BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF	)	
OKLAHOMA GAS AND ELECTRIC COMPANY	)	
FOR AN ORDER OF THE COMMISSION	)	
APPROVING THE COMPANY'S 2016 DEMAND	)	CAUSE NO. PUD 201 500247
PORTFOLIO AND AUTHORIZING RECOVERY OF	)	
THE COSTS OF THE DEMAND PROGRAMS	)	
THROUGH THE DEMAND PROGRAM RIDER	)	

Direct Testimony

of

Melissa Culbertson

of

CLEAResult Consulting Inc.

on behalf of

Oklahoma Gas and Electric Company

July 1, 2015

I. INTRODUCTION

Q. **Please state your name, position, by whom you are employed and business address.**

A. My name is Melissa G. Culbertson. I am a Senior Manager of Policy, Design and Evaluation with CLEAResult Consulting Inc. ("CLEAResult"). My business address is 4301 Westbank Drive, Suite 300, Austin, Texas, 78746.

Q. **What are your responsibilities in this position?**

A. In my more than five years of employment at CLEAResult, I have continuously worked on various aspects of cost-effectiveness analysis, potential assessment, net-to-gross evaluations, and resource planning for utilities across North America. I have assessed the cost-effectiveness of measures, programs, and DSM portfolios for planning and evaluation purposes across several states. I previously served as the principal analyst on the National Cost-effectiveness Working Group within CLEAResult, and still work to manage the standardization of the tools and standards that are applied throughout the Company. In that capacity, I have been instrumental in developing and maintaining the CLEAResult's proprietary cost effectiveness model, and the methodologies within it. In addition, I frequently conduct training on the implementation of the California Standard Practice Manual for cost-effectiveness methodology for utility clients and my colleagues at CLEAResult. Besides cost-effectiveness analysis, I also specialize in developing Microsoft Excel-based quantitative models for use in many aspects of energy efficiency program planning and evaluation activities. My educational qualifications include a Bachelor of Business Administration from Texas State University, with a major in economics.

Q. **Are you a member of any professional organizations?**

A. Yes. I am a member of the Association of Energy Services Professional ("AESP"), serving on the Behavioral Subcommittee.

Q. **Have you previously testified before the Oklahoma Corporation Commission?**

A. No, I have not testified before the Oklahoma Corporation Commission ("OCC" or "Commission") previously.

Q. **Have you testified before in regulatory or legislative proceedings?**

A. Yes, I have previously filed testimony for both the Arkansas Public Service Commission ("APSC"), as well as the Mississippi Public Service Commission ("MPSC"). Both were to support cost-effectiveness analysis in energy efficiency planning scenarios.

Q. **Are you sponsoring any exhibits?**

A. Yes. I sponsor the following Exhibits which are provided with this filing and support my testimony:

Direct Exhibit MGC-1: Demand Portfolio Plan

Direct Exhibit MGC-2: CLEAResult Planning Model

Q. **On whose behalf are you filling testimony?**

A. I am filling testimony on behalf of Oklahoma Gas and Electric Company ("OG&E"). CLEAResult was contracted as the Third Party Administrator ("TPA") by OG&E to develop the Demand Program Plan ("Plan") for the 2016 to 2018 implementation period.

II. PURPOSE OF TESTIMONY

Q. **What is the purpose of your testimony?**

A. The purpose of my testimony is to explain how the technical assumptions for measures and programs were developed, describe the process for designing new demand programs, and outline the approach for estimating and applying the five cost-benefit tests that are typically used to weigh costs and benefits of similar demand programs. These five tests are described in the California Standard Practice Manual[1].

Q. **What tool did CLEAResult utilize to perform the cost-benefit analysis?**

A. The analysis was conducted with the CLEAResult Planning Model ("the Model"), a model CLEAResult developed specifically for program planning and cost-benefit analysis. The Model is a proprietary, Excel-based tool that utilizes a centrally maintained database of measures, monthly end-use load shapes, and monthly avoided costs for an accurate valuation of benefits. The Model has been independently reviewed by various utilities, regulatory committees, third party evaluation firms, and consultants, including Optimal Energy. The cost-benefit calculations in the Model are consistent with those found in The California Standard Practice Manual.

III. FIVE ECONOMIC TESTS

Q. **Please summarize the basic process for assessing the energy efficiency opportunities from programs considered by OG&E.**

[1] California Standard Practice Manual - Economic Analysis Of Demand-Side Programs and Projects, October 2001

A. We analyzed demand program opportunities for specific programs and employed a quantitative process, in which energy and demand impacts from estimated customer participation in such programs are examined using the five primary cost-benefit tests. The two main tests used for evaluating OG&E's energy efficiency programs were the Total Resource Cost ("TRC") test and the Utility Cost Test ("UCT"). The other three tests are the Rate Impact Measure ("RIM") test, the Participant Cost Test ("PCT"), and the Societal Cost Test ("SCT") were also estimated and reported, along with an estimated levelized cost.

The focus on the TRC and UCT results complies with the new Program Rules effective January 1, 2016. The updated Rule for Demand Programs set forth a requirement that the portfolio must pass the TRC with a 1.00, and the UCT with a 1.20.

Q. **Do all programs in the proposed program plan pass both the TRC and the UCT?**

A. No. The Education program is an exception to cost-effectiveness criteria because no energy savings are claimed. Educational program impacts are generally less predictable and more difficult, or costly, to measure relative to the savings potential. Educational programs are also intended to help overcome market barriers and transform the market for energy efficiency technologies. Thus, OG&E has excluded its educational programs from the Company's cost-effectiveness analysis.

Q. **What OG&E data inputs did you use to evaluate OG&E's proposed energy efficiency and demand programs?**

A. I used the same set of data inputs that are commonly required to evaluate measure impacts and cost-effectiveness, including:

- Measure kW
- Measure kWh
- Number of Participants
- Customer Inducements
- Utility Administration Costs
- Incremental Customer Investment
- Program Measurement and Verification Costs
- Net-to-Gross Estimates

Q. **What was the source of data used in the technical assumptions for measures which were used to develop the portfolio of programs in the Model?**

A. Each measure was characterized by creating a typical scenario to represent common installations. The expected energy and demand savings, estimated useful life, and incremental cost were determined for the installation of each measure in each scenario. To provide a comprehensive assessment, the TPA used a variety of resources, including the Arkansas Technical Reference Manual ("TRM")[2], the Texas TRM[3], EnergyGauge residential energy modeling software[4], the ENERGY STAR product website[5], and/or studies authored by the Department of Energy. The estimated useful life for each measure

[2] http://www.apscservices.info/EEInfo/TRM4.pdf
[3] http://texasefficiency.com/index.php/emv
[4] http://www.energygauge.com/USAres/default.htm
[5] http://www.energystar.gov/index.cfm?fuseaction=find_a_product.

was based on California's Database for Energy Efficient Resources ("DEER")[6] or the Arkansas TRM.

These measures were then screened by CLEAResult's project team engineers and analysts using a comprehensive measure screening process that considered each measure's characteristics to determine if implementation would be cost-effective for both the utility and the customer. This process culminated in a finalized measure list, which served as the primary input for the program forecasting process.

Q. **What was the process for estimating the projected participation levels?**

A. Having developed the final measure characterizations, CLEAResult then concentrated on the overall program forecasts and design. This process takes into consideration the selected measures, CLEAResult's national implementation experience, and the Market Profile to establish participation estimates by measure. These estimates were used to calculate the necessary incentive levels expected to achieve appropriate program savings. This work was also screened for cost-effectiveness and revised as necessary, as is seen in Figure 2, on Page 10 of the Demand Program Plan found in Exhibit 1 of this testimony.

CLEAResult then benchmarked the estimated program savings and incentive levels with regional reported program results and potential estimates, this includes the review of evaluations, annual reports, market surveys, potentials studies, including the recently published Market Potential Study that was conducted by Cadmus.

[6] http://www.deeresources.com/

Once all measure level and economic analysis was completed, CLEAResult was able to obtain finalized program and portfolio level savings estimates and spending requirements for the Plan.

Q. **How was each program's inducement amount determined?**

A. CLEAResult and OG&E separately examined the proposed customer inducements and compared those inducements with the inducements offered by other utilities and with those offered by OG&E in previous years. The proposed customer inducements appear reasonable and are capable of motivating customers to invest in energy efficiency projects in sufficient numbers to allow OG&E to reach its energy efficiency targets. The inducement levels that are reported in Appendix B of Exhibit 1 are the initial amounts that will be offered and are included in the plan; these inducement levels may change throughout the implementation period due to shifting market conditions.

Q. **What is your recommendation to the Commission?**

A. My recommendation is that the Commission approves the Demand Program Plan as proposed.

Q. **Does this conclude your testimony?**

A. Yes.

Oklahoma Gas & Electric Company: 2016-2018 Demand Program Plan for Oklahoma

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DATE June 23, 2015

PREPARED BY CLEAResult

Contents

Executive Summary

In accordance with the rules established by the Oklahoma Corporation Commission ("OCC"), Oklahoma Gas and Electric Company ("OG&E") has developed the following Demand Portfolio Plan ("Plan") for program years 2016-18. The submitted Plan complies with the requirements of OAC 165:35-41 Demand Program rules effective January 1, 2016.

The Plan describes the energy efficiency programs proposed by OG&E for 2016-18, which meet the following goals:

- Energy savings directly attributable to program activities
- Long-term and permanent changes in behavior, attitudes, awareness, and knowledge about energy savings and use of energy efficient technologies in order to achieve energy savings
- Permanent peak electric demand reduction
- Energy cost savings and cost-effectiveness
- Reliability enhancements
- Minimize the long-term cost of utility service
- Avoid or delay the need for new generation, transmission and distribution investment
- Encourage and enable utility customers to make the most efficient use of utility capacity and energy and reduce wasteful use of energy

Overview of Program Offerings

Residential Portfolio Programs

- **Home Energy Efficiency Program ("HEEP"):** HEEP is a multipronged residential offering designed to encourage OG&E's Oklahoma customers to reduce their energy consumption by performing energy efficient upgrades to their homes. Designed to provide homeowners with multiple options, the proposed program combines Residential Solutions, HVAC and Consumer Products components. Providing homeowners with increased choices to participate is expected to result in increased customer engagement, greater measure adoption, and increased program savings.
    - **Residential Solutions:** The Residential Solutions component of the HEEP program is a market-driven approach that promotes energy efficiency by providing homeowners with low-cost home assessment, direct install measures, community educational outreach, and inducements on home retrofits. Inducements are provided to encourage participation and decrease the upfront costs of energy efficient upgrades.

      This component also includes a direct outreach channel targeted at reaching residential customers through partnerships with local schools and education for school aged children. This school portion will provide 5th grade students an educational opportunity to learn about how they can affect the energy efficiency of their home. Teachers will work directly with the program team to obtain the teaching materials and energy efficient direct install kits to distribute to students.
    - **Residential HVAC Replacement & Tune-up**: The A/C Tune up and HVAC Replacement component of the HEEP program focuses on improving the energy efficiency of the HVAC systems of residences. It provides inducements to improve operating efficiency of the existing HVAC unit or to replace it with a higher efficiency unit.
    - **Consumer Products:** The Lighting and Appliances component promotes the purchase of energy efficient lighting and products including, but not limited to LED Lighting, advanced power strips, clothes washers and kitchen appliances. To help customers offset a portion of the incremental cost associated with higher efficiency appliances and products, the program utilizes upstream, midstream and downstream inducements.

- **Positive Energy – New Home Construction Program ("PE-NHC"):** The PE-NHC program is designed to work with builders and contractors and encourage them to include energy efficient practices and measures when constructing new homes within the OG&E Oklahoma territory.
- **Weatherization Residential Assistance Program ("WRAP"):** The Weatherization program has been designed to achieve energy savings by helping to improve the comfort and reduce energy costs for OG&E Oklahoma's residential customers. This is achieved by providing free energy efficiency upgrades for residential ratepayers with an annual income at or less than $50,000 per year or Low Income Assistance Program ("LIAP") customer, and is available to rental properties if an eligible customer lives in the home and receives approval from the property owner.

Commercial & Industrial Programs

- **Commercial Energy Efficiency Program ("CEEP"):** CEEP is a portfolio-style program approach designed to address the needs of OG&E's commercial and industrial customer base. Specifically, the program provides an umbrella participation channel for all Commercial and Industrial ("C&I") customers to participate through either a custom or performance path. Within this larger program offering there is a targeted outreach channel to further engage with Schools and Governmental facilities and a small business outreach channel.
    - **C&I Solutions:** C&I Solutions will offer direct installation of low-cost measures and also both a performance and custom participation path for customers to perform energy upgrades. Technical support will also be provided to assist in project identification and development.
        - Performance: The performance path will provide inducements based on the estimated energy savings achieved with the measures installed primarily as defined by regionally accepted deemed savings calculations.
        - Custom: The custom path gives participants an opportunity to achieve their specific energy efficiency goals by proposing measures that may be outside of the deemed measure list. Proposed measures are evaluated for savings and costs, and an appropriate inducement amount is approved if the project is deemed cost-effective.
    - **Educational and Governmental Facilities:** This channel offers assistance to the institutional and public sectors to overcome barriers to energy improvement that are unique to their market segment, such as conflicting organizational goals, outdated specifications, limited technical knowledge, and counterproductive energy budgeting. The program is also designed to provide some energy management guidance and support services to qualifying customers.
    - **Small Business Solutions:** Small Business Solutions will offer direct installation of low cost energy efficiency measures, facility walkthroughs and inducements for a suite of energy efficiency measures. This offer is targeted at, but not limited to business customers with peak demand less than or equal to 100 kW. Direct install measures include LEDs and other low cost lighting, low flow devices for electric water heating, HVAC upgrades, vending misers and low cost refrigeration measures. This targeted channel is also eligible to participate in the larger C&I performance or custom pathways if the customer's needs are beyond the scope of services outlined within the outreach approach.

Integrated Volt Var Control Program

- **Integrated Volt Var Control ("IVVC") Program:** The IVVC Program is a system of devices, controls, software and communications products used to manage OG&E's distribution system reactive power flow and voltage level. This technology is used to minimize losses and reduce energy demand during peak periods, while ensuring acceptable customer voltage levels.

