




**PROGRAM BENCHMARKING, COST EFFECTIVENESS TESTING, AND BEST PRACTICES
RECOMMENDATIONS OF TEXAS GAS SERVICE (TGS) ENERGY EFFICIENCY PROGRAMS**

NOVEMBER 17, 2020



PRESENTATION OUTLINE

- 
- Utility Benchmark Research
 - Cost Effectiveness Review
 - Evaluation, Measurement, & Verification (EM&V) Best Practices
 - TGS Customer Survey

UTILITY BENCHMARK RESEARCH

Research Findings

- Partnership with Austin Energy continues to be beneficial when marketing and implementing the programs. Utilities interviewed noted that working with the electric utility in the same territory will provide customers with more rebate options and better services.
- Having a third-party implementer is common among natural gas utilities, and third-party implementers help utilities with a range of activities including program implementation, data tracking, marketing, and engineering savings calculations.
- Flexibility and simple processes in the rebate application process have helped utilities achieve success in terms of reaching savings and program participation goals.

UTILITY BENCHMARK RESEARCH

Recommendations

- Continue to explore opportunities for collaboration with the electric utility to help market the programs, provide improved services, and provide rebate offerings.
- Continue to offer flexibility in the rebate application process and explore additional ways for customers to participate in the programs.
- If pursuing a food service equipment pilot program, consider offering a midstream delivery channel as well as the traditional rebate application process.
- Consider implementing a residential appliance midstream program which can connect the utility with local retailers and result in customers purchasing more energy efficient equipment as well as enhancing relationships with local retailers.
- Consider building or enhancing existing trade ally networks to improve program marketing efforts. Trade allies, such as residential contractors, often interact with customers and can be beneficial by promoting program offerings.

