Driving Adoption of Marginally Cost Effective Measures through Customer Copay

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ABSTRACT

New energy efficient technologies that offer a path to substantial net energy savings need to make their way into the market at scale. In essence, we need to identify the next "CFL" and determine how to get those technologies into the market with greater speed.

This paper discusses a successful experiment that integrated newer, marginally cost effective technologies—from a TRC standpoint – into a residential efficiency direct install program. It gives details about working with residential customers by integrating a copay offer into a traditional free energy assessment/direct install program, including key lessons learned about customer behavior and willingness to pay for the majority of costs for smart thermostats and LED lighting. Key lessons on the roles played in marketing, messaging, and customer segmentation will be highlighted. Readers and attendees will learn about potential measures that fit into this scenario, and how one utility program made a copay offer attractive to its utility customers.

The paper will place this new technology push into context through a discussion of the national market share for new products, notably smart thermostats and LEDS, and explore trends across North American utility programs in terms of where these measures are positioned from a TRC, and core portfolio offering standpoint.

Introduction

As is the case for any successful long term business, leaders of energy efficiency programs need to continue looking over the horizon for what is next in terms of new measures and practices that can keep their programs cost-effective, while meeting the demands of customers. This is particularly true for residential programs, as there is often a limit to the number of efficiency measures/services offered that are cost-effective. This has caused utilities to rely heavily on those that are, such as CFLs, to meet their residential energy and demand goals.

Key measures, like CFLs and programmable thermostats, provided safety nets for many program managers for a time, but success – in terms of increasing marketing share – continues to force us to look to the next group of technologies that are often more complex. Finding the next generation of measures to continue driving energy efficiency programs can be challenging due to three main reasons: 1) uncertain savings or the regulatory treatment for the measure in a state or region's technical reference manual, 2) whether the measure is valued based on first year or lifetime savings, and 3) cost.

In this paper, we discuss the challenge of looking for the next CFL and programmable thermostat in a residential direct installation program, and how an Illinois-based program team used customer copays to create a bridge that allows the program to reduce reliance on these key measures, and successfully introduce newer, but currently more expensive, technologies that we believe will be in increasing demand by customers as the program continues to mature.

LED prices have reduced steadily, but are not yet to the point where they could be cost effectively incorporated as part of a free direct install program delivery model. This also depends on how the measures are treated in a state or region's technical reference manual (TRM). Given the long term promotion and success of stable utility energy efficiency programs, CFLs, on the other hand, have been experiencing a downward trend on deemed savings. As market share of CFLs increased, deemed savings decreased. Even though CFL prices are relatively stable, the year-over-year savings reduction was impacting the cost-effectiveness of the measures. In the near term, CFLs will still remain the dominant lighting solution for residential applications. However, incorporating a copay on LEDs would help the program make the transition from CFLs to LEDs in residential programs.

Smart thermostats offer the promise of energy saving benefits, however in Illinois there were no agreed upon gas or electric savings. Due to high level of interest from key stakeholders and regulators, Illinois utilities began pursuing different implementation tracks to incorporate smart thermostats into their plans. Given the high product cost and the push from stakeholders to implement smart thermostats, a copay option was necessary to limit the impact on program budgets. Surrounding states treat newer technologies differently. Michigan, for example, provides a "market transformation multiplier" which doubles savings for new measures such as LEDs. This is not the case in Illinois and programs have to adjust to this limitation while continuing to drive innovation and newer technologies. This case study will review how implementers of a large scale residential program in Illinois used a customer copay to introduce LEDs and smart thermostats into the program.

Program Overview

The copay offering for LEDs and smart thermostats was developed to support a jointly delivered home assessment and direct installation program with ComEd, Peoples Gas, and North Shore Gas which serves the Chicago Metropolitan area including the City of Chicago up through the northern suburbs. Franklin Energy serves as the implementer of the joint residential program, along with the administrator for the Peoples Gas and North Shore Gas Natural Gas Savings Program portfolio. Many of the planning activities regarding messaging and marketing were done in collaboration with both utilities.

Prior to the copay offering, this program was offered at no cost to the customer. The program design was intended to be a low-barrier introduction to energy efficiency for residential customers needing personalized guidance on where they can improve their home's efficiency. Along with a free energy assessment, customers receive free products installed by skilled energy advisors so they begin saving energy immediately.