Education Program

- **Education Program Residential ("EPR")**: The EPR is designed to help customers make informed decisions about their energy use and provides alternatives to reduce their consumption, thereby decreasing demand and energy usage. The program goal is to allow customers to make informed decisions about long term energy efficiency and participate in programs that will help them manage their energy costs and take advantage of price response tariffs. There will be several approaches in this program, as listed below.
    - Residential energy assessments
    - Participation at conferences and other public events (e.g. home & garden, Thunder Mobile, trade shows)
    - Partnering with School energy efficiency education
    - Trainings
    - Media
- **Education Program Commercial & Industrial ("EPC&I")**: The EPC&I is designed to help customers make informed decisions about their energy use and provides alternatives to reduce their consumption, thereby decreasing demand and energy usage. The program goal is to allow customers to make informed decisions about long term energy efficiency and participate in programs that will help them manage their energy costs and take advantage of price response tariffs. There will be several approaches in this program, as listed below.
    - Perform commercial facility assessments
    - Educational & Governmental assessments and benchmarking
    - Participation at conferences, seminars, training and certifications
    - Case studies and other technical studies
    - Media

Portfolio Summaries

Table 1: Portfolio Spending Estimates

Program	Rate Class	Program Year	Program Administration	Utility Administration	EM&V	Customer Inducements	Total Costs
2016 Estimates							
HEEP	Residential	2016	$2,604,409	$901,744	$499,710	$5,997,653	$10,003,516
Positive Energy Home	Residential	2016	$65,000	$100,900	$55,915	$910,800	$1,132,614
Weatherization	Residential	2016	$340,000	$519,794	$258,657	$4,073,692	$5,192,143
CEEP	Non-residential	2016	$5,560,028	$1,359,279	$753,256	$5,680,019	$13,352,584
IVVC	Both	2016	$1,453,265	$0	$100,000	$0	$1,553,265
Energy Education Res	Residential	2016	$280,000	$0	$0	$0	$280,000
Energy Education C&I	Non-residential	2016	$520,000	$0	$0	$0	$520,000
Regulatory		2016	$0	$20,000	$0	$0	$20,000
Planning		2016	$0	$0	$0	$0	$0
R&D		2016	$565,000	$0	$0	$0	$565,000
Residential Total		**2016**	**$3,994,243**	**$1,522,438**	**$862,782**	**$10,982,145**	**$18,155,564**
Non-residential Total		**2016**	**$6,828,459**	**$1,359,279**	**$804,758**	**$5,680,019**	**$13,923,559**
Portfolio Total		**2016**	**$11,387,702**	**$2,901,717**	**$1,667,539**	**$16,662,164**	**$32,664,122**
2017 Estimates							
HEEP	Residential	2017	$2,932,280	$943,619	$532,201	$6,293,170	$10,701,270
Positive Energy Home	Residential	2017	$65,000	$100,900	$56,907	$910,800	$1,133,607
Weatherization	Residential	2017	$340,000	$542,067	$274,529	$4,261,195	$5,417,792
CEEP	Non-residential	2017	$5,632,705	$1,310,153	$738,926	$5,171,510	$12,853,295
IVVC	Both	2017	$2,784,148	$0	$100,000	$0	$2,884,148
Energy Education Res	Residential	2017	$280,000	$0	$0	$0	$280,000
Energy Education C&I	Non-residential	2017	$520,000	$0	$0	$0	$520,000
Regulatory		2017	$0	$20,000	$0	$0	$20,000
Planning		2017	$0	$100,000	$0	$0	$100,000
R&D		2017	$565,000	$0	$0	$0	$565,000
Residential Total		**2017**	**$4,967,592**	**$1,586,586**	**$912,138**	**$11,465,165**	**$20,410,842**
Non-residential Total		**2017**	**$7,586,542**	**$1,310,153**	**$790,426**	**$5,171,510**	**$13,424,270**
Portfolio Total		**2017**	**$13,119,134**	**$3,016,739**	**$1,702,564**	**$16,636,675**	**$34,520,112**
2018 Estimates							
HEEP	Residential	2018	$3,256,635	$1,050,666	$592,576	$6,251,596	$11,151,473
Positive Energy Home	Residential	2018	$65,000	$100,900	$56,907	$910,800	$1,133,607
Weatherization	Residential	2018	$340,000	$632,100	$320,126	$5,258,875	$6,551,102
CEEP	Non-residential	2018	$5,453,709	$1,259,109	$710,138	$5,262,844	$12,685,800
IVVC	Both	2018	$3,007,016	$0	$100,000	$0	$3,107,016
Energy Education Res	Residential	2018	$280,000	$0	$0	$0	$280,000
Energy Education C&I	Non-residential	2018	$520,000	$0	$0	$0	$520,000
Regulatory		2018	$0	$20,000	$0	$0	$20,000
Planning		2018	$0	$50,000	$0	$0	$50,000
R&D		2018	$565,000	$0	$0	$0	$565,000
Residential Total		**2018**	**$5,400,038**	**$1,783,665**	**$1,018,109**	**$12,421,272**	**$22,217,222**
Non-residential Total		**2018**	**$7,522,322**	**$1,259,109**	**$761,638**	**$5,262,844**	**$13,256,775**
Portfolio Total		**2018**	**$13,487,360**	**$3,112,775**	**$1,779,747**	**$17,684,116**	**$36,108,997**
Total							
HEEP	Residential	All	$8,793,325	$2,896,029	$1,624,487	$18,542,419	$31,856,259
Positive Energy Home	Residential	All	$195,000	$302,699	$169,729	$2,732,400	$3,399,828
Weatherization	Residential	All	$1,020,000	$1,693,962	$853,312	$13,593,763	$17,161,037
CEEP	Non-residential	All	$16,646,443	$3,928,541	$2,202,322	$16,114,373	$38,891,678
IVVC	Both	All	$7,244,429	$0	$300,000	$0	$7,544,429
Energy Education Res	Residential	All	$840,000	$0	$0	$0	$840,000
Energy Education C&I	Non-residential	All	$1,560,000	$0	$0	$0	$1,560,000
Regulatory		All	$0	$60,000	$0	$0	$60,000
Planning		All	$0	$150,000	$0	$0	$150,000
R&D		All	$1,695,000	$0	$0	$0	$1,695,000
Residential Total		**All**	**$14,361,873**	**$4,892,689**	**$2,793,029**	**$34,868,582**	**$60,783,628**
Non-residential Total		**All**	**$21,937,323**	**$3,928,541**	**$2,356,822**	**$16,114,373**	**$40,604,603**
Portfolio Total		**All**	**$37,994,196**	**$9,031,230**	**$5,149,850**	**$50,982,955**	**$103,293,232**

Table 2: Portfolio Savings Estimates

Program	Rate Class	Year	Annual Net Savings - kWh	Annual Net Savings - kW	Lifetime Net Savings - kWh
2016 Estimates					
HEEP	Residential	2016	23,499,632	6,039	329,421,259
Positive Energy Home	Residential	2016	1,809,792	1,187	45,244,800
Weatherization	Residential	2016	6,962,077	1,870	117,907,041
CEEP	Non-residential	2016	42,631,306	8,032	463,094,774
IVVC	Both	2016	5,090,400	12,120	76,356,000
Energy Education Res	Residential	2016	0	0	0
Energy Education C&I	Non-residential	2016	0	0	0
Regulatory		2016	0	0	0
Planning		2016	0	0	0
R&D		2016	0	0	0
Residential Total		**2016**	**34,740,346**	**14,974**	**529,605,760**
Non-residential Total		**2016**	**45,252,862**	**14,273**	**502,418,114**
Portfolio Total		**2016**	**79,993,208**	**29,247**	**1,032,023,874**
2017 Estimates					
HEEP	Residential	2017	25,319,354	6,550	358,888,425
Positive Energy Home	Residential	2017	1,809,792	1,187	45,244,800
Weatherization	Residential	2017	7,255,910	1,914	123,746,965
CEEP	Non-residential	2017	40,923,316	7,966	431,233,643
IVVC	Both	2017	5,938,800	15,150	89,082,000
Energy Education Res	Residential	2017	0	0	0
Energy Education C&I	Non-residential	2017	0	0	0
Regulatory		2017	0	0	0
Planning		2017	0	0	0
R&D		2017	0	0	0
Residential Total		**2017**	**37,265,374**	**16,998**	**571,084,960**
Non-residential Total		**2017**	**43,981,798**	**15,768**	**477,110,873**
Portfolio Total		**2017**	**81,247,172**	**32,766**	**1,048,195,833**
2018 Estimates					
HEEP	Residential	2018	27,800,717	7,499	376,078,289
Positive Energy Home	Residential	2018	1,809,792	1,187	45,244,800
Weatherization	Residential	2018	8,599,997	2,406	146,245,044
CEEP	Non-residential	2018	40,572,897	7,947	438,614,792
IVVC	Both	2018	0	0	0
Energy Education Res	Residential	2018	0	0	0
Energy Education C&I	Non-residential	2018	0	0	0
Regulatory		2018	0	0	0
Planning		2018	0	0	0
R&D		2018	0	0	0
Residential Total		**2018**	**38,210,506**	**11,091**	**567,568,134**
Non-residential Total		**2018**	**40,572,897**	**7,947**	**438,614,792**
Portfolio Total		**2018**	**78,783,403**	**19,039**	**1,006,182,926**
Total					
HEEP	Residential	All	76,619,704	20,087	1,064,387,974
Positive Energy Home	Residential	All	5,429,376	3,560	135,734,400
Weatherization	Residential	All	22,817,985	6,191	387,899,050
CEEP	Non-residential	All	124,127,519	23,945	1,332,943,209
IVVC	Both	All	11,029,200	27,270	165,438,000
Energy Education Res	Residential	All	0	0	0
Energy Education C&I	Non-residential	All	0	0	0
Regulatory		All	0	0	0
Planning		All	0	0	0
R&D		All	0	0	0
Residential Total		**All**	**110,216,226**	**43,064**	**1,668,258,854**
Non-residential Total		**All**	**129,807,557**	**37,989**	**1,418,143,779**
Portfolio Total		All	**240,023,784**	**81,052**	**3,086,402,633**[1]

[1] Savings are at generation.

Table 3: Cost-Effectiveness Estimates

Table 4: Program Participation Estimates (# of measures)

Program	Rate Class	2016	2017	2018	Total
HEEP	Residential	324,637	350,877	358,953	**1,034,467**
Positive Energy Home	Residential	1,200	1,200	1,200	**3,600**
Weatherization	Residential	29,552	26,901	35,658	**92,111**
CEEP	Non-residential	214,384	205,164	210,552	**630,100**
IVVC	Both	0	0	0	**0**
Energy Education Res	Residential	0	0	0	**0**
Energy Education C&I	Non-residential	0	0	0	**0**
Regulatory		0	0	0	**0**
Planning		0	0	0	**0**
R&D		0	0	0	**0**
Residential Total		**355,389**	**378,978**	**395,811**	**1,130,178**
Non-residential Total		**214,384**	**205,164**	**210,552**	**630,100**
Portfolio Total		**569,773**	**584,142**	**606,363**	**1,760,278**

Program	Rate Class	Program Year	TRC	UCT/ PACT	PCT	RIM	SCT	Levelized Cost (kWh)
Portfolio Total								
HEEP	Residential	All	1.80	2.06	3.31	0.78	2.58	$0.05
Positive Energy Home	Residential	All	1.27	3.63	0.99	1.37	2.22	$0.06
Weatherization	Residential	All	2.25	1.38	5.06	0.66	3.40	$0.08
CEEP	Non-residential	All	1.47	1.98	3.58	0.63	1.94	$0.04
IVVC	Both	All	2.20	2.20	1.04	2.20	3.11	$0.22
Energy Education Res	Residential	All	0.00	0.00	0.00	0.00	0.00	$0.00
Energy Education C&I	Non-residential	All	0.00	0.00	0.00	0.00	0.00	$0.00
Regulatory		All	0.00	0.00	0.00	0.00	0.00	$0.00
Planning		All	0.00	0.00	0.00	0.00	0.00	$0.00
R&D		All	0.00	0.00	0.00	0.00	0.00	$0.00
Portfolio Total			**1.73**	**2.00**	**2.73**	**0.84**	**2.45**	**$0.06**

Implementation Timeframe

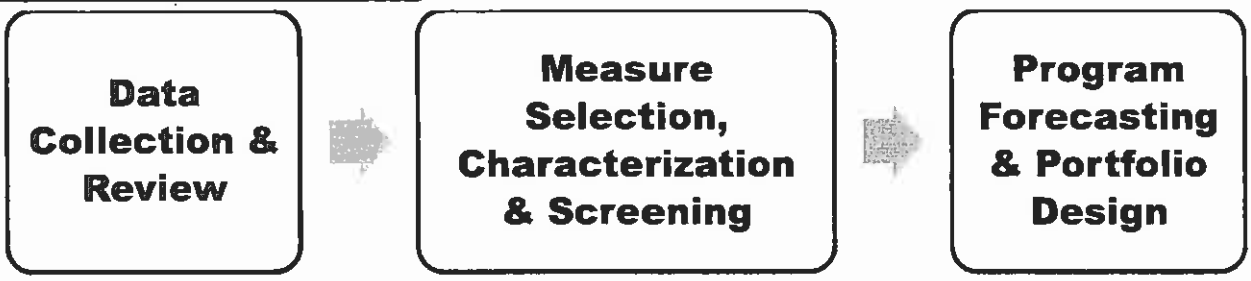
The timeframe for this Demand Program Plan is from January 1, 2016 until December 31st, 2018.

Overview of Plan Development Methodology

OG&E retained CLEAResult to function as their Third Party Administrator ("TPA") to assist in the development of its 2016-18 Plan. The following section documents the methodology utilized to complete the plan.

Designing a portfolio of demand programs capable of addressing the design objectives stipulated by the OCC as well as those identified by OG&E requires a proven process paired with extensive field and industry experience. Through a collaborative and highly engaged process with OG&E, the TPA developed this plan using the three steps outlined below.

Figure 1: Plan development process



Step 1: Data Collection & Review

To identify programs and measures for inclusion in OG&E's Demand Portfolio, the TPA completed a thorough review of relevant data sources provided by OG&E and/or obtained from public sources including the following:

- Customer usage and sales data
- Applicable reports and studies, including annual reports, evaluations & potential studies
- Public data mining including:
  - Federal Reserve Bank data
  - Commercial Buildings Energy Consumption Survey ("CBECS") and Residential Energy Consumption Survey ("RECS")
  - Energy Information Administration ("EIA")
  - US Census Bureau

The TPA used these data to develop a Market Profile for OG&E's Oklahoma service territory intended to address two key objectives: 1) to better understand current economic trends and 2) to characterize OG&E's Residential and C&I market sectors including prominent end-uses, consumption levels, and customer counts. Collectively, the data contained in the Market Profile formed the context and basis for Step 2 and Step 3 and thus the program and portfolio savings potentials presented in the Plan.

Step 2: Measure Selection, Characterization and Screening

- The TPA utilized Market Profile data to further refine OG&E's offerings to its Oklahoma customers and determine specific measures applicable to the defined market.

- Measure Selection: Utilizing the insights obtained through the Market Profile, the TPA first developed a preliminary measure list based on a best practice assessment by researching other utilities' offerings as well as new technologies not commonly offered.

- Measure Characterization: Each measure was characterized by creating a typical scenario to represent common installations. The expected energy and demand savings, estimated useful life,

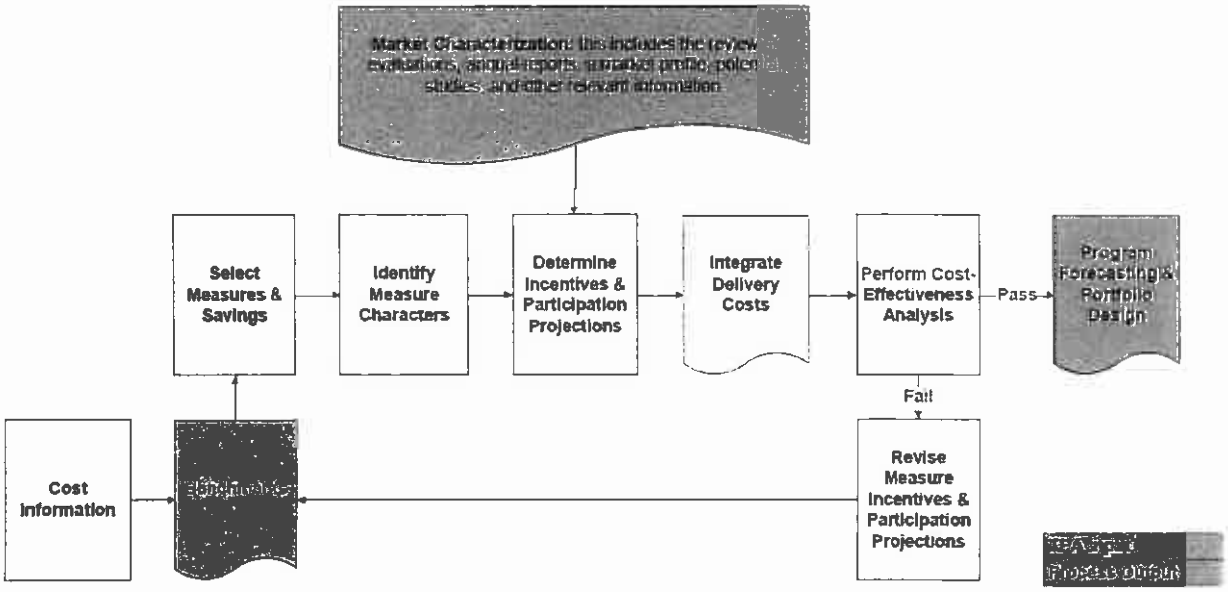
and incremental cost were determined for the installation of each measure in each scenario. In order to provide a comprehensive assessment, the TPA used a variety of resources, including the Arkansas TRM, the Texas TRM, EnergyGauge residential energy modeling software[2], the ENERGY STAR product website[3], or studies authored by the Department of Energy. The estimated useful life for each measure was based on California's Database for Energy Efficient Resources[4] or the Arkansas TRM.

- Measure Screening: These measures were then screened by the project team engineers and analysts using a comprehensive measure screening process that considered each measure's characteristics in order to determine if implementation would be cost-effective for both the utility and the customer.

This process culminated in a finalized measure list, which served as the primary input for the program forecasting process.

