit-to-cost ratio is far in excess of the 1.0 minimum TRC test parameter applied to the larger EDCs EE&C Plans in the Act 129 proceedings.

The table below provides a summary of the program savings and costs and benefits for the entire portfolio of programs. It also provides the overall portfolio budget broken out by sector and program. The same table provides a summary of the program efficiency analysis.

**Budget and Parity Analysis Summary**

Customer Class	Total Budget	% of Total EEC Budget	% of Total Customer Revenue	Difference
Residential	\$3,385,542	45%	64%	19%
C&I	\$3,032,628	40%	36%	-4%
Additional Staff, Program Setup and Development	\$1,101,000	13% 15%	-----	-----
Total	\$7,519,169	-----	-----	-----

**Program Efficiency Analysis Summary**

Customer Class	TRC NPV Benefits	TRC NPV Cost	TRC Net Benefits	TRC Benefit/Cost Ratio
Residential	\$28,053,005	\$10,975,794	\$17,077,211	2.56
C&I	\$9,159,095	\$6,169,374	\$2,989,721	1.48
Additional Staff, Program Setup and Development	\$0	\$1,044,594	(\$1,044,594)	"NA"
Total	\$37,212,100	\$18,189,763	\$19,022,338	2.05

## SECTION 4: PROGRAM MANAGEMENT AND IMPLEMENTATION STRATEGIES

### **A. SUMMARY OF UGI ELECTRIC'S ANTICIPATED MANAGEMENT AND IMPLEMENTATION STRATEGIES**

#### **1. Description of types of services to be provided by UGI Electric, as well as consultants and Conservation Service Providers**

UGI Electric's implementation strategy will rely on the use of internal UGI Electric Staff and CSPs, along with market participants and other entities engaged in energy efficiency to promote, deliver, and support the effective implementation of its energy efficiency and conservation programs. Given its small size, UGI Electric anticipates utilizing its own Staff for many functions. UGI Electric will also utilize approximately seven (7) CSPs to deliver services in support of its programs.

Market participants and trade allies will be integral to the deployment of UGI Electric's EE&C Plan. Those entities will be relied upon to engage customers, promote the programs, evaluate the projects, furnish and install energy-efficient equipment, and provide energy efficiency services outlined in the EE&C Plan. The primary objective being energy consumption reduction, UGI Electric will balance cost, value, choice, and energy and capacity savings in order to achieve the goals of its EE&C Plan.

The respective roles of the CSPs, trade allies, and market partners are identified in the respective program descriptions in Section 2 of the Plan.

#### **2. Risk Management Strategies**

UGI Electric is aware of the risk factors associated with potential performance of its EE&C Plan. It carefully considered factors such as the uncertainty of customer participation and willingness to undertake conservation measures in the current economic climate. The three general categories of risk include: technical, financial, and market.

UGI Electric recognizes that technical risks regarding certain measures may arise from defects in materials or workmanship, improper installation, or equipment failure once implemented. UGI Electric intends to employ quality assurance measures and evaluation and valuation processes as part of its EE&C Plan. The EM&V process will aid in identifying technical problems and risks and in pinpointing improvements that may be considered in the annual review process.

Financial risks associated with Plan implementation include the level of Plan costs, including measure and installation costs or administrative costs. UGI Electric anticipates that ongoing monitoring of program activities and expenditures as well as interim adjustments based on current data will aid in mitigating financial risk. The EM&V process will inform the need to adjust or eliminate measures or entire programs as experiences are gained with

the implementation of the EE&C Plan. UGI Electric anticipates identifying such changes in its annual report to the Commission.