The free products include CFLs, programmable thermostats, showerheads, kitchen and bathroom aerators, and pipe insulation. With the addition of copay products, CFLs and programmable thermostats are still available to customers at no cost, but customers now have additional options of discounted LEDs and a smart thermostat. Customers are offered the following copay products:

- 40W replacement A19 style LED - $3 per bulb
- 60W replacement A19 style LED - $3 per bulb
- 75W replacement A19 style LED - $10 per bulb
- 100W replacement A19 style LED - $10 per bulb
- 40W replacement candelabra style LED - $5 per bulb

- 65W replacement flood style LED - $7 per bulb
- ecobee3 Smart Thermostat - $150 per thermostat

The LEDs were launched at the beginning of the program year (June 2015) while the smart thermostats were launched two months later in August 2015. This phasing was put in place to ensure that the copay offering had stabilized before incorporating the more complex smart thermostat product.

Customer Interest in Copay Products

Collecting a copay from customers creates a path for a next generation of measures needed to continue growing the program cost effectively, and provides additional savings and opportunities for the program. However, it would not deliver those benefits unless there was a strong customer appetite for discounted products. To help validate the assumption that there would be customer demand, the program team leveraged a customer focus group.

In November 2014 the team began planning the focus group, to be held in January 2015, which would collect customer input on key questions regarding the program. The focus group was made up of ~70 Chicago-area homeowners split into groups of "Adopters" (those having completed the program in the past), "Rejecters" (those that know about the program but have chosen not to participate), and "Unaware" (those that have not heard about the program). Feedback from each of these groups would allow us to hear different points of view on each of the topics.

One of the key areas of focus was the potential of incorporating discounted products that allows customers to make a copayment toward the purchase and installation of higher priced energy saving products. Specifically, the focus groups were gauged for interest in a copay for both LEDs and smart thermostats. Here are the summary statements and sample customer quotes from the focus group findings:

- Homeowners who were aware of LED lighting recognized that they are more expensive than CFLs. Many had not purchased LED lights because of the cost. However, homeowners are willing to share in the cost of LED lights as an upgrade over free CFLs:
    - *"I would understand if I would have to meet them halfway on LEDs or if there was some kind of cost. As long as it was reasonable for me, I would still take part in it."*
    - *"I'm guessing as the price comes down on those we will get them. Maybe then they'd be able to include LEDs instead of the CFLs or in addition to the CFLs, but with some kind of copay."*
- Other individuals either did not know about smart thermostats or had not converted to them because of the cost. As with LED lighting, homeowners would be willing to pay something toward the cost of the smart thermostat if they wanted to upgrade from the free programmable thermostat.
    - *"I was looking at buying one and I think it was $199, so I'd pay $100."*
    - *"I would pay 60% of the cost."*

It was clear throughout the different focus groups that customers understood the reason for needing a copay (higher priced products), and that they were willing to cover half of the purchase price for the convenience of the service. The program team went into the focus groups

with an assumption that there would be customer demand for utilizing a copay on higher priced products. The results of the focus groups validated those assumptions and did not provide any evidence that customers would not adopt this service.

New Capabilities

Once the decision was made to move forward with introducing copay options on LEDs and smart thermostats, the program team worked to identify how these new offerings would provide additional capabilities to implement the program. Multiple opportunities were uncovered that would lead to greater customer participation and more effective customer targeting.

For the two years prior to introducing the customer copay products, the residential direct install program had remained relatively consistent in service and products offered to customers. By introducing new products that carried a higher degree of customer interest, the program could experience a boost in interest and continue to grow. This would then lead to higher customer participation and increased word of mouth referrals based on the new products.

Additionally, the key message in program marketing has historically been centered around free products. This message targeted customer demographics that would be more apt to the free service messaging. With this introduction to a new customer segment, those interested in higher-end products and willing to contribute to the product costs could be introduced to the program. This new customer segment would drive additional participation, but it also provides the program with opportunities to target the messaging and tactics to the two different groups.

Implementation

Focus on the Customer Experience

The first step in implementing the copay solution was to consider the customer experience and understand their point of view. What would it take to make them willing to pay for discounted products at time of service? As was our experience when the program was free-only, there is a certain level of trust that must be developed in order for a customer to believe and participate in the program. This is more the case when the program is asking customers to pay at least a share of the cost for certain products.