Step 3: Program Forecasting & Portfolio Design

Having developed the final measure list, the TPA then concentrated on the overall program forecasts and



design. This process, as depicted in Figure 2 below, takes into consideration the selected measures, the TPA's national implementation experience and the Market Profile to establish participation estimates by measure. These estimates were used to calculate the necessary inducement levels expected to achieve appropriate program savings. This work was also screened for cost-effectiveness and revised as necessary.

Once all measure level and economic analysis was completed, the TPA was able to obtain finalized program and portfolio level savings estimates and spending requirements for the Plan.

Figure 2: Measure forecasting and design process

[2] http://www.energygauge.com/USAres/default.htm

[3] http://www.energystar.gov/index.cfm?fuseaction=find_a_product.

[4] http://www.deeresources.com/

Program Summaries

The following section presents summaries of each proposed program by sector.

Residential Program Offerings

Home Energy Efficiency Program ("HEEP")

The HEEP program offering is a multipronged approach to encourage residential customers to reduce the energy consumption of their homes. It provides the customer multiple avenues for participation, including home assessments, HVAC replacement and tune-ups and consumer product offerings.

Residential Solutions Component

Objectives

The objectives of this program are to provide educational opportunities and market inducements to residential customers in an effort to generate cost-effective energy and demand savings, while assisting with overcoming barriers to energy efficiency improvements. This program is also designed to develop an educated and capable community of trade allies to deliver energy efficiency services to the OG&E residential customer base.

General Services Description

The home assessment offering is designed to provide low-cost home assessment and direct install measures to residential customers. The program promotes energy efficiency by offering home assessment to both detached single family and individually metered multifamily residential customers.

The program will help residents achieve electric savings by consulting with a contractor or OG&E representative, who will help analyze their energy use, identify energy efficiency improvement projects, and install low-cost energy saving measures at participant homes.
Key elements of the HEEP Residential Solutions offering include:

- **Customer engagement**: A variety of customer intake channels will be made available through this program including phone, email and web.
- **Contractors or OG&E representatives**: These individuals will be available to participants and potential participants in the program to provide information on the benefits and costs of energy efficient projects. They will have the knowledge to discuss the potential options customers have and assist in defining the best path for them to take based on their individual situation.
- **Inducement application**: Applications will be developed for customers to submit to the program for installed eligible measures. The program will conduct a QA/QC review of all applications to ensure that all required information and documentation has been provided.
- **Inducement payment**: Trade allies will receive payment checks directly from the program for approved applications of installed eligible equipment and measures. Customers may receive payment checks on a case by case basis if it is deemed necessary and fits within the established program guidelines.
- **Project Verification & Quality Assurance**: A detailed QA/QC protocol will be established to ensure technical and programmatic compliance by participating trade allies.

Schools Outreach

This program also includes an outreach channel targeted at school students, and is designed to provide them an educational opportunity to learn about energy efficient opportunities in their home. This approach includes an established teaching curriculum that teachers use to review and teach their students what activities they can do to help save energy. The students will be given an energy efficiency kit with easy to install measures (LEDs, aerators, etc.) that they can take home and have their guardians help them install.

This aspect of the program is targeted at 5th grade school students and includes a survey for the students to fill out at home and return to their teacher. Teachers receive the completed survey responses and submit them to the program.

Target Market

This program is targeted at all 5th grade students within the OG&E Oklahoma territory.

Implementation Barriers

This program is intended to assist in overcoming the major barriers most commonly encountered when implementing energy efficiency for the residential community.

These barriers include:

- **Limited customer knowledge**: This program will inform participants of the opportunities and benefits of pursuing energy efficient projects specific to their home and individual needs. By engaging with customers at every step of the process, OG&E Oklahoma will be able to ensure customer satisfaction and understanding throughout their participation.
- **Perceived high initial cost to energy efficiency**: OG&E will provide measure based inducements to lower the upfront investment required from customers.
- **Limited contractor knowledge or experience in energy efficiency**: OG&E will engage contractors and work to educate the larger contractor community on energy efficiency opportunities available through OG&E programs. These efforts will ensure proper execution of projects, increase overall knowledge within the contractor community and increase customer satisfaction.
- **Increased work for customers and contractors due to complicated participation processes**: The implementation team will provide a simple and accessible application submission and processing solution to improve the efficiency and visibility of the program.

Residential HVAC Replacement & Tune-up Component

Objectives

The objectives of the HVAC replacement and tune-up channel are to generate energy and demand savings from residential HVAC systems through replacement of older inefficient equipment, or tune-up of customer's existing HVAC system to optimize its operation and efficiency, effectively reducing energy intensity of the residence.

General Services Description

The HVAC channel focuses on energy savings through optimization of existing HVAC units and replacement of older inefficient systems. This offering is designed as a market-driven approach that utilizes local HVAC contractors for completion of the work.

Customer requested HVAC tune-ups or unit replacements will be completed through a network of participating contractors. When customers contact the program, the project team will refer them to available contractors or schedule an appointment for them. Contractors will complete the tune-up or HVAC unit replacement, the data collection on system performance and the paperwork required to submit for the applicable program rebates. Once the application has passed the program requirements review, it will be processed and the rebate will be paid.

Target Market

This program targets all residential customers living within the OG&E Oklahoma territory that have HVAC systems at their residence.

Implementation Barriers

This program is intended to address the major barriers encountered in typical residential HVAC programs.

These barriers include:

- **Limited trade knowledge on how to participate in energy efficient programs**: This program will work with contractors to educate and help them properly execute the program. This will allow the contractors to better represent the benefits of the OG&E program to the customer base.

- **Limited customer knowledge on benefits of HVAC maintenance and replacement:** This program is designed to build knowledgeable program teams that can provide support and information to customers. The additional information will allow the customers to make better decisions on the energy efficiency of their HVAC systems.

Consumer Products Component

Objectives

The objective of this component is to achieve cost-effective energy savings by inducing and educating customers to purchase residential lighting and appliances through downstream, upstream and midstream channels. It will drive participation in the program by developing relationships with participating partners and educating consumers to influence their purchasing behavior.

General Services Description

This offering promotes the purchase of energy efficient lighting and products by providing the benefits of upstream, midstream and downstream inducements. Utility rebates will focus on ensuring that retailers make energy efficient products available at discounted prices to OG&E residential customers. Approved measures including but not limited to: LED lighting, advanced power strips, clothes washers and kitchen appliances.

There will also be significant emphasis placed on providing information and educational opportunities to customers and participating market partners. The program will work to develop strong relationships with manufacturers, retailers and distributors to increase program participation and ensure successful implementation.

Target Market

This program is targeted at all residential customers living within the OG&E Oklahoma territory.

Implementation Barriers

This design was developed to overcome many of the market barriers experienced when addressing energy efficiency through the retail and direct to consumer channels.

These barriers include:

- **Limited customer knowledge on benefits of efficient products:** This delivery approach is designed to provide educational materials and outreach opportunities to help influence customer purchasing behavior.

- **Quickly changing technologies and regulatory environments**: The consumer products channel will be able to evolve with the continually changing marketplace.

- **Limited knowledge of efficient products and their benefits at national, regional and local sales locations:** This offer is designed to educate sales associates and participating partners at all levels within their organizations on the benefits of energy efficient products.

EM&V Protocols

OG&E will verify the accuracy and complete installation of measures to ensure projects meet program standards. A sample of participant homes submitted by OG&E trade allies will receive QA/QC inspections

from OG&E staff or third party QA/QC contractors to ensure installation is complete and inputs to energy and demand savings calculations are properly recorded.

OG&E will contract with a third party, independent entity to perform evaluation, measurement, and verification activities. Measurement and verification of the Residential Solutions program will rely on multiple approaches. Engineering review, billing analysis, and on-site inspection may all be used. The evaluator will use data collected for a sample of program participants to provide statistically valid estimates of net annual energy (kWh) and peak demand (kW) savings estimates at the program level.

For HVAC tune-up s and replacement projects, a sample from each participating trade ally allies will receive QA/QC inspections from OG&E staff or third party QA/QC contractors to ensure the work has been completed in accordance with program requirements and/ or to check the eligibility of replacement systems. A third party evaluator may also engage in a ride-along for a sample of tune-up projects.

For measures that are induced using the midstream or upstream channel (price buy-downs at the retailer or manufacturer level), the evaluator will review all invoices and project documentation provided to OG&E by retailers and manufacturers. Invoices will be compared to program tracking data to ensure the number of measures discounted is correctly reported. The evaluator may also perform in-store visits for a sample of participating retailers to ensure that program measures are properly discounted. In-store surveying of purchasing customers or general population surveying may be used to assess customer purchasing decisions and awareness of program discounts. Sales data from participating retailers will also be reviewed and statistical models may be built to estimate the impact of program discounts on sales quantities for program measures.

For measures that are induced using the downstream channel (rebates, instant discounts with completed applications), the evaluator will select a sample of participating customers. The sample customers will be surveyed to verify the purchase and installation of program measures. The survey will also be used to assess customer purchasing decisions, program satisfaction, and related customer feedback. A subset of the survey sample may also be selected for on-site verification of measure installation.

In addition to the activities described above for determining program impacts on energy consumption and peak demand, the evaluator will conduct surveys with program participants, trade allies, and participating retailers/manufacturers to assess program processes and customer feedback. Interviews with program staff will also be conducted to provide input regarding program operations and any potential areas for program improvement.

Budget Details

Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
2016	$2,604,409	$901,744	$499,710	$5,997,653	**$10,003,516**
2017	$2,932,280	$943,619	$532,201	$6,293,170	**$10,701,270**
2018	$3,256,635	$1,050,666	$592,576	$6,251,596	**$11,151,473**
Total	**$8,793,325**	**$2,896,029**	**$1,624,487**	**$18,542,419**	**$31,856,259**

Savings Details

Year	Annual Net Savings - kWh	Annual Net Savings - kW	Lifetime Net Savings - kWh
2016	23,499,632	6,039	329,421,259
2017	25,319,354	6,550	358,888,425
2018	27,800,717	7,499	376,078,289
Total	**76,619,704**	**20,087**	**1,064,387,974**

Cost-Effectiveness Details

Program Year	TRC	UCT	RIM	PCT	SCT
2016	1.68	1.86	0.67	3.33	2.43
2017	1.82	2.07	0.79	3.29	2.60
2018	1.92	2.26	0.90	3.32	2.71
Total	**1.80**	**2.06**	**0.79**	**3.31**	**2.58**

Eligible Measures and Inducements

Please see Appendix B for a full list of measures and their inducement levels by year.

Positive Energy - New Home Construction ("PE-NHC") Program

Program Objective

The objective of the PE-NHC program is to encourage builders and contractors to include energy efficient measures in the construction of new homes built within the OG&E Oklahoma service area. The program will also provide support to educate the customer base on the benefits of energy efficient homes and influence their decisions when purchasing a new home.

General Program and Services Description

The PE-NHC program is designed to promote building energy efficient homes within the OG&E Oklahoma service territory. The program will work with builders and contractors to provide inducements to decrease the upfront costs of incorporating energy efficient upgrades when constructing new homes.

The program will utilize builders and contractors as the main marketing and outreach channel to educate potential buyers on the benefits to purchasing an energy efficient home. OG&E will provide them a significant amount of support to assist them in this process

The program will work with the builders throughout the design and construction process, to ensure the completed home will meet or exceed PE-NHC home specifications required by the program.

Target Market

The program will target all builders and contractors constructing new single-family homes within the OG&E Oklahoma service territory.

Implementation Barriers

The program has been designed to overcome the barriers experienced when implementing a utility funded energy efficient new construction program in a market with similar market demographics as displayed within the OG&E Oklahoma territory. (Appendix A Market Profile)

The specific barriers addressed include:

- **Limited builder and contractor knowledge of program benefits**: The program is designed to engage local builders and contractors to provide training and educational materials to increase program participation.
- **Complicated participation and application requirements**: The participation process will be streamlined for contractors through the use of clear and concise documentation.
- **End-use purchasers have limited knowledge regarding the benefits of purchasing an energy efficient home**: The program teams will work with builders and contractors to provide support in educating potential customers on the benefits of purchasing energy efficient homes. The program will also cross promote this program through OG&E's other offerings within the demand portfolio.

EM&V Protocols

OG&E will verify the accuracy and complete installation of measures to ensure projects meet program standards for inducement payments. A sample of homes submitted by builders will receive QA/QC inspections from OG&E staff or third party QA/QC contractors to ensure reported home improvements are installed as claimed.

OG&E will contract with a third party, independent entity to perform evaluation, measurement, and verification activities. Measurement and verification of the Residential New Construction Program will rely on building simulation modeling for a statistically valid sample of participating new homes. The modeling approach will involve collecting and inputting data for each sample home into a RESNET approved software to estimate annual energy consumption and load profile. The RESNET approved software will also be used to model a standard efficiency home built to code. Each sample home will then be compared to the standard, code compliant home to determine annual energy savings (kWh) and peak demand reduction (kW). To collect data for the building simulation modeling, the evaluator will request project documentation for each home as well as existing energy models. On-site verification visits may be used to verify measure installation and home characteristics.

In addition to the activities described above for determining program impacts on energy consumption and peak demand, the evaluator will conduct surveys with participating builders to assess program processes and the equipment decision making process. Interviews with program staff will also be conducted to provide input regarding program operations and any potential areas for program improvement.

Budget Details

Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
2016	$65,000	$100,900	$55,915	$910,800	**$1,132,614**
2017	$65,000	$100,900	$56,907	$910,800	**$1,133,607**
2018	$65,000	$100,900	$56,907	$910,800	**$1,133,607**
Total	**$195,000**	**$302,699**	**$169,729**	$2,732,400	$3,399,828

Savings Details

Year	Annual Net Savings - kWh	Annual Net Savings - kW	Lifetime Net Savings - kWh
2016	1,809,792	1,187	45,244,800
2017	1,809,792	1,187	45,244,800
2018	1,809,792	1,187	45,244,800
Total	5,429,376	3,560	**135,734,400**

Cost-Effectiveness Details

Program Year	TRC	UCT	RIM	PCT	SCT
2016	1.19	3.41	1.23	0.97	2.12
2017	1.29	3.70	1.40	0.99	2.25
2018	1.33	3.81	1.40	1.02	2.31
Total	**1.27**	**3.64**	**1.35**	**0.99**	**2.22**

Eligible Measures and Inducements

Please see Appendix B for a full list of measures and their inducement levels by year.

Weatherization Residential Assistance Program ("WRAP")

Program Objective

The objective of the WRAP is to achieve energy savings and provide energy efficient upgrade opportunities to the OG&E Oklahoma customer base with energy inefficient homes. The program is additionally intended to provide information on the benefits of making energy efficient choices and will educate on energy savings behaviors.

General Program and Services Description

The Weatherization program has been designed to achieve energy savings by helping to improve the comfort and reduce energy costs for OG&E Oklahoma's residential customers. The program provides upgrade opportunities and projects that pass pre and post installation health and safety reviews. The weatherization offering provides free energy efficiency upgrades for eligible homeowners, and is available to rental properties if an eligible customer lives in the home and receives approval from the property owner.

The program is developed to ensure the greatest benefit to the customers and also achieve cost-effective energy savings.

The key aspects consist of the following elements.

- **Customer Eligibility**: OG&E residential customers interested in the program will initially reach out to be confirmed as a pre-screened eligible customer. After confirmation the contractor will schedule an assessment of the home
- **A comprehensive assessment of the customer's home**: Once the customer is prequalified, the contractor will schedule a thorough assessment of the home and develop a recommended action plan of weatherization upgrades for the homeowner.
- **Installation of a set of weatherization measures:** The contractor and customer will review the recommended action plan for the customer's home and decide on what upgrades that can be completed.

Target Market

The Weatherization program targets all residential customers living in single-family and multifamily inefficient homes. This program will focus primary outreach efforts based on the included Market Profile data (Appendix A)

Implementation Barriers

The Weatherization program has been designed to overcome barriers that are common when implementing an energy efficiency program that includes building science and major home upgrades.

These barriers include:

- **Limited customer knowledge on benefits of efficient products:** This program is designed to provide simple educational materials and outreach opportunities, to help address customer concerns and questions.
- **Limited trade knowledge on how to participate in energy efficient programs**: This program will provide program training on proper installation techniques and the benefits to customer participation.

EM&V Protocols

OG&E will verify the accuracy and complete installation of measures to ensure projects meet program standards. A sample of participant homes will receive QA/QC inspections from OG&E staff or third party QA/QC contractors to ensure installation is complete and inputs to energy and demand savings calculations are properly recorded.