COST EFFECTIVENESS REVIEW

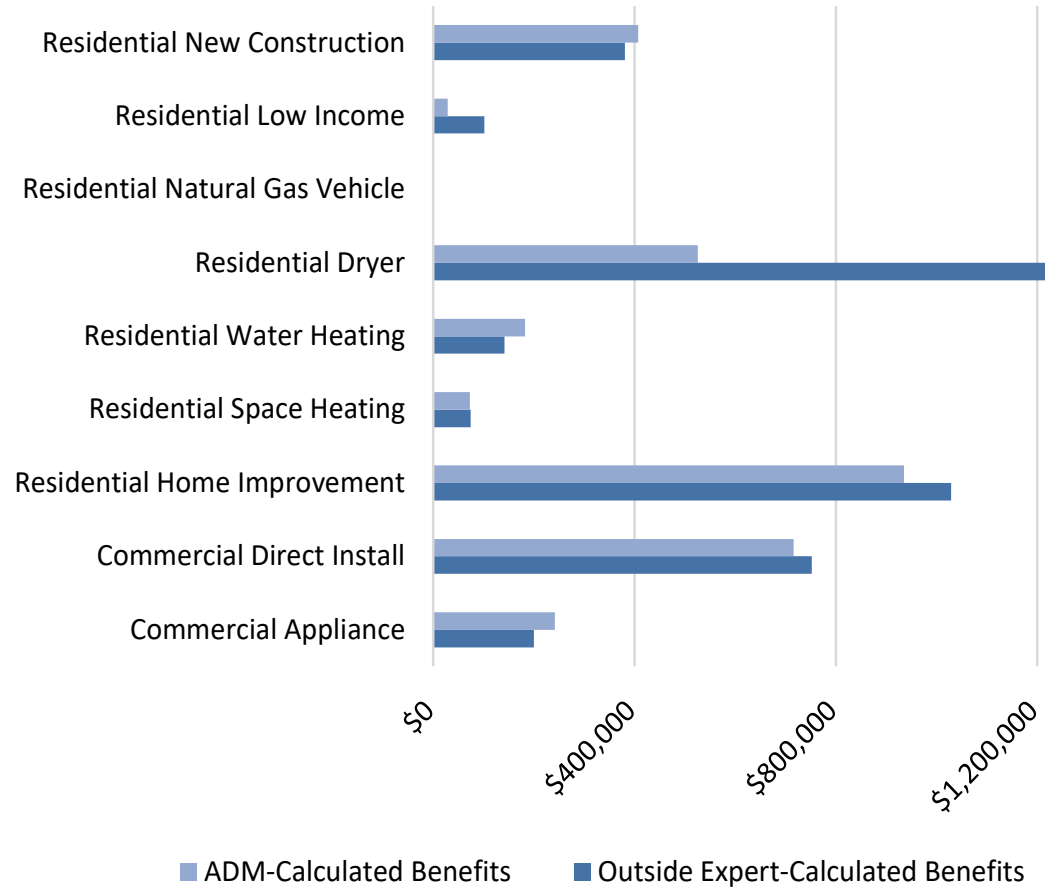
Research Findings

- Overall, the TGS outside expert and ADM cost effectiveness results were consistent and closely aligned.
- TGS outside expert appeared to use reasonable assumptions for incremental costs and equipment effective useful life (EUL).
- A review of tankless water heater installation costs for TGS and other utilities revealed