With this backdrop, the key ways we can develop this trust are:

- Upfront marketing and messaging – ensure that the in-home discussion with an energy advisor was not the first time the customer heard about the offering. Provide marketing collateral, campaigns, and messaging that introduce the offerings prior to the in home experience.
- In-home staff messaging – coach energy advisors on providing options and showing value to customers, rather than creating a sales mentality. Customers need to view the program staff as trusted advisors who will act only in the customers' best interest.

These were the critical factors that needed to be addressed pre-launch in order to ensure a successful roll out.

Preparing for the Launch

To address the above factors, the team worked to maximize customer awareness of the offerings prior to the service, and to ensure that the in-home experience with our energy advisor was positive.

For marketing collateral, the team understood that there were two objectives. First, we needed to highlight the value to customers so that they could make the appropriate purchase decision during the appointment. The customers have to make the decision to get either the free products (CFLs and programmable thermostats) or the discounted products. We eased this decision making process by developing two comparison documents for each copay product offering: a CFL/LED comparison sheet and a programmable/smart thermostat comparison sheet. Each one showcased the different features and benefits of the free and discounted products so that the customer could make an educated decision between the two options. Second, we needed to build awareness of these new offerings. These comparison sheets were posted online, linked in appointment confirmation and reminder email notifications, and were provided to our energy advisors as a reference in the home.

For the customer's in home experience, the program team developed new steps of service for all energy advisors follow. The new version integrated when and how the discounted products should be brought up with the customer:

- Include it as part of the service overview. Let the customer know there are options and provide them with collateral to review. However, at this time do not press for a decision (though some customers would indicate quickly whether or not they were interested).
- Instead, begin the assessment part of the service and continue to highlight opportunities (*"it looks like you qualify for the smart thermostat"*, or *"these dimmable fixtures are great with LEDs since CFLs are not compatible with dimmers"*). At this time the energy advisor also highlights the convenience factor – they have the product on hand and will install it for the customer. This saves the customer the time and hassle of doing it themselves as an added value.

Integrating these statements into the upfront assessment provides customers with an understanding of the tangible benefits of the discounted products, thus increasing their comfort level with the purchase decision. The final decision is only requested after customers get a few moments to consider the discounted products.

Program Launch – Identify Key Lessons

The launch of the copay offering lasted about three months until a steady state was reached. We considered steady state to be a point where all staff were comfortable with the offering and maximizing its potential, that feedback we were collecting from customers and staff became consistent, and key lessons were already adopted into the process.

During the initial launch period there was a significant focus on listening to customer feedback, learning from our experiences, and incorporating new best practices into program delivery. Feedback primarily came from our energy advisors who relayed customer feedback and added their own experiences, as well as additional information gathered from the contact center representatives, outreach coordinators, and customer survey cards. This feedback was consistently reviewed and incorporated into how the offering was messaged and delivered to our customers. Some examples learned during the initial program launch period:

- When comparing the CFLs to LEDs, customers wanted to know the difference in savings. Initially, the energy advisors would show each customer the savings estimates using the tablet-generated customer recommendation report. Energy advisors would enter all lighting opportunities as CFLs, then as LEDs, and compare the estimated savings for customers. This was quickly identified as an area for improvement and the CFL/LED comparison sheet was updated with an "Annual Savings" column next to the cost per bulb. With this information, customers could see that their payback was always one year or less for LEDs.
- The energy advisors quickly identified that the dimming capability of LEDs was an important decision factor. As CFLs cannot be installed on dimmer switches without causing quality/reliability issues, the LEDs are the only energy efficient option for customers. Prior to LEDs, energy advisors would need to identify dimmer fixtures and then communicate to customers that the CFLs could not be installed on those fixtures. Savings were missed and customer satisfaction was impacted. Now with LEDs, the energy advisors turned this feature into a key talking point – if customers want to install an energy efficient bulb in a dimming fixture then LEDs were the best option.
- The installation of smart thermostats is more complicated and can take more time to complete a home, especially when multiple thermostats installed. We knew that time in the home needed to be monitored closely since taking too long at one appointment can disrupt the customer's day if expectations are not set properly. It can also cause the energy advisor to be late for the next appointment. Based on energy advisor feedback, the main factor contributing to the number of thermostats installed and time in the home was the home's square footage. Based on this feedback, we updated the contact center script and process to ask for home square footage at the time of scheduling. This information helped set expectations with the customer on appointment duration and was incorporated into the dispatch of individual daily schedules.
- Overall, the key lessons that had the greatest impact on customer adoption were the experiences that the energy advisors was able to share with their customers. Each of our energy advisors had the same smart thermostat and LEDs installed in their personal homes. This was done to ensure they were familiar and comfortable with the products, and that they could personally communicate the benefits of the products. While not the only factor, this was often found to be the final determining factor for customers who were on the fence. Hearing the energy advisors' personal experience with products and having them answer specific questions builds trust with our customers and gives them the confidence to make their decision.