OG&E will contract with a third party, independent entity to perform evaluation, measurement, and verification activities. Measurement and verification of the Weatherization Assistance program will rely on multiple approaches. Engineering review, billing analysis, and on-site inspection may all be used. The evaluator will use data collected for a sample of program participants to provide statistically valid estimates of net annual energy (kWh) and peak demand (kW) savings estimates at the program level.

In addition to the activities described above for determining program impacts on energy consumption and peak demand, the evaluator will conduct surveys with program participants and trade allies to assess program processes, customer decision making, and customer feedback. Interviews with program staff will also be conducted to provide input regarding program operations and any potential areas for program improvement.

Budget Details

Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
2016	$340,000	$519,794	$258,657	$4,073,692	**$5,192,143**
2017	$340,000	$542,067	$274,529	$4,261,195	**$5,417,792**
2018	$340,000	$632,100	$320,126	$5,258,875	**$6,551,102**
Total	**$1,020,000**	**$1,693,962**	**$853,312**	**$13,593,763**	**$17,161,037**

Savings Details

Year	Annual Net Savings - kWh	Annual Net Savings - kW	Lifetime Net Savings - kWh
2016	6,962,077	1,870	117,907,041
2017	7,255,910	1,914	123,746,965
2018	8,599,997	2,406	146,245,044
Total	22,817,985	**6,191**	**387,899,050**

Cost-Effectiveness Details

Program Year	TRC	UCT	RIM	PCT	SCT
2016	2.07	1.29	0.59	4.87	3.15
2017	2.29	1.39	0.66	5.18	3.43
2018	2.40	1.39	0.74	5.12	3.59
Total	**2.25**	**1.36**	**0.66**	**5.06**	**3.39**

Eligible Measures and Inducements

Please see Appendix B for a full list of measures and their inducement levels by year.

Commercial & Industrial Program Offerings

Commercial and Industrial Energy Efficiency Program ("CEEP")

CEEP is a portfolio approach developed to address the needs of all segments of OG&E's commercial and industrial customer base. It provides targeted participation channels that are designed to account for the specific barriers experienced by each customer type including: C&I customers, Schools, Governmental facilities and small businesses.

Commercial & Industrial Solutions Component

Program Objective

The C&I Solutions offering provides technical assistance to participants with the intent to quantify the savings and value of energy efficiency measures and process improvements. The program offers a wide range of performance measures and allows the participant to propose custom projects to address their specific energy efficiency goals. Inducements for performance and custom measures are available to help customers achieve their savings goals and overcome the first-cost barriers of investing in energy efficiency.

General Services Description

The program will offer direct installation of low-cost energy efficiency measures, and both a performance and custom path for customers to participate in the program.

The performance program track will provide inducements on a per unit basis for deemed savings measures installed by qualified contractors. While the custom program track will assist customers in identifying efficiency opportunities, analyze associated costs and savings and offer inducements developed to correspond to the savings achieved through the installation of custom measures. Technical assistance will be a key component of both paths to help customers comprehensively evaluate energy efficiency opportunities.

Custom energy efficiency measures will be designed when no performance offerings are available to achieve the participant's goals. These projects may include retro-commissioning, process improvements, and other system-level custom measures or projects involving unique equipment not part of the performance offerings. Program staff will pre-approve projects for customer and measure eligibility and provide review as needed to verify measures savings. Assistance from the program's technical staff will be available to facilitate the implementation of custom projects.

Education and training for contractors will be offered to promote program awareness and ensure they are operating with the program guidelines.

Educational & Governmental Outreach

This offering also includes an outreach channel targeted at the School and Governmental sectors of OG&E's customer base. These customers are eligible to participate in the program and a separate intake channel will be established to ensure the proper level of attention is available to address this segment's unique needs.

The largest barrier that this outreach channel will help to address is the lack of resources available to move projects forward towards implementation. The program will provide project management resources that will assist in organizing the technical resources required for identifying and implementing projects, and also provide support in securing the necessary inducements and finances to cover project costs. This

customer centric approach will help to alleviate the clients resource needs and ensure projects continue to move through to completion.

Target Market

This offering is targeted at all commercial, industrial, schools and governmental customers within the OG&E Oklahoma territory.

Implementation Barriers

The program is designed to minimize market barriers to energy efficiency implementation for C&I businesses through performance and custom inducement offerings.

Performance and custom offerings share many barriers, including:

- **C&I businesses have limited available capital for improvements, and additional prioritized projects that compete with energy efficiency projects for funding:** This program will provide training to contractors on financial benefits that result from energy and non-energy benefits. It will also provide financial analysis and third party assessments to demonstrate the value of investing in energy efficiency. This will allow for more informed decision to be made while prioritizing the best use of the improvement funds available.
- **Due to engineering and technical skills required, project lead, installation, and verification times can conflict with program dates and deadlines**: This program will work closely with clients to track project status and provide support to keep projects moving forward.
- **Trade allies and contractors have difficulty identifying custom projects due to lack of knowledge, and the majority of identified projects are past the design phase which is too late to effect efficiency rating:** This program will offer trade ally training and education on how to identify potential custom projects. This approach will allow the program to identify projects earlier and be better able to incorporate energy efficient upgrades in the work.
- **Projects typically do not happen until equipment breaks and needs to be replaced immediately to avoid production delays:** The program will offer training to equipment vendors, distributors, and contractors on educating customers of the energy and related benefits they receive when choosing higher efficiency equipment. This will allow them to better inform business decision makers when the replacement discussion occurs.

Small Business Solutions Component

Program Objective

The objective of the Small Business Solutions offering is to promote energy saving opportunities and help alleviate the first cost market barriers, by encouraging small businesses to make energy efficient upgrades to their establishment. By offering financial rebates and educational opportunities, the program will work to generate significant cost-effective energy savings for OG&E's small business customers

General Services Description

Small Business Solutions offers facility walkthroughs, direct installation of energy efficiency measures and inducements for a suite of energy efficiency upgrades. The program will also provide educational opportunities for small business owners to become more informed on the positive effect energy efficient decisions have on their operations.

Education and training opportunities will also be provided for contractors, to promote program awareness and increase participation. Contractors actively participating in the program will be trained on program inducements, processes, requirements, and eligible measures. OG&E or the third party implementer will recruit customers primarily through direct outreach to trained contractors, program marketing and outreach activities, and referrals from OG&E's managed account representatives.

Target Market

The Small Business Solutions program will target OG&E commercial customers with less than 100 kW billed demand.

Implementation Barriers

The program is designed to minimize market barriers to energy efficiency implementation for small commercial owners, which include:

- **Small business owners lack awareness of energy efficiency and the associated benefits:** The program will perform outreach to eligible small business owners through trusted information channels. It will also provide small business owners with an inspection survey report that includes recommendations for energy efficiency measure upgrades and the associated cost and energy savings. These efforts will help to inform the small business owner and allow them to make more knowledgeable decisions.
- **Lack of contractor interest and time to devote to small business projects that don't align with their sales processes:** The program will proactively reach out to contractors, vendors, and customers to inform them of available inducements to support upgrades. It will also create flexible participation processes that allow for better alignment with a contractor's current operations.
- **Small businesses have limited available capital for improvements and/or additional prioritized projects that compete with energy efficiency projects for funding:** This program will create channels that permit contractors to receive inducement payments, which allows them to provide the cost savings upfront and reduce initial cash outlay for businesses. It is also designed to provide direct install of low cost measures and increased inducements for higher cost energy efficiency measures.
- **Contractors lack knowledge about or benefits of, energy efficient equipment:** Ongoing contractor training will be conducted as part of maintaining the contractor network, to ensure the program receives ongoing feedback from contractors and maintains high participant satisfaction.

EM&V Protocols

OG&E will verify the accuracy and complete installation of measures to ensure projects meet program standards. A sample of participant facilities will receive QA/QC inspections from OG&E staff or third party QA/QC contractors to ensure installation is complete and inputs to energy and demand savings calculations are properly recorded.

OG&E will contract with a third party, independent entity to perform evaluation, measurement, and verification activities. Measurement and verification of the C&I Solutions program will rely on engineering review and on-site verification for a sample of completed projects. The sample will be designed to allow for an analysis of program level gross impacts with ±10% relative precision at the 90% confidence level. For projects that are sampled, the evaluator will conduct an engineering review of all project documentation and savings estimates.

The evaluator will check for the appropriate use of deemed savings values, engineering algorithms, building simulation modeling, and/or billing analysis. Projects that receive inducement through the performance program track will likely involve reviewing deemed savings and engineering algorithms. Projects receiving inducement through the custom program track may require more project specific analysis such as building simulation or billing analysis, depending on the energy efficiency measures installed.

On-site M&V visits will also be used to verify measure installation, measure counts, facility characteristics, and any specific inputs to savings calculations. During the on-site visits data will be collected through interviews with facility staff; review of any pertinent documents, records, or equipment schedules; visual

inspection of measures and measure attributes; and, where appropriate, direct measurement of energy usage or operating characteristics relevant to the project energy savings calculations. Data collected on-site will be used to verify or update assumptions used for reported project savings.

For the Small Business Solutions Component, on-site M&V visits will also be conducted for the sampled projects. The sample for the Small Business Solutions Component will be stratified by installing contractor. For small business programs, technologies utilized are less varied that seen in commercial and industrial channels, and possible issues pertaining to gross realization tend to derive more from the installing contractor in question rather than the energy savings or technology installed. The on-site visits will be used to verify measure installation, measure counts, facility characteristics, and any specific inputs to deemed or partially deemed savings calculations. During the on-site visits data will be collected through interviews with facility staff; review of any pertinent documents, records, or equipment schedules; visual inspection of measures and measure attributes; and, where appropriate, direct measurement of energy usage or operating characteristics relevant to the project energy savings calculations. Data collected on-site will be used to verify or update assumptions used for reported project savings.

In addition to the activities described above for determining program impacts on energy consumption and peak demand, the evaluator will conduct surveys with program participants and trade allies to assess program processes, customer decision making, and customer feedback. Interviews with program staff will also be conducted to provide input regarding program operations and any potential areas for program improvement.

Budget Details

Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
2016	$5,560,028	$1,359,279	$753,258	$5,680,019	**$13,352,584**
2017	$5,632,705	$1,310,153	$738,926	$5,171,510	**$12,853,295**
2018	$5,453,709	$1,259,109	$710,138	$5,262,844	**$12,685,800**
Total	**$16,646,443**	**$3,928,541**	**$2,202,322**	**$16,114,373**	**$38,891,678**

Savings Details

Year	Annual Net Savings - kWh	Annual Net Savings - kW	Lifetime Net Savings - kWh
2016	42,631,306	8,032	463,094,774
2017	40,923,316	7,966	431,233,643
2018	40,572,897	7,947	438,614,792
Total	**124,127,519**	**23,945**	**1,332,943,209**

Cost-Effectiveness Details

Program Year	TRC	UCT	RIM	PCT	SCT
2016	1.36	1.84	0.56	3.51	1.82
2017	1.50	2.00	0.65	3.64	1.95
2018	1.57	2.13	0.72	3.60	2.07
Total	**1.48**	**1.99**	**0.64**	**3.59**	**1.95**

Eligible Measures and Inducements

Please see Appendix B for a full list of measures and their inducement levels by year.

Integrated Volt Var Control ("IVVC") Program

Program Objective

The IVVC program allows the Company to improve efficiency and reduce demand during these peak times. This program is an extension of a series of programs tested and implemented by the Company since announcing its goal to avoid constructing incremental fossil-fueled generation until the year 2020. The deferral of additional generation requirements resulting from these programs will provide savings for all OG&E customers. By the year 2020, the Company's goal is that IVVC will contribute to the Company's deferral goals with an estimated additional 82 MW of demand reduction potential. This program represents cost-effective investments that leverage the information gained from testing previously conducted by OG&E and most importantly, the smart grid infrastructure investments approved by the Commission in 2010 and are already in place.

General Services Description

The IVVC Program is a system of devices, controls, software and communications products used to manage OG&E's distribution system reactive power flow and voltage level. This technology is used to minimize losses and reduce energy demand during peak periods, while ensuring acceptable customer voltage levels. The IVVC Program will be applied to 60 circuits in 2016 and 72 circuits in 2017. The IVVC infrastructure can be installed on both 12.47kV and 34.5kV distribution circuits, and includes several key components as follows:

- Capacitor bank controllers
- Load Tap Changer ("LTC") controllers
- Communication network
- Volt Var Optimization ("VVO") application software

In most cases, capacitor controllers with radio communications are installed on existing capacitor banks and new capacitors are installed if loss minimization is required beyond the level provided by existing capacitor banks. Additionally, LTC Controls are installed or upgraded to support reliable voltage regulation. The VVO software automatically controls these devices to optimize voltage and reactive power flow.

The IVVC Program will also be operated during non-peak periods; VVO will normally operate in loss reduction mode. In loss reduction mode, VVO compensates for inefficiencies caused by reactive loads such as electric motors. As a result, energy loss reductions (i.e. energy savings) are expected to be realized during non-peak periods. VVO will be placed in demand reduction or combined loss/demand reduction mode when needed to help reduce system peak energy demand. Demand reduction mode reduces voltage in order to achieve a corresponding reduction in peak energy consumption. Based on study results achieved to date, a peak demand reduction of approximately 2% has been achieved across the circuits on which this technology has been deployed.

Target Market

This program is targeted at all OG&E customers.

Implementation Barriers

The key constraint on IVVC demand reduction is the lowest customer meter voltages served from a substation transformer bank, which limits the scope for demand reduction across the remaining customers served from the transformer bank. The IVVC program carefully assesses options to improve constraining customer voltages, and implements improvements to customer voltages through service transformer replacement, secondary replacement or phase balancing achieving greater demand reduction for all customers served from the transformer bank.

EM&V Protocols

Existing protocols for measuring and verifying savings from voltage reduction have been based on using circuit-level data. Because much of the early work on voltage reduction was performed in the Pacific Northwest, the Northwest Regional Technical Forum ("RTF") managed a process to prepare a protocol for estimating savings from automated Conservation Voltage Reduction ("CVR", analogous to IVVC). This protocol (Automated CVR Protocol No. 1) was approved by the RTF in 2004. The RTF approved a second protocol (Simplified Voltage Optimization Protocol) in 2010.

With the RTF protocols, savings resulting from voltage reduction are estimated by multiplying (1) an IVVC factor that reflects the estimated relationship between energy reduction and (2) a change in voltage level. For application of the protocols in the Pacific Northwest, load research data were used to develop a series of lookup tables with IVVC values for participating utilities. However, these IVVC values depend on load and weather conditions and end-use equipment saturations (e.g., air conditioning use) that are specific to the Pacific Northwest.

An enhanced version of the RTF protocols has been developed by an IVVC working group in Pennsylvania. Using data collected for utility distribution circuits in Pennsylvania, the working group developed a Conservation Voltage Reduction (CVR) Custom Measurement Protocol for Demand Reduction. (Revised version was published September 21, 2011.)

Both the RTF and Pennsylvania protocols are based on collecting and analyzing circuit-level data. However, OG&E is also interested in having estimates of verified savings at the customer meter that result from the implementation of IVVC. Having such estimates would facilitate OG&E claiming IVVC savings in the same manner as traditional EE programs.

Energy savings for IVVC will be calculated through three sets of four weeklong retrofit isolation tests, completed in mid-summer, mid-winter, and in a shoulder season. This will be completed on a sample of circuits using a week-on-week-off ("WOWO") approach, through which each sampled circuit will be cycled between IVVC mode by week during the four-week trial. Further, the evaluators will identify a viable control group circuit to compare against the sampled M&V circuits. The energy savings will be scaled appropriately by system T&D losses.

Further, OG&E will provide the evaluators the data needed to calculate the demand reduction achieved during a system peak event. The evaluators will develop a control group or baseline days via day matching, as appropriate.

The savings calculated by this method will be parsed out to the residential, commercial, and industrial sectors based off of existing market data (which may include OG&E's FERC Form 1 or other documentation on the market share by sector). The share of savings attributable to the low income segment of OG&E's residential population will be assessed via existing demographic information (American Community Survey, LIHEAP registration, or OG&E's market potential study).