that TGS customers had paid similar amounts for the purchase and installation of tankless water heaters.
- TGS incentive amounts for rebated tankless water heater installations appeared reasonable based on a comparison with Arkansas Oklahoma Gas Company, Black Hills Energy Arkansas, and CenterPoint Arkansas and Oklahoma.

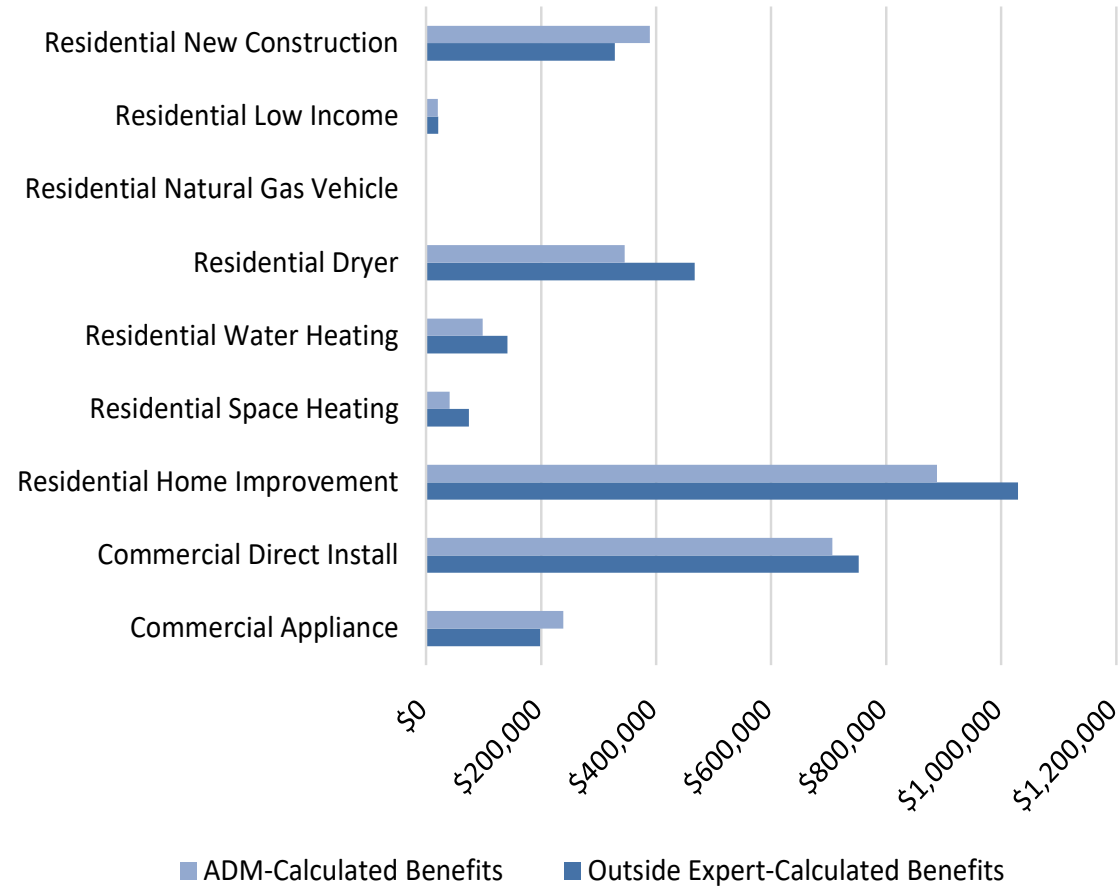
COST EFFECTIVENESS COMPARISON – 2018 PROGRAMS