Program Launch – Monitoring Customer Participation

Prior to program launch there was no information available to help predict what the customer adoption of copay measures would be. For the first time, this program – a historically free direct install offering – was asking customers to pay for a product in the home. The first few months of the offering would help answer some key questions, such as:

- What is a reasonable participation rate for copay LEDs and smart thermostats?
- How much is a customer willing to pay towards these products?
- Would the copay LEDs have a detrimental impact on free CFLs?

In the first few months of the program year, the overall program results for both LEDs and smart thermostats are as follows:

- **LEDs:** As seen in Figure 1 below, 17% of customers purchased LEDs, and of those they averaged 10-11 bulbs per purchase. This was temporarily boosted in August as a result of direct marketing, focused on LEDs, throughout the utility territory, thus increasing the number of customers purchasing LEDs and the overall number of LEDs per customer.

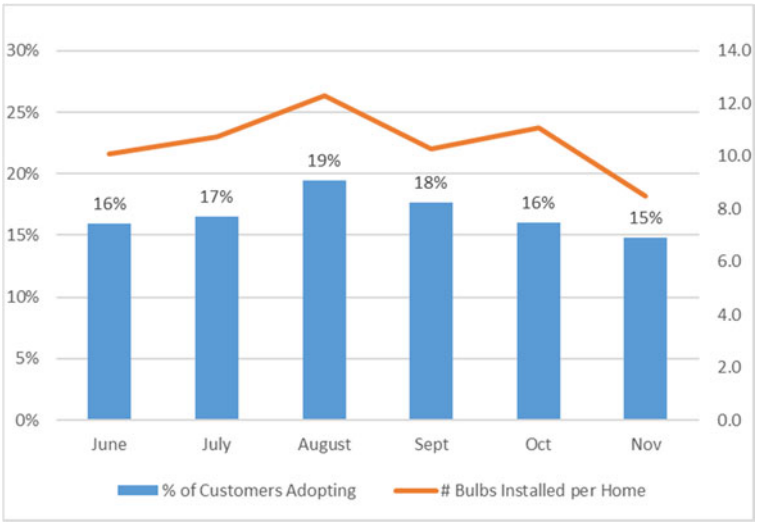

Figure 1. Copay LED adoption

- **Smart Thermostats:** In the initial months, an average of 6% of customers purchased smart thermostats during the first three months. Given that only half of customers qualify (must have a furnace, central air conditioner, and wireless internet to qualify) this equates to double that rate when considering only *qualifying* customers. As shown in Figure 2 below, this participation rate grew in later months as smart thermostat focused marketing generated additional interest in the measure and then settled back down to an average of 8% participation. Of those that participated, a small portion purchased multiple thermostats to cover their multiple heating and cooling systems, causing the average number installed per home to be slightly above 1.0.

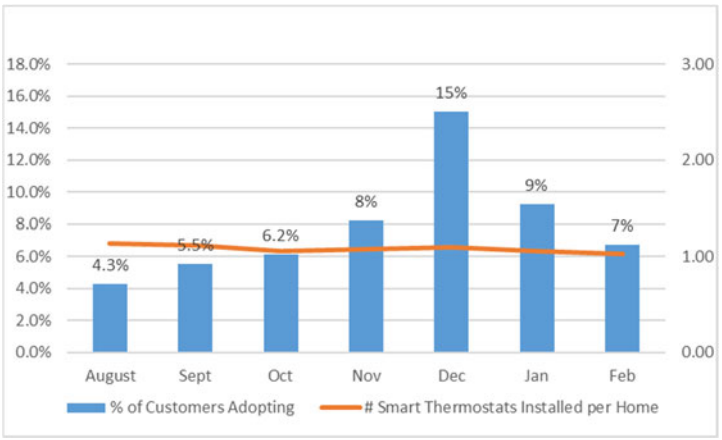

Figure 2. Copay smart thermostat adoption

- **Copay Amounts:** As for information regarding total purchase amounts of the copay products, the program identified the below key metrics:

    - For customers that only purchased LEDs the average copay was $53. At an average of $5 per bulb this comes out to 10-11 bulbs (see Figure 1).
    - For customers that purchased both a smart thermostat and LEDs, the average copay was $182. This includes the $150 smart thermostat purchase.
    - The overall average of anyone purchasing a copay product was $95.
    - 4% of customers paid $300 or more.
    - 35% of customers paid $30 or less.

The next consideration for the program was to understand if there was any negative impact that the LEDs were having on the free CFLs. Were customers turning away CFLs in order to purchase LEDs? This product crossover would be important to understand for planning future participation rates.

In the previous program year, 92% of customers received CFLs as part of the program. Those that did not receive CFLs either already had efficient bulbs, or they were not interested in getting CFLs. As shown in the Figure 3 below, a lower share of customers received CFLs with the addition of LED bulbs.

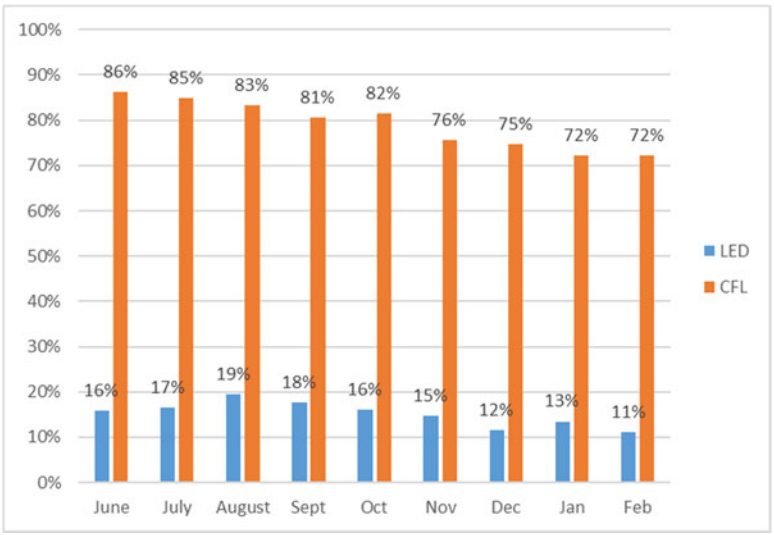

Figure 3. Lighting measure adoption – percent of all customers

Furthermore, looking at the proportion of bulb installs in the current program year in Figure 4 below, it shows that 70% of LED copay participants received a mix of both LEDs and CFLs. This shows that they were selecting the areas to pay for an LED while opting for the free option in other locations. Additionally, 14% of customers received no bulbs at all which is an increase from the 8% the previous year. Feedback from the field indicates that this is due to more customers already having efficient lighting in the home, and to more availability of CFLs and LEDs at lower costs in stores with the absence of incandescent options.

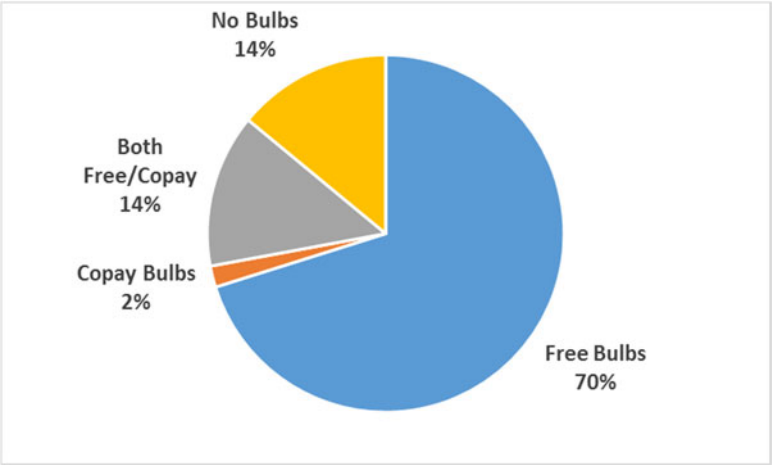

Figure 4. Crossover of CFL and LED participants

Whether the customers received LEDs or CFLs, they would get approximately the same number of bulbs installed per home – 10-11 bulbs, as indicated in Figure 5. This indicates the typical amount of fixtures that qualify for a bulb per the program guidelines (incandescent baseline) and that customers generally choose to go all LED or all CFL. This is supported by the