Budget Details

Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
2016	$1,453,265	$0	$100,000	$0	**$1,553,265**
2017	$2,784,148	$0	$100,000	$0	**$2,884,148**
2018	$3,007,016	$0	$100,000	$0	**$3,107,016**
Total	**$7,244,429**	**$0**	**$300,000**	$0	**$7,544,429**

Savings Details

Year	Annual Net Savings - kWh	Annual Net Savings - kW	Lifetime Net Savings - kWh
2016	5,090,400	12,120	76,356,000
2017	5,938,800	15,150	89,082,000
2018	0	0	0
Total	**11,029,200**	**27,270**	**165,438,000**

Cost-Effectiveness Details

Program Year	TRC	UCT/PACT	PCT	RIM	SCT
2016	2.01	2.01	1.00	2.01	2.89
2017	2.38	2.38	1.09	2.38	3.32
2018	0.00	0.00	0.00	0.00	0.00
Total	**2.20**	**2.20**	**1.04**	**2.20**	**3.11**

Eligible Measures and Inducements

There are no measures or inducements associated with this program.

Education Programs

Education Program Residential ("EPR")

Program Objective

The EPR is designed to help customers make informed decisions about their energy use and provides alternatives to reduce their consumption, thereby decreasing demand and energy usage. The program goal is to allow customers to make informed decisions about long term energy efficiency and participate in programs that will help them manage their energy costs and take advantage of price response tariffs. There will be several approaches in this program, as listed below.

- Residential energy assessments
- Participation at conferences and other public events (e.g. home & garden, Thunder Mobile, trade shows)
- Partnering with School energy efficiency education
- Seminars and Trainings
- Media

Schools Energy Efficiency Education

This education is designed to put the Energy Efficiency Decision Process into the hands of the students. The program is an initiative to promote awareness with Energy Efficiency Measures within a school system. This will include Energy Providers:

- Electric
- Gas
- Water

Additionally it will review the operations and efficiencies of devices, machinery, lighting, etc. in the schools':

- HVAC
- Water Reclamation
- Heating
- Lighting
- Garbage Reclamation
- Air Quality, etc.

Internal – Customer Education Programs
A series of webinars, seminars, conferences on Energy Efficiency and Demand Response topics.

Target Market

All residential customers. OG&E will schedule events with, but not limited to, Civic Clubs, Chambers of Commerce, Schools, Church Groups, HOA's.

Implementation Barriers
In general, the primary barrier will be a lack of information.

- Much of the customer population is unable to obtain, adequate information about their energy usage and the simplest and most cost-effective ways to reduce it without sacrificing comfort or convenience. Other customers may have access to the information but allow other factors to drive decision making in equipment and services purchasing.
- To overcome this barrier, OG&E will take a multi-faceted approach designed to accomplish the programs goal of contributing to the creation of a culture of energy efficiency awareness, knowledge and consciousness.
    - Encourage residential customers to attend an OG&E training on how to reduce your electricity costs through awareness, reduced consumption, time of use rates, and Energy Efficiency programs offered by OG&E.
    - Inform customers through a large scale educational campaign through various media of the numerous simple ways in which they can reduce their energy use.

EM&V Protocols
OG&E will keep records of the number of attendees of workshops, trainings, seminars, classes, sponsorships, etc. OG&E will be able to track, how many customers received the assessments and then installed suggested energy efficiency measures

Budget Details

Rate Class	Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
Residential	2016	$280,000	$0	$0	$0	**$280,000**
Residential	2017	$280,000	$0	$0	$0	**$280,000**
Residential	2018	$280,000	$0	$0	$0	**$280,000**
Residential	**Total**	**$840,000**	**$0**	**$0**	**$0**	**$840,000**

Savings Details
There are no savings associated with this program.

Cost-Effectiveness Details
The costs from this program are excluded from cost-effectiveness estimates.

Eligible Measures and Inducements
There are no measures or inducements associated with this program.

Education Program Commercial & Industrial ("EPC&I")

Program Objective
Commercial Surveys

OG&E will offer a Small to Medium size Commercial Walkthrough survey of a single building facility per customer. This program is available to all GS and PL customers, schools and municipalities on any single facility that meets a specified size and facility type on a first come, first served basis for up to 300 facilities. Additionally, OG&E will target up to 150 schools, government and non-profit institutions in its marketing of this program. The survey will consist of a high-level walk-through of the facility, highlighting key energy efficiency measures and improvements. The specific focus of this walk-through survey will be to review lighting, HVAC, motors, compressors, pumps and any other high energy use items. In addition, the Surveyor will inspect windows, insulation and obvious air penetration of the facility that affect Energy usage and Efficiency measures. An electronic report will be provided to the customer following the survey. These audits are intended to be completed in a 2-4 hour time period.

External - Customer Education Programs - C&I Energy Efficiency Training
The trainings are designed to educate and develop Energy Efficiency Managers and Facility Managers on Energy Efficiency improvements they can make at their facilities. The trainings are designed to educate them on topics such as:

- HVAC Systems,
- Compressors,
- Motors,
- Control Systems,
- Chillers,
- Air Penetration,
- Conditioned Environments,
- Lighting, etc.

OG&E will schedule events with, but not limited to Civic Clubs, Chambers of Commerce, Schools, Church Groups, HOA's and various sectors of commercial businesses.

Internal – Customer Education Programs
OG&E will offer a series of webinars, seminars, conferences on Energy Efficiency and Demand Response topics.

Target Market
All commercial & industrial customers in the OG&E service area and OG&E members involved in Energy Efficiency and Demand Response Programs.

Implementation Barriers
In general, the primary barrier will be a lack of information.

- Much of the customer population is unable to obtain, adequate information about their energy usage and the simplest and most cost-effective ways to reduce it without sacrificing comfort or

convenience. Other customers may have access to the information but allow other factors to drive decision making in equipment and services purchasing.

- To overcome this barrier, OG&E will take a multi-faceted approach designed to accomplish the programs goal of contributing to the creation of a culture of energy efficiency awareness, knowledge and consciousness.
    - Provide educational opportunities for commercial and industrial customers to learn about energy efficient upgrades, inducement programs to change behavior, rate plans, and other energy efficiency measures.
    - OG&E will encourage commercial customers to take advantage of the commercial survey through multiple means of marketing communications.
    - Inform customers through a large scale educational campaign through various media of the numerous simple ways in which they can reduce their energy use.

EM&V Protocols

OG&E will keep records of the number of attendees of workshops, trainings, seminars, classes, sponsorships, etc. Additionally, OG&E will keep track of the commercial customers that receive walk-through surveys and encourage them to participate in our CEEP, in order to perform the energy efficient measures recommended as part of the survey. As a result of the record keeping, OG&E will be able to track, how many customers received the audit and went on to perform the measure as a result of the audit. Additionally, we will survey students attending Training Sessions to determine what measures they changed at their facilities after the training.

Budget Details

Rate Class	Program Year	Program Administration	Utility Administration	EM&V	Customer Incentives	Total Costs
Non-residential	2016	$520,000	$0	$0	$0	$520,000
Non-residential	2017	$520,000	$0	$0	$0	$520,000
Non-residential	2018	$520,000	$0	$0	$0	$520,000
Non-residential	**Total**	**$1,560,000**	**$0**	**$0**	**$0**	$1,560,000

Savings Details

There are no savings associated with this program.

Cost-Effectiveness Details

The costs from this program are excluded from cost-effectiveness estimates.

Eligible Measures and Inducements

There are no measures or inducements associated with this program.

CLEAResult

Appendix A. Market Profile

Oklahoma Gas & Electric (OG&E) Oklahoma Market Profile

June 19, 2015

PREPARED BY CLEAResult

PREPARED FOR Oklahoma Gas & Electric

Table of Contents

Introduction

This market profile is intended to provide contextual information on the Oklahoma Gas & Electric Energy Corporation's ("OG&E") Oklahoma service territory for the development of electric energy efficiency programs. Evaluating typical economic indicators, energy end-use patterns, and OG&E's sales by customer class can provide useful information for optimizing energy efficiency program design.

Service Territory and Sales

OG&E provides service in 46 of Oklahoma's counties for roughly 729,000 total customers across all classes. Residential customers represent the majority by count, but the commercial sector is OG&E's largest customer group by sales volume. The Census indicates that there are 1,137,443 total households in the counties served by OG&E, approximately 625,700 of which are served by OG&E. Therefore, OG&E residential customers account for roughly 55% of all households where service is provided. OG&E possesses a strong market share in the counties where it provides service, which can aid in marketing and outreach for energy efficiency programs.

Figure 1: 2012 Customers by Sector

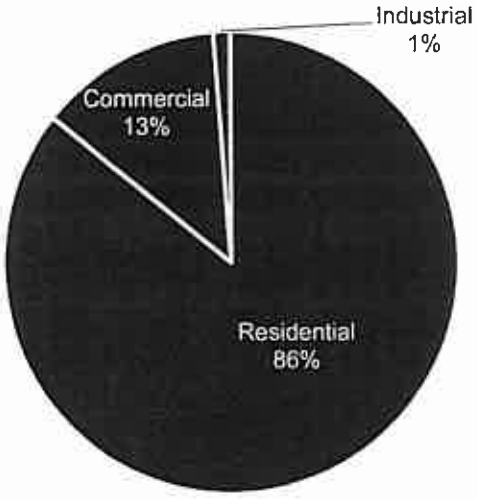
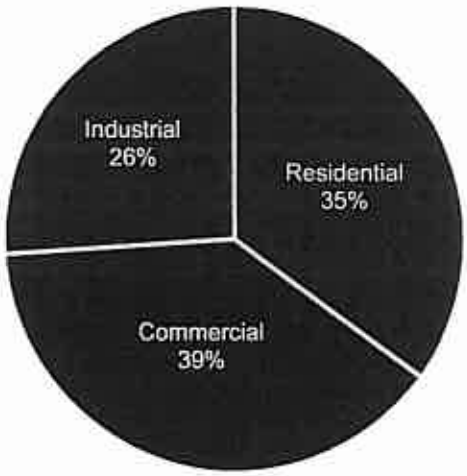


Figure 2: 2012 Sales (MWh) by Sector



Residential Sector

Economic Indicators

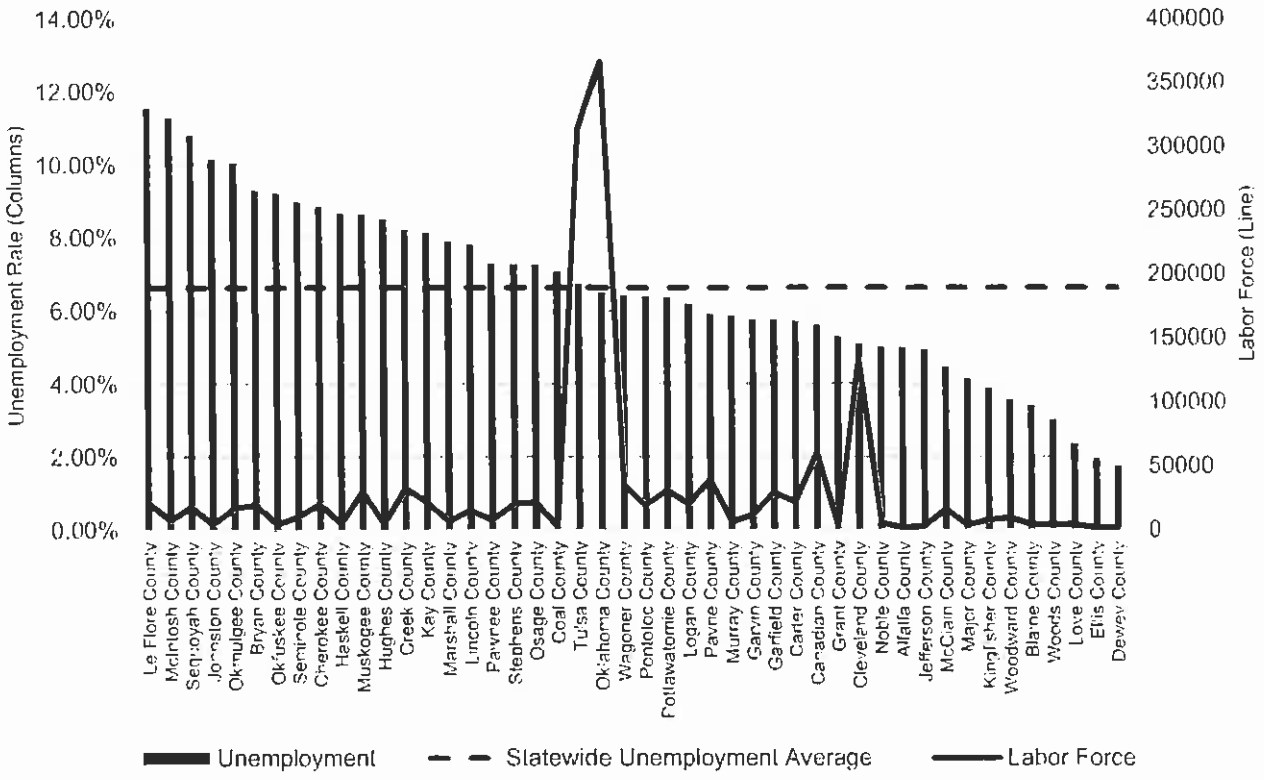
Research indicates that prevailing economic trends can impact energy efficiency program success; this is due in part to the customer's availability of excess capital or income to spend on energy efficiency improvements. Similarly, employment rates provide info on the general health of the economy. This section analyzes Census employment and income data for individuals and households within OG&E service territory to outline some of the relevant economic indicators that could impact the performance of energy efficiency programs.

Individual employment trends

A healthy employment rate can contribute to the success of energy efficiency programs that provide rebates on appliances and other consumer products. Figure 3 displays the Oklahoma unemployment rate by county, along with total labor force. The statewide average unemployment rate is also shown with a dashed line. For the counties serviced by OG&E, the unemployment rate spans from about 1.8% - 11.6%. Counties where the labor force is high while unemployment is below the state average are areas where

the success of energy efficiency programs will have a relative advantage over other counties. The chart below shows that the counties with the highest unemployment rate also have the smallest labor force. These counties are likely in more rural areas where energy efficiency programs may face challenges. Three counties have large labor forces and relatively low unemployment making them ideal markets for energy efficiency programs that rely on the customer's ability to purchase appliances, energy efficient products, or invest in structural home improvements. Please refer to Appendix A, Figure A for a geographic representation of unemployment rates in OG&E's Oklahoma service area.

Figure 3: Labor Force & Unemployment Rate by County



Household Income Trends

Household income data and total household count was collected from the Census and filtered for OG&E's specific service territory. The income requirement for income-qualifying programs is also shown with a dashed line. Examining household income by county can grant insights on where income-qualifying programs may be successful. In areas where income exceeds the cap for income-qualifying programs, traditional cash inducement programs may be more effective. Figure 4 below displays total households, average income, and the earnings cap for low income programs. Average household income trends indicate that most of OG&E's counties are above the low income cap which could limit the effectiveness of such programs. Seven of the 46 counties in OG&E's Oklahoma territory fall below the low income cap, and another 11 counties are 10% or less above the low income cap. These areas with relatively low average household income are likely good areas to implement low income programs. Please refer to Appendix A, Figure B for a geographic representation of mean household income in OG&E's Oklahoma service area.

Housing Type

Figure 5 displays total housing type distribution for all counties included in the OG&E territory. Single unit detached homes make up the vast majority of homes at 73% followed multi-family housing units at a total of 17%. The share of mobile homes in the territory is relatively low. These trends suggest a great potential for residential standard offer programs, with higher potential held in measures targeted toward 1-unit detached homes and multi-family housing units.

As indicated by Figure 6 below, the share of mobile homes is inversely proportional to total households in most counties. Counties range in mobile home share from 58% to 3%, and the total number of homes varies significantly from county to county. Please refer to Appendix A, Figure C for a geographic representation of mobile home housing by county.