Finally, market risks do exist with regard to implementation of the EE&C Plan, including the ability to have the program reach its intended target markets, the program's ability to achieve the projected market penetration, and behavioral risks such as free-ridership. Obviously, uncertainties regarding consumers' willingness to participate in UGI Electric's EE&C Plan will impact the success of the entire Plan. As with other risks identified above, the Company's close monitoring of its EE&C Plan will assist it in detecting and correcting barriers to participation and the need to refocus education efforts to gain greater customer participation, if necessary. UGI Electric anticipates that adjustments may be made to outreach and program education strategies, including adjusting the incentive levels identified presently in the EE&C Plan, changing its portfolio of measures, or reworking the EE&C Plan as a whole.

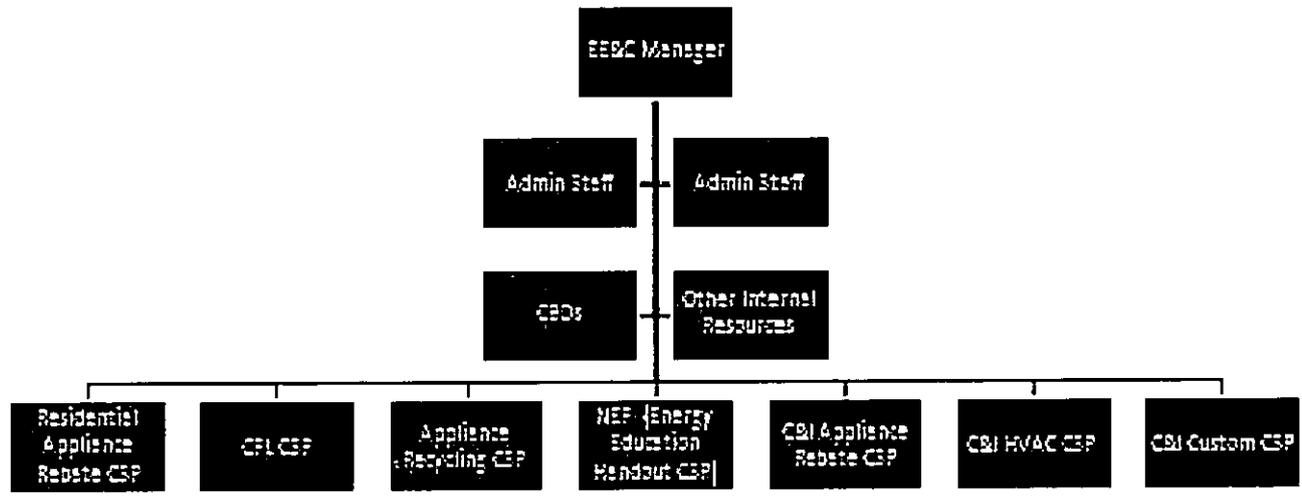
UGI Electric views the EM&V portion of its Plan as crucial to inform potential Plan adjustments given the risks identified above. The annual review process will be a significant aspect of the EE&C Plan that will drive program changes, as necessary.

### **3. Human Resource and Contractor Resource Staffing Issues**

UGI Electric anticipates, in large part, utilizing its internal Staff to accomplish its EE&C Plan. UGI Electric also anticipates utilizing CSPs, trade allies, and market partners to augment its existing internal Staff and to provide specific technical expertise not presently found within UGI Electric's corporate complement. UGI Electric has laid the groundwork to establish relationships with contractors in its service territory and CSPs in order to fully implement the array of programs identified in its EE&C Plan. In addition to utilizing the outside service providers, UGI Electric anticipates adding three Staff persons to support the delivery and evaluation of its EE&C Plans. UGI Electric has developed a Staffing plan, outlined below, delineating resources needed to implement the plan and carry it through to completion. The implementation strategy with regard to each program is detailed in the program descriptions contained in Section 2 of the Plan.

UGI Electric will utilize an RFP program to find and employ appropriate CSPs. UGI Electric has appropriately incorporated internal administrative costs into its EE&C Plan budget. Implementation schedules with regard to each program are identified with particularity in the program descriptions section of the Plan. See Section 2 of the Plan.