average copay purchase amount discussed earlier, where the average LED-only purchase price of $53 equates to a 10-11 bulb average purchase size.

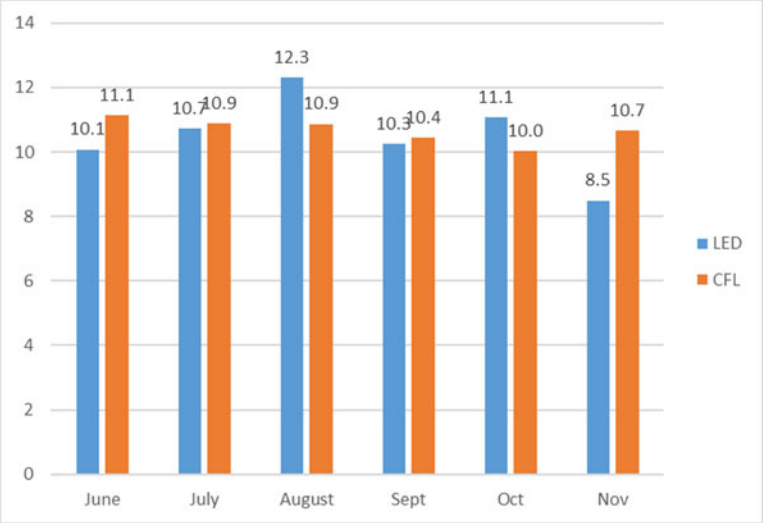

Figure 5. Lighting measure adoption – average number of bulbs per home

Adapting to Market Conditions – Midyear Price Reduction

As shown in Figure 6, the initial months (June – August) of the LED launch resulted in month over month growth. This growth was attributed to getting our energy advisors comfortable with the messaging and the process, building awareness among customers and the referrals they would generate, and from initial marketing to build this awareness. However, starting in the second quarter of the program year, LED participation rates started to decrease month-over-month from 19% in August down to 11% in February. Early feedback from energy advisors is that customers were starting to see better prices at stores. This feedback persisted, especially as the holiday months brought additional sale prices that customers were seeing.

The initial customer copay prices were based on LED prices at the beginning of the program year. Price drops since that point turned into program cost savings rather than passing those savings onto the customer. As it became clearer that customers were finding better prices elsewhere this would need to change. At that point, we evaluated the projected participation rates, forecasted savings, and the program budget spend. We determined that there was an opportunity to lower the customer copay to boost customer participation and savings within the budget limitations.