Figure 4: Total Households & Average Household Income by County

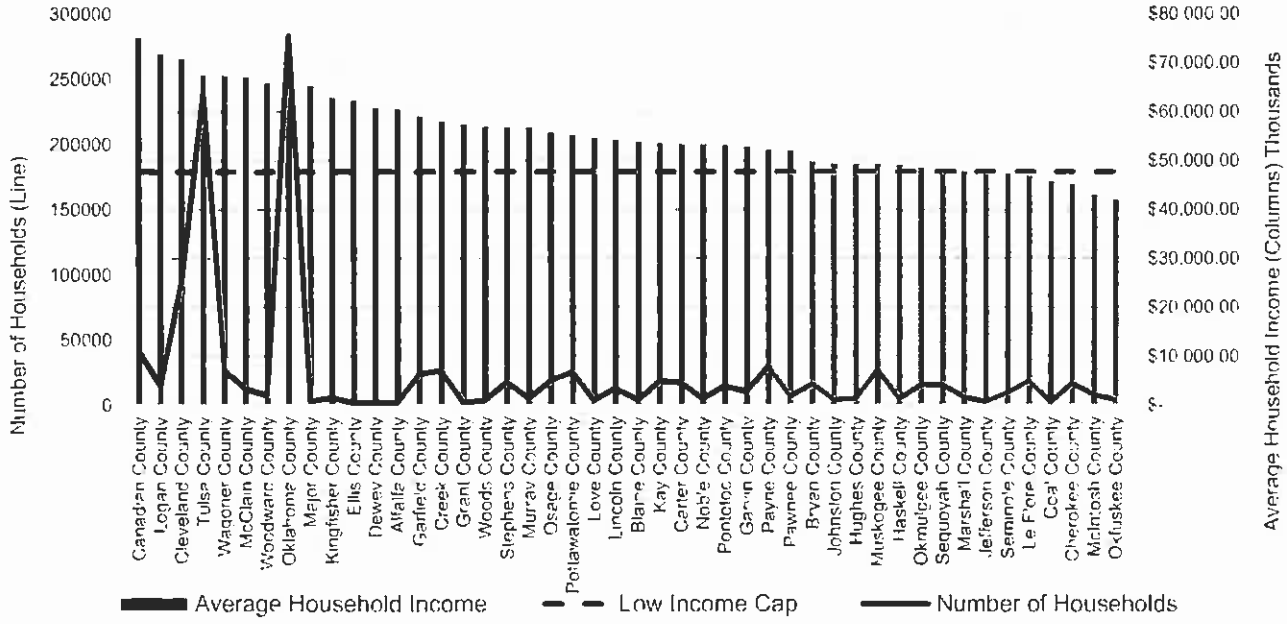
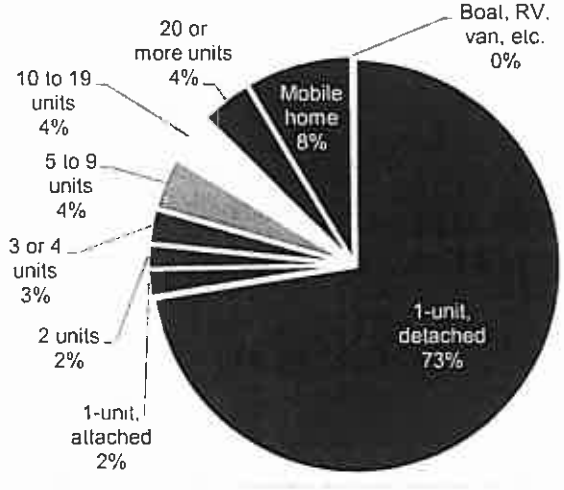


Figure 5: Housing Type Distribution - OG&E Oklahoma



Residential End-Use Patterns

HVAC and water heating equipment upgrades and tune-ups can create a great deal of natural gas savings. Average residential end-use data was estimated using the Energy Information Agency's Residential Energy Consumption Survey ("RECS") to assess the potential for natural gas saving measures. The following charts provide end-use details for HVAC and water heating appliances as a percentage of total households in the census region. Without conducting site-specific surveys, RECS provides the most comprehensive data on residential housing characteristics.

Figure 6: County Share of Mobile Homes vs. Total Households

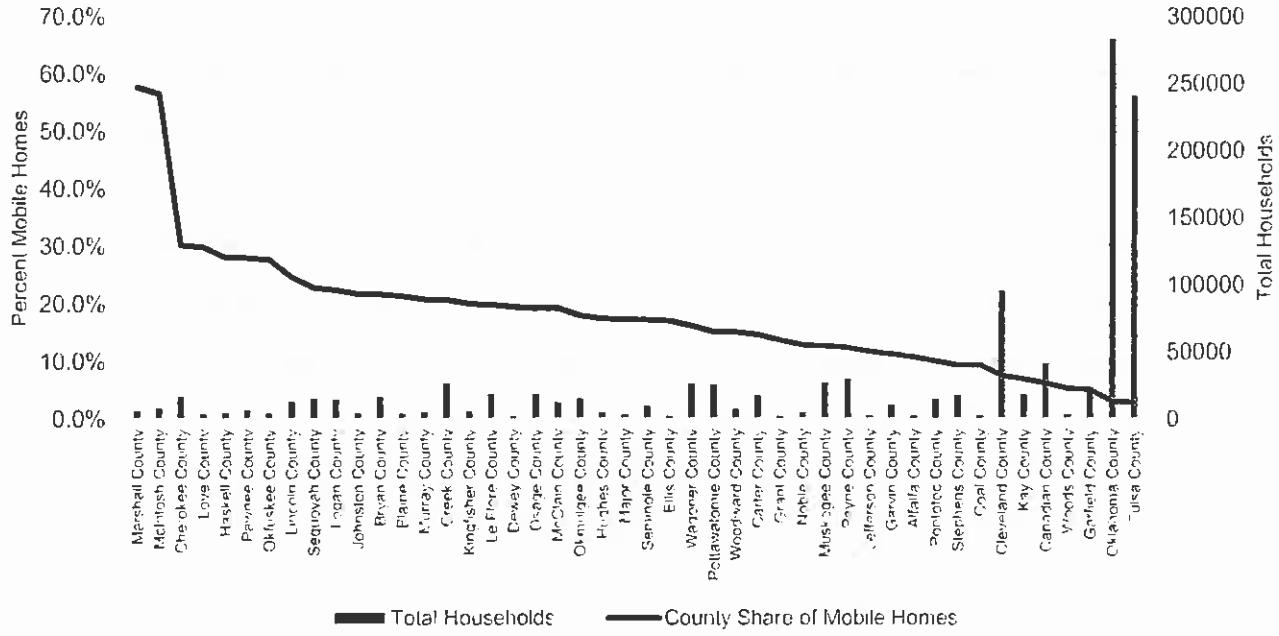


Figure 7: Electric End Uses

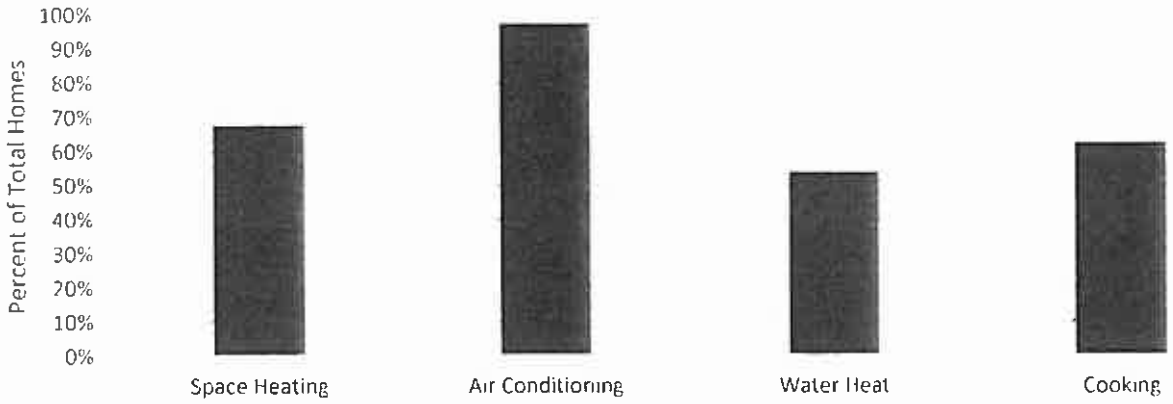


Figure 7 above displays encouraging trends for electric energy efficiency measures. All end use categories exceed 50% of all homes in Oklahoma. Electric use for space and water heating is relatively high compared to other state averages. This could indicate a potential for HVAC and water heating measures. The most prolific electric use in the OG&E territory is air conditioning by a significant margin. Air conditioning replacement and tune-up measures are well suited for OG&E's geography and demographic.

Figure 8: Central AC Age Distribution

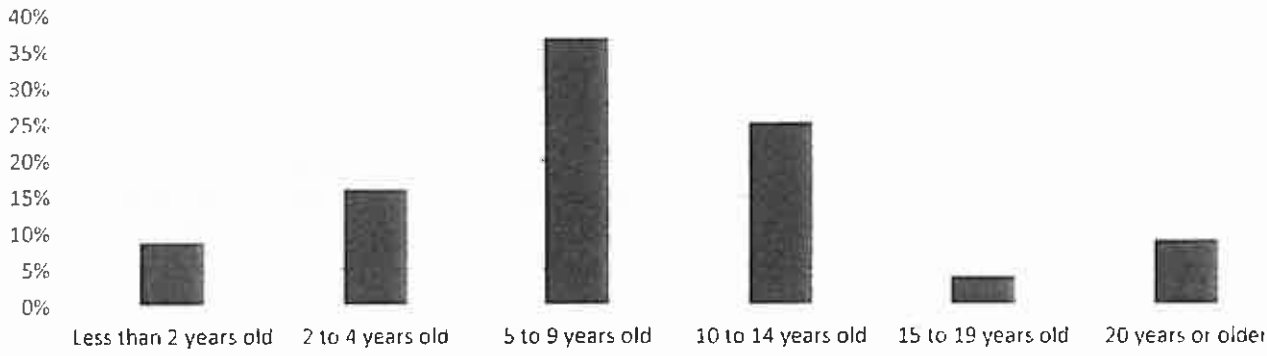


Figure 8 above shows the age distribution of central AC units in the OG&E territory. The vast majority of AC units are between 5 and 14 years old. This age range indicates potential for AC tune-up programs.

Large & Small Commercial Sector

Market adoption of energy efficiency programs is often easiest within the large commercial sector where the return on investment is shortest and provides a helpful boost to the operational bottom line of a business. That said, the Small Commercial market segment behaves more similarly to the residential market, wherein cash flow and sales are more sensitive to the prevailing market trends. While this provides a need for larger upfront inducements with smaller versus larger commercial customers, there is often a significant opportunity in terms of equipment ages and energy efficiency upgrades. In the absence of an energy efficiency program, most small commercial customers do not and cannot afford to upgrade their equipment. The following sections look at the dominant industry types, their distribution, and end-uses to assess the degree to which the portfolio design is well suited to the OG&E service area.

Commercial Facilities Summary

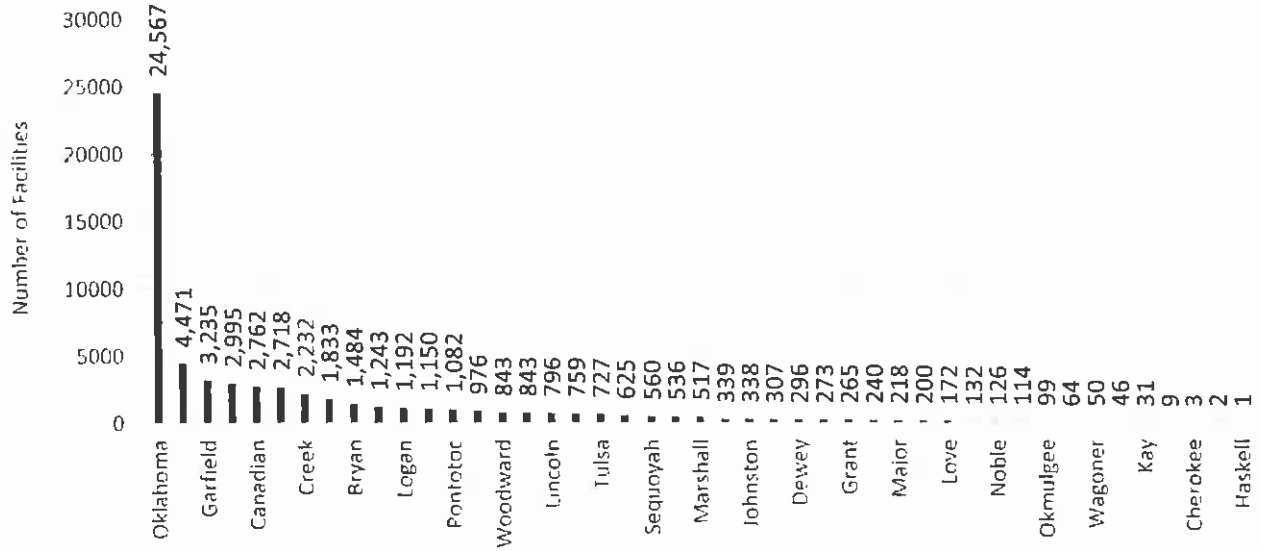
From a commercial perspective, the OG&E service area is largely dominated by Small Commercial businesses. A GIS analysis of businesses within the service area identified significant prevalence of typical small business program targets such as retail services, small offices and restaurants. Retail services and small offices make up the majority of commercial energy efficiency potential. Table 1 below provides a summary of all commercial facilities in OG&E's Oklahoma territory.

Table 5: Facility Type

Facility Type	Number of Facilities
Other Services (except Public Administration)	11,152
Retail Trade	10,299
Real Estate and Rental and Leasing	7,659
Professional, Scientific, and Technical Services	5,277
Administrative and Support and Waste Management and Remediation Services	4,975
Health Care and Social Assistance	4,949
Construction	4,863
Wholesale Trade	4,775
Manufacturing	4,131
Accommodation and Food Services	3,575
Finance and Insurance	3,473
Transportation and Warehousing	3,157
Information	3,129
Agriculture, Forestry, Fishing and Hunting	2,155
Mining, Quarrying, and Oil and Gas Extraction	1,596
Arts, Entertainment, and Recreation	1,263
Educational Services	923
Public Administration	423
Utilities	374
Management of Companies and Enterprises	171
Grand Total	78,319

Nearly all commercial facilities in OG&E's territory are concentrated in Oklahoma County as shown in Figure 9 below. Four of the next ten counties with the highest number of commercial facilities are directly adjacent to Oklahoma County. This clustering trend could improve the effectiveness of commercial energy efficiency programs.