Administrative costs for UGI Electric's Plan constitute approximately 11% of the total Plan budget. These costs are in line with other EDCs' comparable claimed administrative costs. These costs were developed based on UGI Electric's best estimate and available information regarding employment of the energy efficiency programs contained in its Plan.



## **SECTION 5: QUALITY ASSURANCE, EVALUATION, MEASUREMENTS, AND VERIFICATION AND REPORTING**

Particular quality assurance and evaluation, measurements, and verification processes for each program are detailed in the program descriptions in Section 2 of the Plan. Quality Control will be integral to the design and delivery of all programs in UGI Electric's EE&C Plan. QC measures will be deployed at various stages of program implementation to ensure the highest standards of operational efficiency. These measures will include, but not be limited to the following:

- Ongoing tracking of program activities and costs through dedicated UGI Electric employees and various CSPs
- Applying rigorous screening and qualifying protocols to engaging CSPs
- Conducting measure verification to prevent and/or identify fraud

These QC processes will strive to:

- Prevent errors from beginning to end in any given program process
- Detect and correct errors as early as possible
- Eliminate the causes of errors as well as the errors themselves
- Establish a correct plan based on best practices and lessons learned

The program CSP, or UGI Electric Staff if no CSP involvement is indicated, will track all of the data necessary to audit and verify all program activities outcomes. For each program in the Plan, this data may include, but not be limited to, the following:<sup>15</sup>

- Participant information: account number, rate class, copy of most recent electric bill, copy of most recent natural gas bill, if applicable, EE&C customer segment, and contact information
- Project information: site (facility) location, project specifications, total project cost, project application date, project approval date, and project completion date
- Program information: program code, program type (rebate, custom, point of sale, etc.), CSP involved, incentive type, and amount
- Measure information: make and model number of new appliance, type and quantity of measures installed, efficiency rating, and service rendered
- Expenditures, savings, and peak load impacts
- Trade ally information: contact information, dates of program involvement, and installation standards used

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<sup>15</sup> Note that not all data will be relevant to all programs.

- Retailer information: retail location, contact information, and type and quantity of products sold
- New construction information: developer contact information, builder contact information, and confirmation of new account activation (most recent bill)

CSPs shall provide periodic reports to UGI for measurement and verification.

UGI Electric will conduct a self-review on an annual basis and report to the Commission within three months after the end of each program year.

**SECTION 6: ENERGY EFFICIENCY AND CONSERVATION RIDER AND  
CONSERVATION DEVELOPMENT RIDER MECHANISMS**

UGI Electric utilized an annual budget of approximately \$2.506 million, which equates to a total of approximately \$7.5 million over the three years of the Plan. The budget includes the annual spending limits for the programs, as well as the Company's annual administrative costs of \$367,000 to implement and administer the Plan each year. UGI Electric proposes to limit its annual spending on EE&C measures to 2% of its jurisdictional revenues for the twelve months ending May 31, 2008, which was approximately \$125.3 million with gross receipts tax.

UGI Electric proposes to utilize its separate rate mechanisms to recover the budgeted costs for development and implementation of the Plan as discussed more fully in Mr. McAllister's Direct Testimony. Plan cost recovery will be accomplished utilizing the Energy Efficiency and Conservation Rider.

UGI Electric does not propose a limit on annual expenditures for its EE&C programs because it anticipates that nearly half of the programs may require some "ramp up" time. Thus, spending in the first year of the Plan may be less than the projected budget, while spending in the subsequent years may be greater. However, the total spending over the three years of the Plan is not projected to exceed the Company's budget of \$7.5 million. Moreover, within the \$7.5 million budget, UGI Electric proposes a residential class cost recovery cap of \$4.8 million, plus or minus \$0.5 million, and a non-residential cost recovery cap of \$2.7 million, plus or minus \$0.5 million, over the life of the Plan.