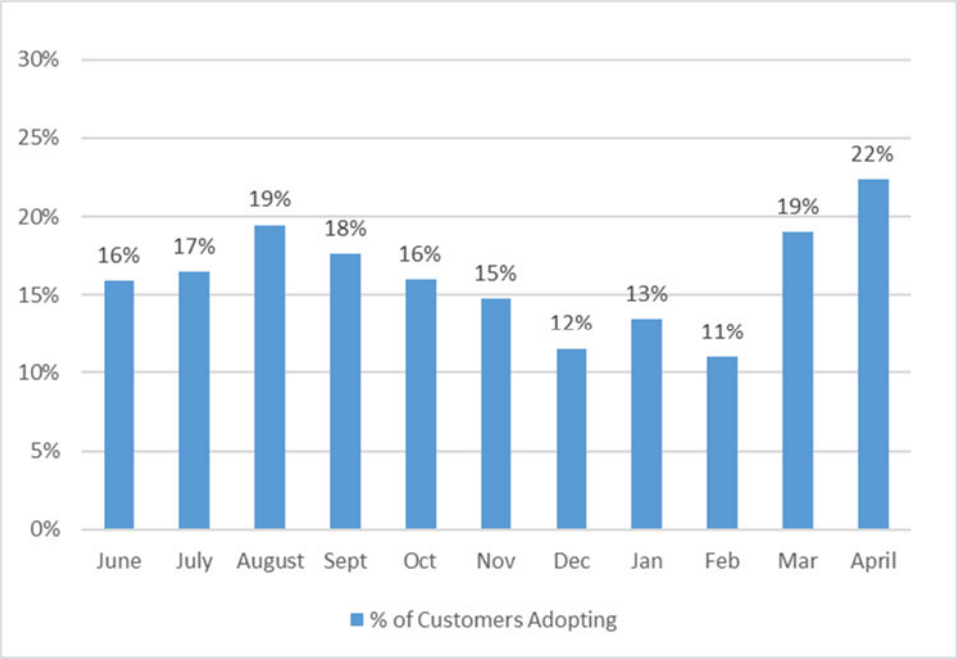

Figure 6. Decreasing Customer Adoption of LEDs; March Price Reduction

As a result of this process, lower copay prices were implemented in the fourth quarter of the program year, on March 1st, 2016, to increase customer participation. Also shown in Figure 6 above, the percentage of participating customers in March and April nearly doubled the previous 3-month average. The overall LED average participation also increased 181% compared to the previous 3-month average.

Marketing

Key Lessons

As stated earlier in the paper, the new copay offerings provided the program marketing team with two clear opportunities to 1) drive additional participation from customers by focusing on the new products, and 2) begin utilizing customer segmentation as a way to provide focused messaging to customers more likely to adopt the new measures.

During the program year's initial marketing push, the focus was on the range of new products available to customers. Later in the program year the focus became more targeted at the LEDs, smart thermostat and in a segmented group of customers. These varying tactics can be compared against the success of previous similar tactics to show their relative success in message and delivery.

Marketing Tactics – Results

In this program, there are three primary utility and program driven mass marketing tactics that can be deployed – utility bill inserts, email marketing, and direct mail marketing. Over the course of the program year, the message of each varied and became more focused on the new products. The direct mail tactic also offered an opportunity to segment customers and send mail only to customer addresses more likely to participate. Here are some of the mass marketing campaign results from the program:

- Bill Inserts
    - October – general program overview – resulted in 326 appointments
    - January – smart thermostat specific – 684 appointments
    - March – general program overview - 119 appointments
- Email Marketing
    - July - focused on all FREE products – 416 appointments
    - August – focus on FREE products and introducing copay products – 269 appointments
    - November – focused on copay products only – 681 appointments
    - April – 165 appointments at the time of writing this
- Direct Mail
    - November - focus on free products and targeted to the traditional segment - 1.8% conversion rate
    - March - focus on copay products and targeted at higher income customers - 1.1% conversion rate at the time of writing this

While the quantity of campaigns completed is low, the success rate of each tactic has grown throughout the program year. The results appear to improve when moving from a general program overview of free products (the traditional message) to a new copay product introduction. An added layer to this is the seasonality of when and how the tactic is delivered (i.e. a gas bill insert in the winter, electric bill insert in the summer). While the second round of direct mail, focused on copay products and higher income customers, did not appear to be a relative success to the traditional mailer, it allowed the program to reconsider whether direct mail was the best vehicle to reach higher income customers. These tactics are worth further investigation to determine the most effective method of using these copay products.

Conclusion

It is critical for the long term success of any program to scan the horizon for the next technology and to understand the customer demand for new options to save energy. The customer experience must be addressed to ensure the adoption of new program elements. In addition to meeting the customers' needs and answering their questions, energy efficiency programs face many program design constraints, with a key one being the cost-effectiveness of newer technologies.

The Franklin Energy program team, in collaboration with the sponsoring utilities, found success working within these constraints by accelerating market acceptance of newer technologies with a copay option through careful planning, active listening to customers, and consideration of their point of view and experience.

The addition of new measures through the copay option not only added new long term savings streams for the program, but it also benefited the program by adding new capabilities such as new customer segments and a fresh message to drive excitement and participation.

The copay capability expands our understanding of what is possible in program design. Measures that were once considered infeasible can now at least be considered more closely. This has application in other jurisdictions and can be viable in markets with varying regulatory treatment of higher cost measures. It can also be beneficial beyond the residential customer segment, including the small business segment where higher incentives are often needed to drive participation.