Figure 9: Geographic Distribution of Commercial Facilities



Small & Large Commercial Facilities Maps

Data provided by OG&E was used in GIS to visualize the geographic distribution of targetable commercial facilities in OG&E's territory. All facilities were mapped by zip based on NAICS code into targetable market segments as follows:

High Impact / High Need

- Manufacturing
- Data Processing, Hosting, and Related Services
- Educational Services
- Hospitals
- Public Administration

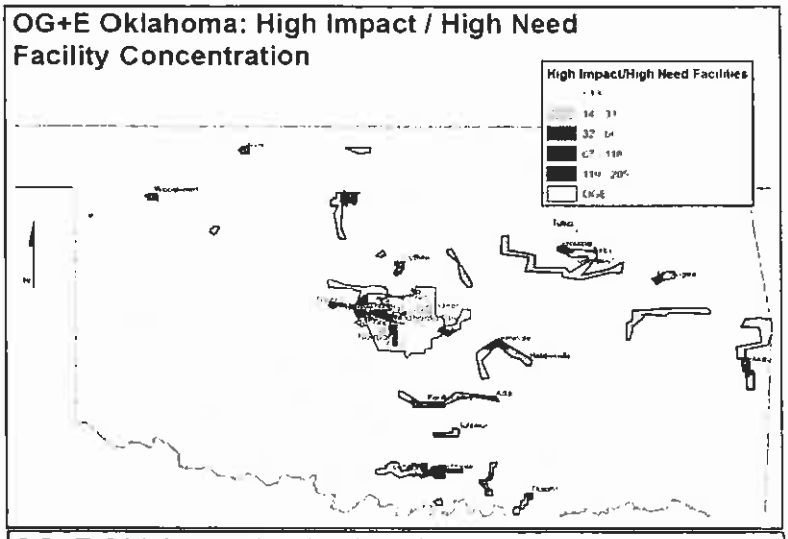
Market Providers

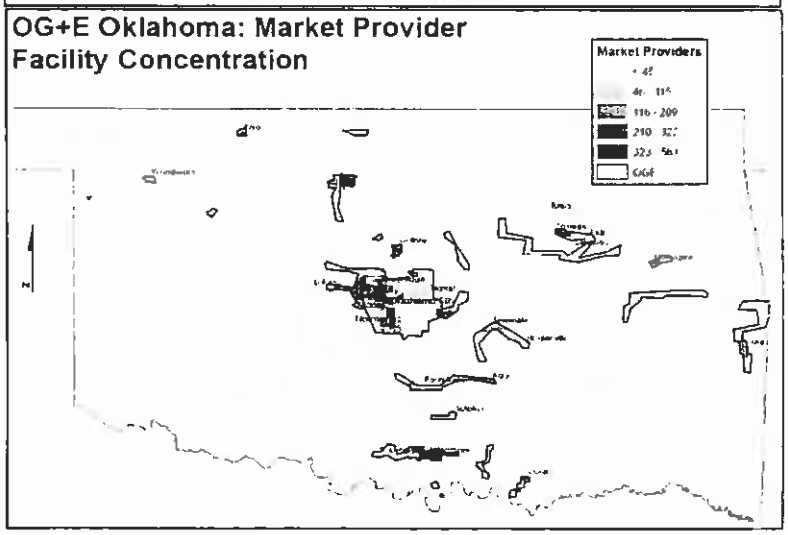
- Wholesale Trade
- Telecommunications
- Finance & Insurance
- Professional, Scientific, and Technical Services
- Accommodation and Food Services

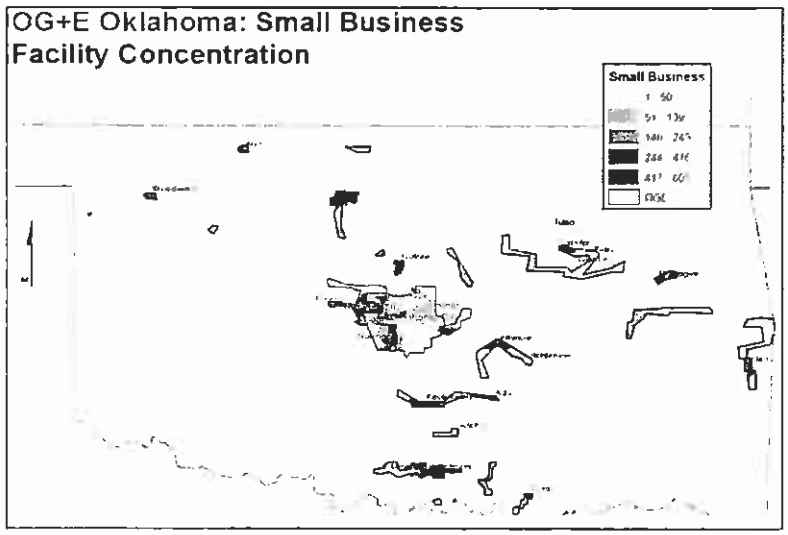
Small Business

- Retail
- Other Information Services
- Real Estate and Rental/Leasing
- Management of Companies and Enterprises
- Administrative and Support Services
- Nursing and Residential Care Facilities
- Social Assistance

The maps to the right show that both small and large commercial facilities are concentrated in the central and southern parts of the state. The density of commercial facilities in these regions could improve the effectiveness of marketing, outreach and operational efficiency. Additional locational analysis on energy use by market segment will be performed upon further review of the data.







Commercial End-Use Patterns

While the predominance of the target facilities supports the program design, it is important to also confirm that the end-uses are aligned to the selected measures. The following chart displays energy end-use data for various business types. This data was pulled from the Department of Energy's Commercial Building Energy Consumption Survey ("CBECS"). The categories with solid colors represent electric energy efficiency potential. Food sales, offices, and retail represent commercial facilities with a large potential for electric energy efficiency measures. These business types are also plentiful in OG&E's territory, indicating a strong likelihood that small commercial programs will be successful.

Figure 10: Energy Consumption by End-Use & Business Type

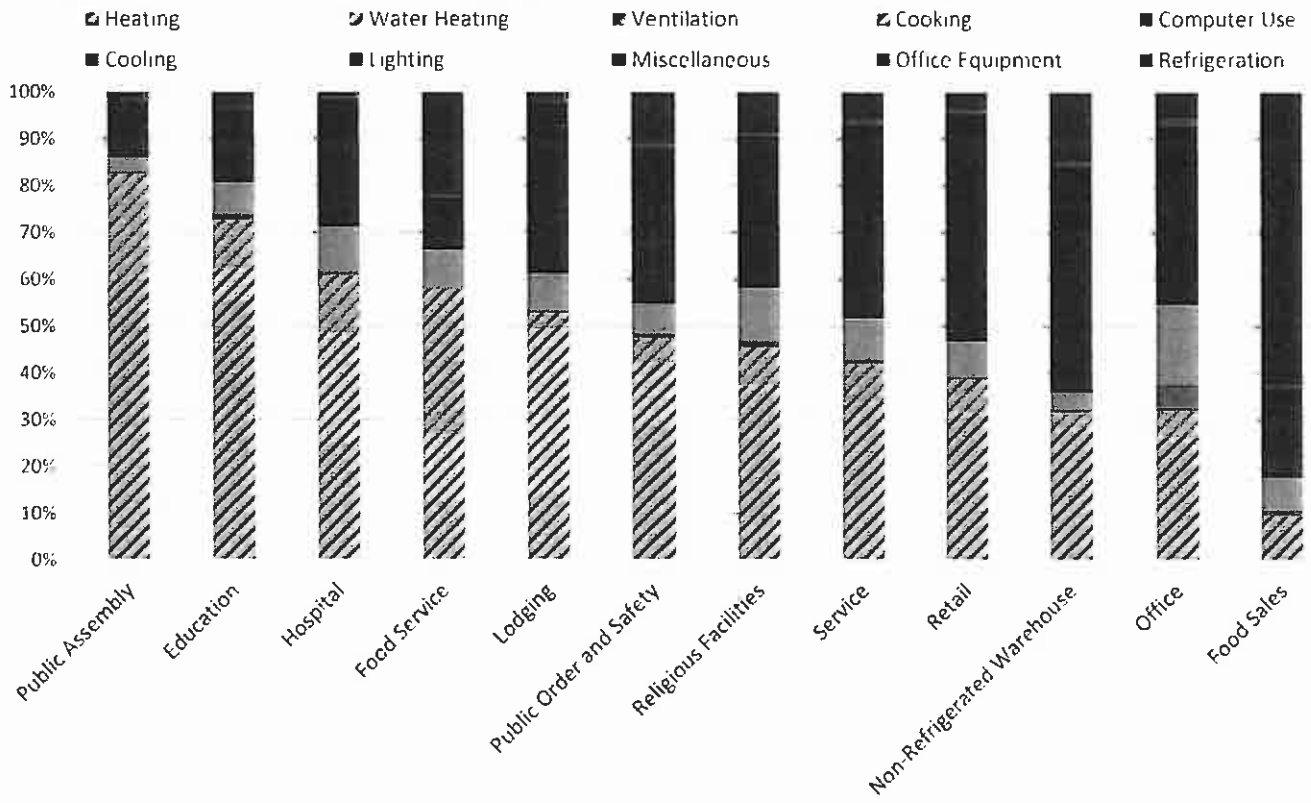


Figure A:

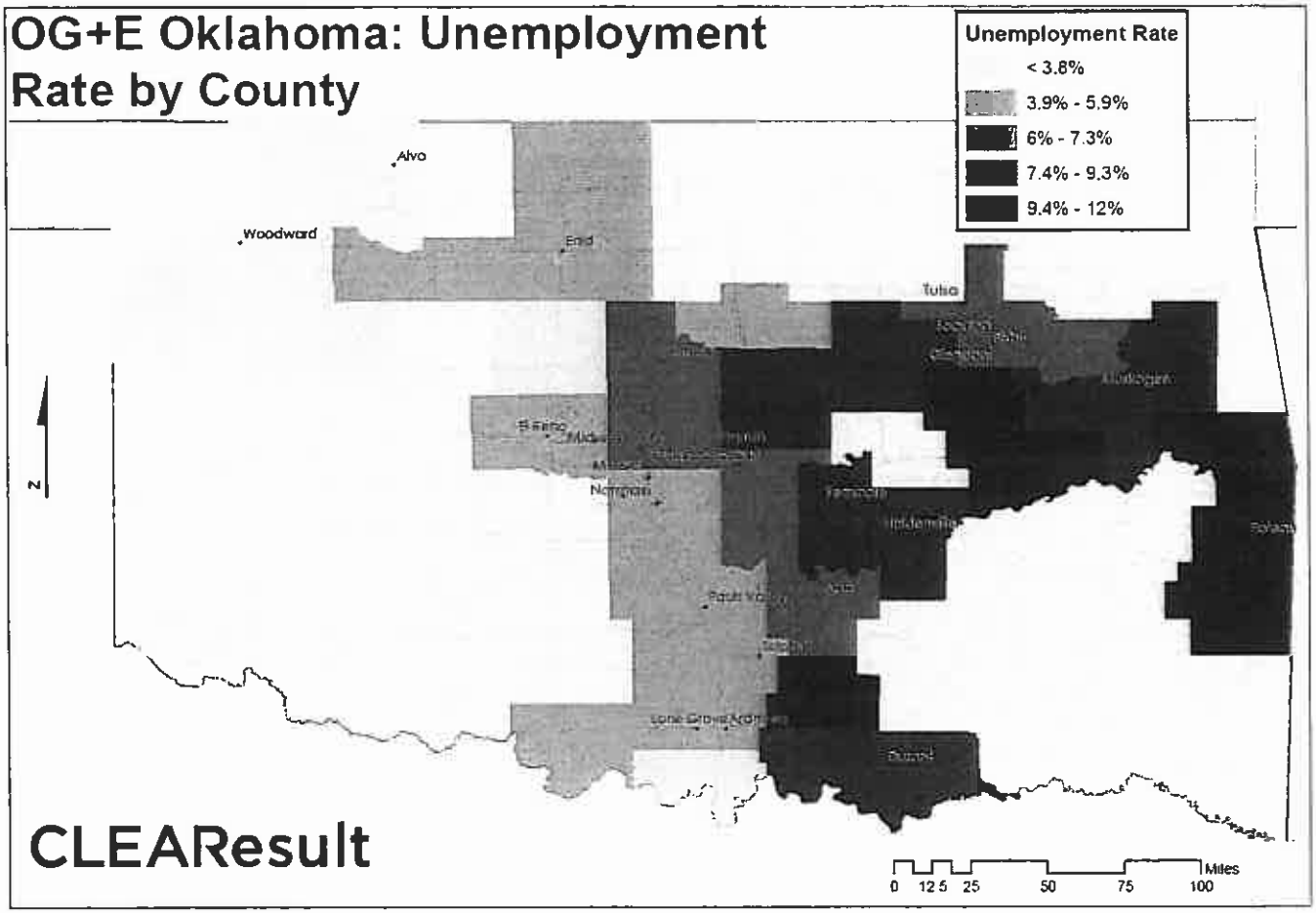

OG+E Oklahoma: Unemployment Rate by County
Unemployment Rate
< 3.8%
3.9% - 5.9%
6% - 7.3%
7.4% - 9.3%
9.4% - 12%
Alva
Woodward
Enid
Tulsa
Norman
N
CLEAResult
0 12.5 25 50 75 100
Miles

Figure B:

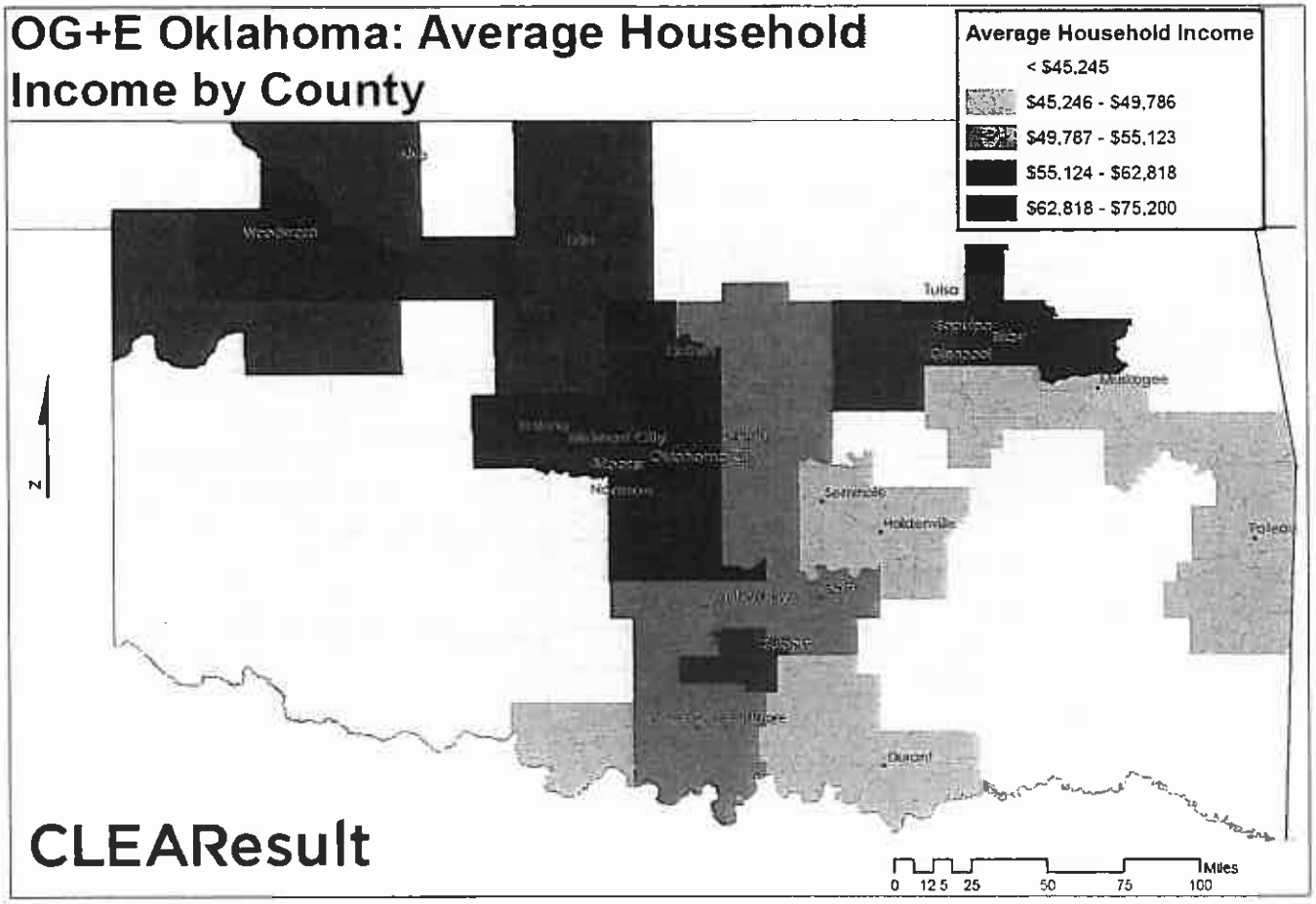
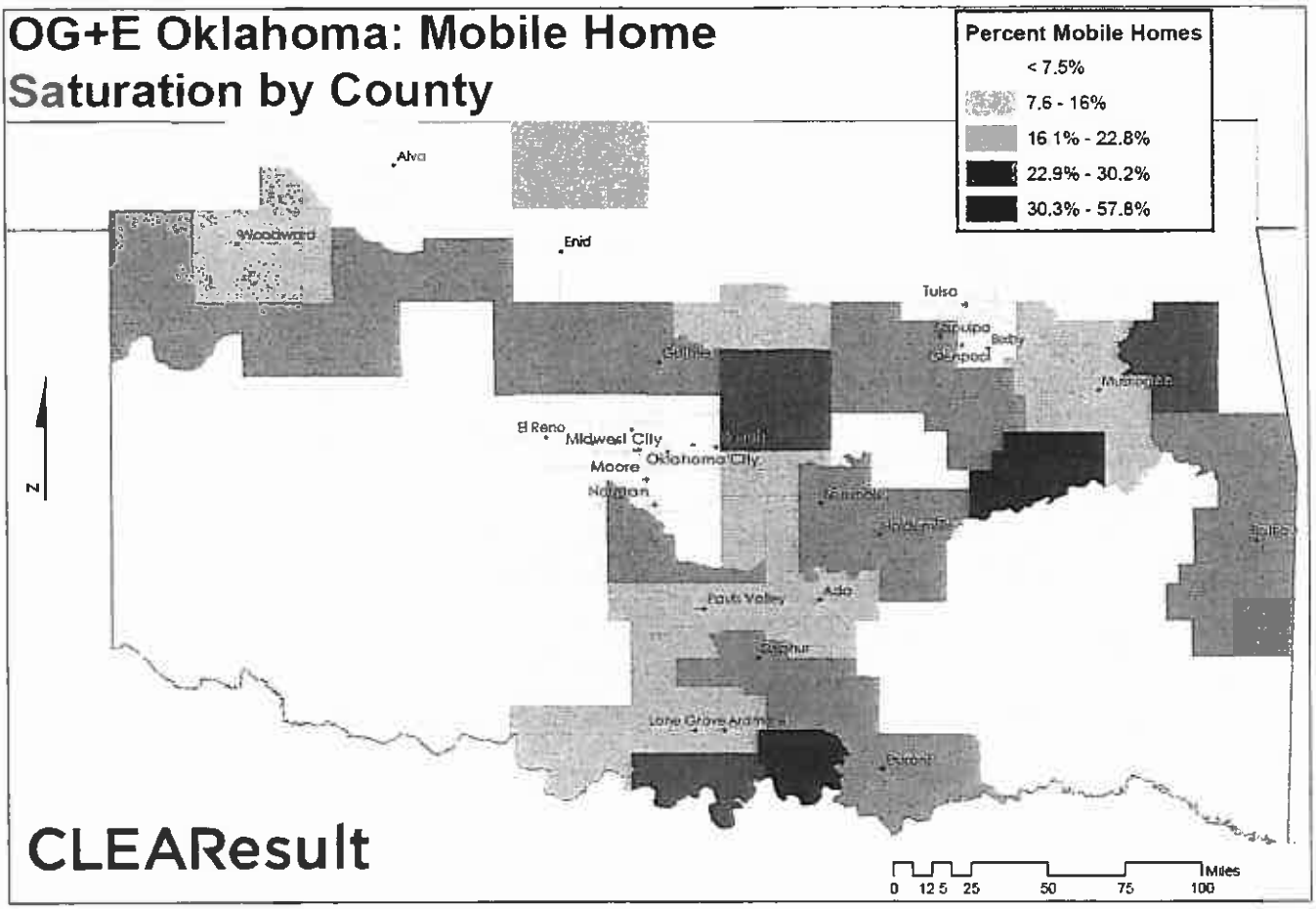