TGS Program	TGS Outside Consultant		ADM	
	TRC	PACT/ UCT	TRC	PACT/ UCT
Commercial Appliance	7.42	5.81	8.38	6.99
Commercial Direct Install	4.45	4.45	4.28	4.18
<i>Commercial Sector Total</i>	<i>1.99</i>	<i>1.96</i>	<i>2.00</i>	<i>1.95</i>
Residential Home Improvement	2.57	2.58	2.40	2.23
Residential Space Heating	0.55	0.75	0.59	0.41
Residential Water Heating	0.67	0.41	1.21	0.28
Residential Dryer	1.42	1.88	2.57	1.39
Residential Natural Gas Vehicle	0.00	0.00	0.00	0.00
Residential Low-Income	1.28	0.08	1.46	0.07
Residential New Construction	0.78	0.46	1.23	0.54
<i>Residential Sector Total</i>	<i>1.11</i>	<i>0.80</i>	<i>1.25</i>	<i>0.69</i>
Portfolio Total	1.24	0.98	1.42	0.89

COMPARISON OF TRC BENEFITS



COMPARISON OF PACT/UCT BENEFITS



COST EFFECTIVENESS REVIEW

Recommendations

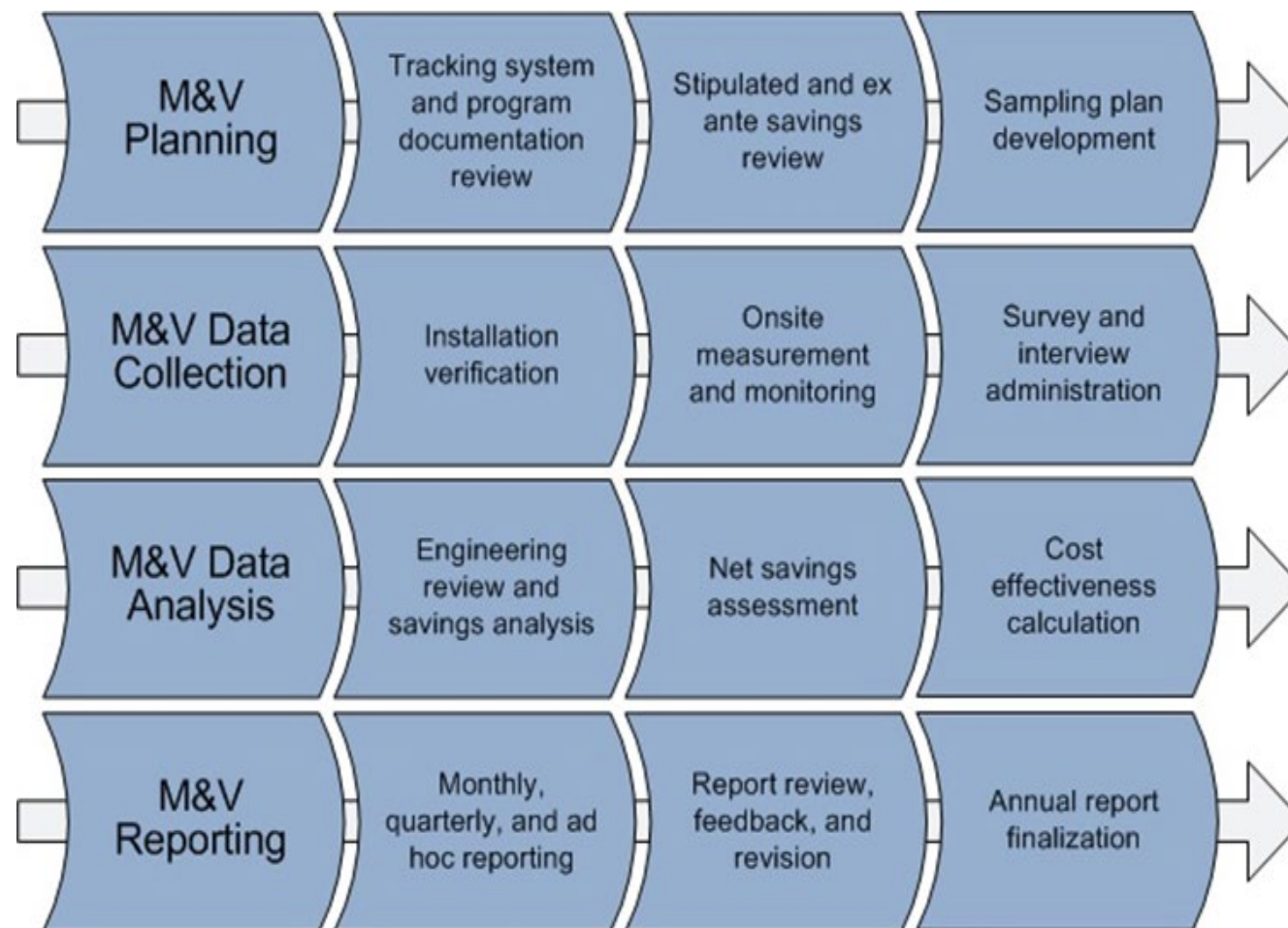
- Consider lowering the incentive for residential replacement tankless water heaters; a reasonable rebate amount would be in the \$500 range.
- Consider partnering with residential contractors who perform tankless water heater installations; this would help promote the program and further educate contractors and customers as well as increase participation in the water heater program.

EM&V BEST PRACTICES

Impact Evaluation Best Practices

- Develop EM&V plans;
- Review program materials and tracking data systems to support client deliverables;
- Develop samples for field EM&V and impact analysis;
- Collect on-site survey and EM&V data for sampled projects;
- Develop simple engineering algorithms for non-weather-sensitive measures and programs with smaller impacts, drawing on deemed savings values (as appropriate);
- Develop building energy simulation models for weather-sensitive measures within high impact programs (as appropriate);
- Perform billing analysis (as appropriate); and
- Present impact evaluation findings through written reports.

IMPACT EVALUATION ACTIVITIES



EM&V BEST PRACTICES

Process Evaluation Best Practices

- Providing feedback for the programs from the perspective of customers, trade allies, program administrators and other stakeholder groups.
- Performing market research to support program decisions about measures to offer, markets to target, and program implementation strategies.
- Providing actionable findings and recommendations that can positively impact the utility's programs.

