

Gas Energy Efficiency for Strategic Load Growth & Retention

Customer-funded natural gas energy efficiency (EE) spending via utility EE programs has risen from approximately \$300 million per year in 2006 to approaching \$1.5 billion today. While this is an impressive amount, it pales in comparison to the more than \$6 billion in electric EE spending that is increasingly becoming oriented toward electrification of thermal loads. With this in mind, it is time for gas companies to ask themselves a critical question: Can gas EE be used as a strategic opportunity to grow and retain load, including in some cases, an approach to fending off load attrition due to EE incentives provided by electric companies?

Sales & Marketing in a Competitive Environment

Natural gas utilities face a competitive business environment given that their customers have direct alternatives, including propane, heating oil (in some parts of the country) and increasingly, electricity. It is this last alternative that may bring the greatest competitive threat to gas companies and one that provides a basis for a more strategic view of energy efficiency.

Traditionally, gas EE has been seen as a regulatory expenditure that provides incentives to use less natural gas, further compounding the trend of declining use per customer as gas equipment and building envelopes both get more and more efficient. But, this is too limiting a point of view for gas EE. In a typical competitive business, there is a cost to both acquiring and retaining customers. These customer acquisition and customer retention costs are viewed as investments that provide a revenue stream from the customer, hopefully a long-term stream. In the context of gas utilities, a new frame of reference for thinking about EE expenditures might be in order:

consideration of EE dollars spent in the context of the lifecycle value of a customer in terms of revenue and earnings.

What this means for a gas utility is targeting some portion of customer-funded EE programs to help acquire new loads and retain existing ones. This approach has two important implications:

- **Adding New Customers and Load:** Gas utilities should consider expenditures to make new potential loads more financially attractive than other fuel sources as a cost of acquiring new load; and then, gas utilities should value the acquisition cost vs. the revenue or margin value of the new load.
- **Retaining Existing Loads:** Gas utilities should consider the reduction in load due to an EE program to be the retention cost of keeping the remaining load; gas utilities should value the retained load vs. the cost of the reduction associated with EE.

It is critical to keep in mind that this new application of EE expenditures is made in the context of benefit for all customers – that is, the acquisition and retention costs create additional load, which benefits all customers by spreading fixed costs over more gas throughput, which in turn lowers costs to all customers.

A Residential Water Heating Example

Consider the example of a high efficiency gas water heater rebate program from a customer acquisition or customer retention perspective.

An existing customer with a typical 0.59 energy factor (EF) gas water heater uses approximately 154 therms¹ of gas per year to operate that water

¹ All consumption-related calculations are derived from the 2016 Northeast Energy Efficiency Partnerships Mid-Atlantic Technical Reference Manual, pp. 187-189.

TAKING IT TO SCALE


For one gas utility client, MCR recently undertook an exercise in strategic energy efficiency planning. Our results indicated that a modest and fully recoverable investment in a diverse, cost-effective energy efficiency initiative, targeted specifically at customer and burner-tip acquisition and retention, could engage loads equivalent to approximately 5% of total throughput at an acquisition and retention cost of only 10% of the targeted load.

customer and the potential for 146 annual baseline water heater therms of load to another fuel.

This type of analysis and logic can be applied to virtually any end-use technology or market sector to fully develop data on EE gas savings as acquisition and retention costs, again at the customer, end-use and burner-tip level.

A Strategic Approach to Gas EE

This new perspective on gas EE strongly suggests the need for a more strategic approach to EE planning. To develop a portfolio of customer-funded energy efficiency programs specifically as a set of strategic load growth and retention tools, starts with a clear objective, a strategy and a business case from the utility, not the regulatory, perspective. Elements of the strategy and business case should include identification of the right types of customers and the right end-uses to pursue or protect; most desirable geographic locations for particular loads given their load profiles; and the costs and benefits for the utility, its customers and its investors.

In MCR's experience working with gas utilities, success with this new approach requires analysis in conjunction with alignment across many functional areas of the company, including energy efficiency, strategic planning, finance, regulatory, sales and marketing, load forecasting, and distribution planning. While it may be easier to just stay the course and view EE as a necessary response to a regulatory requirement that reduces load, a strategic view of EE offers the possibility of doing much more – namely, preserving or growing the use of natural gas, and therefore throughput, revenue and earnings, in the face of competition. 

heater. If that customer is tempted to replace the gas water heater with a competing technology (e.g., an ultra-high efficiency heat pump electric water heater backed by significant electric utility and manufacturer rebates), a gas utility rebate would likely induce the customer to stay with gas and a new 0.67 EF high efficiency water heater consuming 135 therms per year. The 19 therms per year in savings is, in reality, the utility's customer retention cost to preserve 135 therms per year of gas load, rather than lose the whole 154 therms associated with the existing water heater, whose useful and expected life is partially expired anyway.

As a second example, at the time of new construction, providers of competing energy sources offer customers choices and likely a variety of incentive packages. A modest gas utility rebate to induce selection of a 0.67 EF high efficiency gas water heater rather than a baseline 0.62 EF unit would result in savings of 11 therms per year to the consumer. For the gas utility, this 11 therms per year could be viewed as the acquisition cost to gain 135 therms of new load each year rather than lose the

MCR Performance Solutions was founded in 1999 on the principle our clients deserve the industry's best insights delivered through the highest quality and innovative solutions. We are a boutique consulting firm with seasoned professionals providing specialized advice in areas such as:

Energy Efficiency

- Strategy & Program Design
- Process & Data Management
- Program Implementation

Regulatory

- Strategic Analysis
- Rate Design & Cost Analysis
- Regulatory Filings

Financial Advisory

- Financial Forecasting
- Enterprise Risk Management
- Strategic planning
- Capital Allocation

Learn more at <http://www.mcr-group.com/energy-efficiency>

Contact us: Ed Schmidt eschmidt@mcr-group.com (203) 427 • 1115