**A. Energy Efficiency and Conservation Rider**

Act 129 authorized larger EDCs to recover the costs of their EE&C plans through a reconcilable adjustment clause under Section 1307 of the Public Utility Code. In its Implementation Order, the Commission reemphasized this requirement and directed that such cost recovery mechanism be applicable to default service and choice customers. Consequently, UGI Electric proposes to recover the costs of its EE&C Plan through a reconcilable EEC Rider that will be established under Section 1307 of the Public Utility Code. UGI Electric's Plan will benefit both shopping and non-shopping customers, therefore the Company proposes that the EEC Rider be applicable to both default service and choice customers. The EEC Rider shall be reflected in the distribution charges for each customer class rather than appear as a separate line item on customers' bills. *Pro forma* tariff pages to implement the EEC Rider are appended to the Plan as Appendix A. The tariff language provides a description of the cost recovery method, the formula for calculating the charge, and the charges specific to each rate class.

The costs that will be recovered by the EEC Rider consist of all the costs of creating, designing, and implementing the EE&C programs included in the Plan, which include, but are not limited to: (1) additional labor costs incurred to manage and administer the programs on an ongoing basis; (2) the cost to measure and verify program results; and (3) the cost of incentives offered to customers to participate in the programs.

UGI Electric proposes to recover the expenditures incurred under the Plan on a year-to-year basis. As a result, the EEC Rider was designed to track actual yearly expenditures. Even though the Company anticipates expenditures to “ramp up” for nearly half of its programs, it does not project a great difference between the expenditures in the first year of the Plan and the expenditures in the last year of the Plan. Therefore, distribution of cost recovery is anticipated to be relatively even over the course of the Plan and no significant impact on customers should be realized thereby.

UGI Electric proposes to calculate separately the applicable EE&C costs for each of the major customer classes on its system, including: (1) residential, (2) small non-residential, and (3) large non-residential including governmental customers.

Act 129 and the Secretarial Letter require that EE&C programs be supported by the same customer classes that will receive the direct energy and conservation benefits of those programs. Accordingly, under UGI Electric’s Plan, the cost of EE&C programs that target specific customer classes are directly assigned to those classes for purposes of developing the recovery charges.

The Company proposes to adjust the EE&C Rider for actual program expenses and revenues each year and the Company will submit a filing to reconcile previous revenues and expenses and propose a new rider effective for the subsequent year based on the projected budget and sales for that planning year, as well as to account for over and under collections incurred for the previous year. UGI Electric proposes that the recovery period will begin with bills sent to customers beginning with the effective date of the first quarterly default service rate filing following Commission approval of the Plan and will continue through bills sent to customers for a total of four years. UGI Electric is proposing a three-year period for its Plan. However, because Year Three of the Plan may result in over or under collections of expenses, UGI Electric proposes that the cost recovery mechanism will continue through the fourth year so that the Company may recover any under-collections or refund any over-collections incurred during Year Three of the Plan. In the event a small amount remains on the books at the end of Year Four reconciliation, the Company plans to roll this amount into a subsequent default service filing. UGI Electric reserves the right to make an interim filing, to become effective on one day’s notice, to adjust the EEC Rider if it becomes evident that the over or under recovery is significantly deviating from expected activity.

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Petition of UGI Utilities, Inc. – Electric** :  
**Division for Approval of its Energy** : **Docket No. M-2010-2210316**  
**Efficiency and Conservation Plan** :

**CERTIFICATE OF SERVICE**

I hereby certify that I have, this 23rd day of March, 2012, 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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Melanie J. Elatieh

Dated: March 23, 2012

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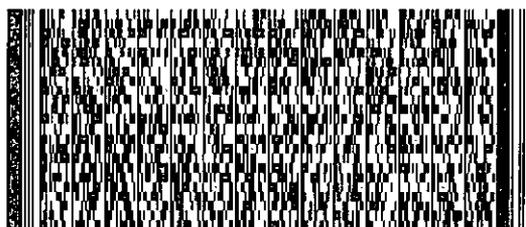
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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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