TGS CUSTOMER SURVEY

Research Findings

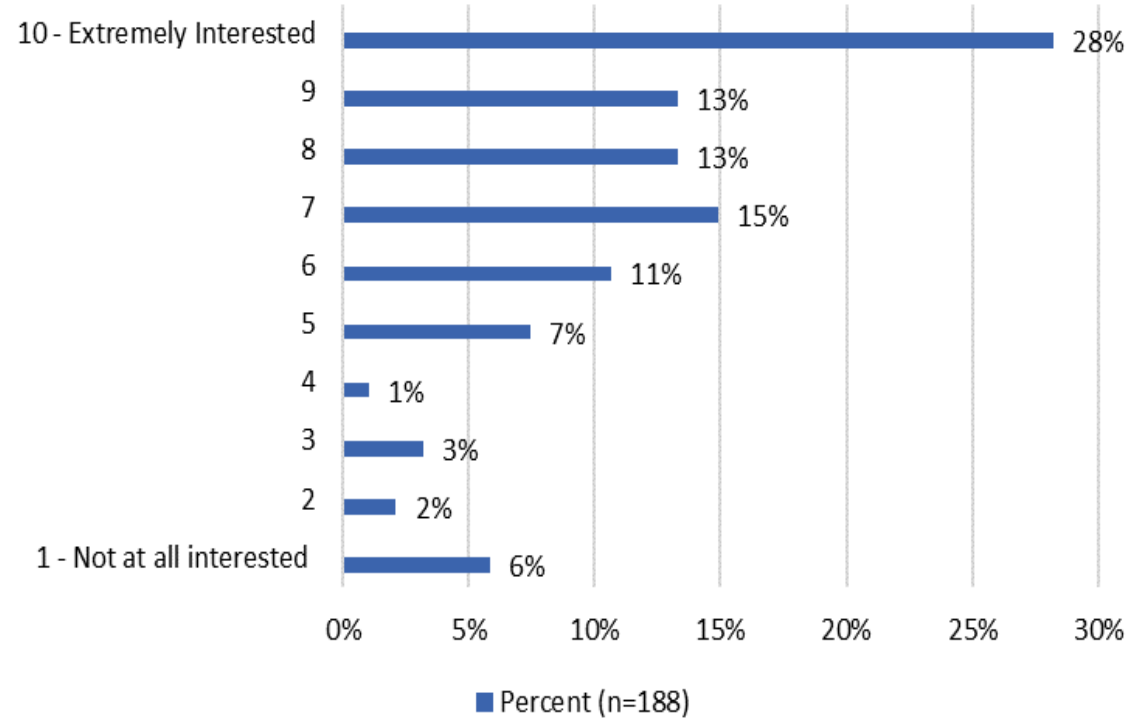
- Generally, customers are not aware of the rebates provided by TGS. For residential and non-residential customers, over fifty percent of respondents were unaware of the rebate programs offered.
- The majority of residential customers who had learned of the rebates or services learned of them through email or mail sources.
- Most of the non-residential customers who knew about the rebates learned about them through informational brochures and the TGS website.
- The majority of residential customers were interested in getting additional information on energy savings tips and energy efficiency rebate programs.
- Generally, non-residential customers have not upgraded or replaced natural gas equipment in the last three years and do not expect to receive a rebate from TGS for future replacements.

PROGRAM REBATE AWARENESS AND INTEREST IN ENERGY EFFICIENCY – RESIDENTIAL CUSTOMERS

Response	Percent (n = 175)
Yes	27%
No	73%

Response	Percent (n = 116)
Very Interested	26%
Moderately interested	39%
Slightly interested	23%
Not at all interested	12%

INTEREST IN HOME'S ENERGY EFFICIENCY – RESIDENTIAL CUSTOMERS



TGS CUSTOMER SURVEY

Recommendations

- TGS should increase marketing of equipment rebates due to the lack of rebate awareness that customers reported.
- Marketing should be aimed at residential customers due to their interest in energy efficiency programs and actions. Contacting these customers can best be done via utility bill inserts, the utility website, or email communications.
- Since respondents have been purchasing and installing natural gas equipment, TGS should consider implementing a midstream program. Conducting a midstream program can connect the utility with local retailers and enhancing that relationship, as well as resulting in customers purchasing more energy efficient equipment and raising customer awareness of TGS programs.
- All non-residential customers who responded stated that they have not upgraded natural gas equipment in the last 3 years. This could be due to a lack of energy efficiency education, or lack of outreach efforts by the program implementor.



QUESTIONS?