OG+E Oklahoma: Average Household Income by County
Average Household Income
< $45,245
$45,246 - $49,786
$49,787 - $55,123
$55,124 - $62,818
$62,818 - $75,200
Tulsa
Muskogee
Seminole
Holdenville
Durant
N
CLEAResult
0 12.5 25 50 75 100
Miles

Figure C:


OG+E Oklahoma: Mobile Home Saturation by County
Percent Mobile Homes
< 7.5%
7.6 - 16%
16.1% - 22.8%
22.9% - 30.2%
30.3% - 57.8%
Alva
Woodward
Enid
Tulsa
Sapulpa
Bixby
Glenpool
Muskogee
El Reno
Midwest City
Oklahoma City
Moore
Norman
Ada
Poteau
N
CLEAResult
0 12.5 25 50 75 100
Miles

Appendix B. Eligible Measures and Inducements

These inducement levels were developed to support the modeling of the Demand Program Plan, and may vary during program implementation based on the actual project criteria. The Company also reserves the right to modify inducement levels based on market conditions.

Program	Sector	Measure	Inducement ($/unit)
HEEP	Residential	Advanced Power Strips - DI	$30.00
HEEP	Residential	Advanced Power Strips - Retail	$8.00
HEEP	Residential	Advanced Power Strips - School Kit	$30.00
HEEP	Residential	Air sealing	$150.00
HEEP	Residential	Ceiling insulation R00-01	$500.00
HEEP	Residential	Ceiling insulation R02-04	$500.00
HEEP	Residential	Ceiling insulation R05-08	$400.00
HEEP	Residential	Ceiling insulation R09-14	$300.00
HEEP	Residential	Ceiling insulation R15-22	$250.00
HEEP	Residential	CFL 10W A-lamp DI	$2.25
HEEP	Residential	CFL 13W A-lamp - School Kit	$2.25
HEEP	Residential	CFL 13W A-lamp DI	$2.25
HEEP	Residential	CFL 18W A-lamp DI	$2.75
HEEP	Residential	CFL 23W A-lamp DI	$3.00
HEEP	Residential	Clothes Washer - Retail	$20.00
HEEP	Residential	Tune up - Commercial	$150.00
HEEP	Residential	Tune up - Multifamily	$75.00
HEEP	Residential	Tune up - School	$150.00
HEEP	Residential	Tune up - Single Family	$150.00
HEEP	Residential	Dehumidifier Energy Star	$20.00
HEEP	Residential	Dishwasher - Retail	$5.00
HEEP	Residential	Dryer Energy Star	$20.00
HEEP	Residential	Duct sealing	$400.00
HEEP	Residential	Ductless Heat Pump 18 SEER 9 HSPF	$1,000.00
HEEP	Residential	Faucet Aerator 1.5 gpm - School Kit	$1.00
HEEP	Residential	Faucet Aerator 1.5 gpm DI	$1.00
HEEP	Residential	Floor Insulation	$200.00
HEEP	Residential	Freezer Energy Star	$10.00
HEEP	Residential	Geothermal Heat Pump	$1,000.00
HEEP	Residential	Geothermal Heat Pump w/Desuperheater	$1,200.00
HEEP	Residential	Heat Pump Water Heater	$300.00
HEEP	Residential	Heat Pump Water Heater - Retail	$300.00
HEEP	Residential	HVAC replacement - 15 SEER 8.5 HSPF HP	$200.00
HEEP	Residential	HVAC replacement - 15 SEER AC	$150.00
HEEP	Residential	HVAC replacement - 16 SEER 9 HSPF HP	$400.00
HEEP	Residential	HVAC replacement - 16 SEER AC	$300.00
HEEP	Residential	HVAC replacement - 17 SEER 9 HSPF HP	$600.00

Program	Sector	Measure	Inducement ($/unit)[5]
HEEP	Residential	HVAC replacement - 17 SEER AC	$450.00
HEEP	Residential	HVAC replacement - 18 SEER 9.25 HSPF HP	$800.00
HEEP	Residential	HVAC replacement - 18 SEER AC	$600.00
HEEP	Residential	HVAC tune-up AC	$150.00
HEEP	Residential	HVAC tune-up HP	$150.00
HEEP	Residential	LED 10W Directional DI	$15.00
HEEP	Residential	LED 10W Directional Retail	$2.97
HEEP	Residential	LED 12W Directional DI	$20.00
HEEP	Residential	LED 12W Directional Retail	$3.96
HEEP	Residential	LED 13W A-lamp DI	$11.00
HEEP	Residential	LED 13W A-lamp Retail	$3.14
HEEP	Residential	LED 14W Directional DI	$25.00
HEEP	Residential	LED 14W Directional Retail	$5.28
HEEP	Residential	LED 18W A-lamp DI	$16.00
HEEP	Residential	LED 18W A-lamp Retail	$4.79
HEEP	Residential	LED 7W A-lamp DI	$5.00
HEEP	Residential	LED 7W A-lamp Retail	$1.16
HEEP	Residential	LED 8W Directional DI	$10.00
HEEP	Residential	LED 8W Directional Retail	$1.65
HEEP	Residential	LED 9W A-lamp DI	$7.00
HEEP	Residential	LED 9W A-lamp Retail	$1.82
HEEP	Residential	LED 9W A-lamp School Kit	$7.00
HEEP	Residential	Pipe wrap DI	$5.00
HEEP	Residential	Pool Pump Energy Star	$300.00
HEEP	Residential	Refrigerator - Energy Star - Retail	$20.00
HEEP	Residential	Refrigerator - Energy Star Most Efficient	$30.00
HEEP	Residential	Room AC - Retail	$25.00
HEEP	Residential	Showerhead 1.75 gpm DI	$8.00
HEEP	Residential	Showerhead 1.75 gpm School Kit	$8.00
HEEP	Residential	Wall insulation	$500.00
HEEP	Residential	Windows - Energy Star - replace double pane	$100.00
HEEP	Residential	Windows - Energy Star - replace single pane	$100.00
PEH	Residential	NC Residential Bronze Package HERS 65	$300.00
PEH	Residential	NC Residential Gold Package HERS 55	$800.00
PEH	Residential	NC Residential Silver Package HERS 60	$759.00
Weatherization	Residential	Advanced Power Strips - DI	$47.77
Weatherization	Residential	Air sealing	$437.87
Weatherization	Residential	Ceiling insulation R00-01	$1,034.97
Weatherization	Residential	Ceiling insulation R02-04	$1,019.05
Weatherization	Residential	Ceiling insulation R05-08	$1,003.12
Weatherization	Residential	Ceiling insulation R09-14	$987.20
Weatherization	Residential	Ceiling insulation R15-22	$971.28
Program	Sector	Measure	Inducement ($/unit)[6]

[5] These inducement levels were developed to support the modeling of the Demand Program Plan, and may vary during program implementation based on the actual project criteria. The Company also reserves the right to modify inducement levels based on market conditions.

Weatherization	Residential	CFL 10W A-lamp DI	$3.58
Weatherization	Residential	CFL 13W A-lamp DI	$3.58
Weatherization	Residential	CFL 18W A-lamp DI	$4.38
Weatherization	Residential	CFL 23W A-lamp DI	$4.78
Weatherization	Residential	Duct sealing	$995.16
Weatherization	Residential	Faucet Aerator 1.5 gpm DI	$1.59
Weatherization	Residential	Floor Insulation	$675.12
Weatherization	Residential	Heat Pump Water Heater	$955.36
Weatherization	Residential	LED 10W Directional DI	$23.88
Weatherization	Residential	LED 12W Directional DI	$31.85
Weatherization	Residential	LED 13W A-lamp DI	$17.51
Weatherization	Residential	LED 14W Directional DI	$39.81
Weatherization	Residential	LED 18W A-lamp DI	$25.48
Weatherization	Residential	LED 7W A-lamp DI	$7.96
Weatherization	Residential	LED 8W Directional DI	$15.92
Weatherization	Residential	LED 9W A-lamp DI	$11.15
Weatherization	Residential	Pipe wrap DI	$7.96
Weatherization	Residential	Showerhead 1.75 gpm DI	$12.74
Weatherization	Residential	Wall insulation	$1,910.71
CEEP	Non-residential	AC, <5.4 tons	$67.35
CEEP	Non-residential	AC, 05.4-11.25 tons	$184.05
CEEP	Non-residential	AC, 11.25-20 tons	$285.75
CEEP	Non-residential	AC, 20-63 tons	$582.60
CEEP	Non-residential	Advanced Power Strip	$11.36
CEEP	Non-residential	Chiller 10 EER, 100 ton	$2,155.35
CEEP	Non-residential	Commercial Dishwasher	$1,158.90
CEEP	Non-residential	Commercial Ice maker	$220.00
CEEP	Non-residential	Commercial Oven	$298.05
CEEP	Non-residential	Commercial Steam cooker	$1,000.00
CEEP	Non-residential	Computer power management	$12.00
CEEP	Non-residential	Cool roof - Chiller & Boiler	$294.30
CEEP	Non-residential	Cool roof - DX Coils & Furnace	$162.45
CEEP	Non-residential	Cool roof - Electric Resistance	$85.65
CEEP	Non-residential	Cool roof - Heat Pump	$106.95
CEEP	Non-residential	Custom - Compressed Air Projects	$60,934.39
CEEP	Non-residential	Custom - General Heat/Cool	$55,862.18
CEEP	Non-residential	Custom - General non-Heat/Cool	$10,473.00
CEEP	Non-residential	Custom - Industrial Process Improvement	$11,722.93
CEEP	Non-residential	Custom - VFD (Commercial)	$3,584.36
CEEP	Non-residential	Custom - VFD (Industrial, motor<250 HP)	$23,650.08
CEEP	Non-residential	Custom - VFD (Industrial, motor>250 HP)	$371,411.53
CEEP	Non-residential	Door Heater Controls	$645.60
CEEP	Non-residential	ECM evaporator fan	$139.20
CEEP	Non-residential	Electronic Defrost Control	$178.88

[6] These inducement levels were developed to support the modeling of the Demand Program Plan, and may vary during program implementation based on the actual project criteria. The Company also reserves the right to modify inducement levels based on market conditions.

Program	Sector	Measure	Inducement ($/unit)[7]
CEEP	Non-residential	Faucet Aerator 1.5 gpm	$8.10
CEEP	Non-residential	Hi Bay LED	$199.20
CEEP	Non-residential	Hi Bay T5HO	$144.00
CEEP	Non-residential	HP, <5.4 tons	$115.35
CEEP	Non-residential	HP, 11.25-20 tons	$431.55
CEEP	Non-residential	HP, 20-63 tons	$841.65
CEEP	Non-residential	HP, 5.4-11.25 tons	$265.35
CEEP	Non-residential	LED Exit Signs	$30.24
CEEP	Non-residential	LED Screw in or downlight kit	$18.00
CEEP	Non-residential	Lighting controls	$63.84
CEEP	Non-residential	Midstream LED 150W HID replacement lamp	$65.00
CEEP	Non-residential	Midstream LED 250W HID replacement lamp	$85.00
CEEP	Non-residential	Midstream LED 26W CFL pin-base replacement lamp	$8.00
CEEP	Non-residential	Midstream LED 400W HID replacement lamp	$130.00
CEEP	Non-residential	Midstream LED A-lamp	$8.00
CEEP	Non-residential	Midstream LED Directional lamp	$16.00
CEEP	Non-residential	Midstream LED Downlight kit	$20.00
CEEP	Non-residential	Midstream LED T8 Replacement lamp	$5.00
CEEP	Non-residential	Midstream T5HO 49W lamp	$3.00
CEEP	Non-residential	Midstream T8 25W lamp	$2.50
CEEP	Non-residential	Midstream T8 28W lamp	$1.50
CEEP	Non-residential	Motors	$102.30
CEEP	Non-residential	New Const Office, LPD design to 0.7	$85.41
CEEP	Non-residential	New Const Office, LPD design to 0.8	$56.88
CEEP	Non-residential	New Const Office, LPD design to 0.9	$28.44
CEEP	Non-residential	New Const Retail, LPD design to 1.2	$97.02
CEEP	Non-residential	New Const Retail, LPD design to 1.3	$64.71
CEEP	Non-residential	New Const Retail, LPD design to 1.4	$32.31
CEEP	Non-residential	New Const School, LPD design to 0.9	$73.44
CEEP	Non-residential	New Const School, LPD design to 1	$48.96
CEEP	Non-residential	New Const School, LPD design to 1.1	$24.48
CEEP	Non-residential	Night Cover	$4.80
CEEP	Non-residential	Occupancy based PTAC/PTHP controls	$80.40
CEEP	Non-residential	Parking Lot Lighting (parking structure)	$167.84
CEEP	Non-residential	Parking lot lighting controls	$81.90
CEEP	Non-residential	Pre rinse spray valve	$64.80
CEEP	Non-residential	Showerhead 1.75 gpm	$22.50
CEEP	Non-residential	Solid Door Reach-ins	$236.64
CEEP	Non-residential	Strip curtains	$257.28
CEEP	Non-residential	T8 Upgrade to HPT8 and delamp	$38.08
CEEP	Non-residential	T8 Upgrade to LED Linear	$7.84
CEEP	Non-residential	T8 Upgrade to LED Linear and delamp	$48.64
CEEP	Non-residential	Vending Misers	$162.00

[7] These inducement levels were developed to support the modeling of the Demand Program Plan, and may vary during program implementation based on the actual project criteria. The Company also reserves the right to modify inducement levels based on market conditions.

CEEP	Non-residential	Zero energy doors	$202.08

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BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF	)	
OKLAHOMA GAS AND ELECTRIC COMPANY	)	
FOR AN ORDER OF THE COMMISSION	)	
APPROVING THE COMPANY'S 2016 DEMAND	)	CAUSE NO. PUD 201_____
PORTFOLIO AND AUTHORIZING RECOVERY OF	)	
THE COSTS OF THE DEMAND PROGRAMS	)	
THROUGH THE DEMAND PROGRAM RIDER	)	

EXHIBIT MGC-2

CLEAResult Planning Model

Due to the voluminous nature of this document please contact OG&E to request a copy.

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