

Not by Rebates Alone: Case Studies in Residential Market Transformation

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ABSTRACT

Efficiency program sponsors often rely solely on rebates as the primary tool to promote energy efficient products and document energy savings. However, market transformation proponents have long acknowledged that rebates alone do not shift the market without additional interventions. Using data collected from residential rebate programs, this paper will demonstrate the effectiveness of education and training strategies implemented in concert with rebate programs in the residential sector. The documentation not only shows significant impacts on the market, but illustrates the feasibility of tracking and attributing program impacts and energy savings to non-incentive activities. At a time when programs are increasingly driven by the need to document energy savings, the default energy efficiency model is rapidly turning towards prescriptive rebate programs targeting the measures that can most easily be counted. The authors provide specific examples that can be used to make the case for the role of market transformation strategies as an important part of effective energy efficiency program design.

Introduction

Resource Solutions Group (RSG) – in collaboration with efficiency program sponsors and other key stakeholders – has a strong philosophical commitment to market transformation and continually seeks to integrate program design elements that will allow for long term shifts to increase the supply and demand for energy efficient products and services. Recently, RSG has been working to track these non-incentive activities to determine if it is possible to quantify and attribute the program and energy savings impacts to specific activities or events.

While many residential rebate programs focus on marketing directly to end-use customers, RSG – like many experienced program managers and implementers – has found that the market transformation theory of engaging all market actors is crucial to stimulating demand for energy efficient products. Particularly during periods of economic downturn, involving both upstream and midstream actors can be an essential and cost-effective way of influencing customers to shift their behavior. This paper will illustrate some of the activities across recent programs where tangible and positive results are directly related to non-incentive activities. The examples provided represent programs implemented in large markets and involve activities implemented to stimulate participation in consumer rebate offerings for a variety of resource-efficient measures. The core market transformation strategies documented to show program results include:

- **Outreach and training** – ongoing engagement and educational workshops for retailers and distributors stocking the products rebated through the programs and for contractors skilled in installing equipment and systems.
- **Instant discount** – a strategy that allows a contractor (or retailer in some cases) to deduct the amount of the rebate from a customer’s invoice at the time of purchase, submit the

documentation directly to the program, and then receive the rebate check in lieu of the customer.

- **Refinements to program offerings** – significant shifts in program details, such as increasing incentive amounts offered and shifting program deadlines.

All of these approaches resulted in significant increases in program production – which will be explored in the following sections. Ultimately, they support the premise that comprehensive market interventions can be very effective in creating demand for energy efficiency.

Program Strategy #1: Outreach and Training

Engaging retailers and contractors is an effective way of influencing the decisions of end-use customers. For many years, efficiency programs have offered contractor training, intensive retailer outreach and field support through ongoing store visits and sales associate education, and have sought to engage the private sector to find mutual benefits in promoting efficient products. These activities are driven by the knowledge that retailers and contractors are key influencers at critical moments of a customer's purchase – typically when a customer is deliberating about brand, model, features, and price. A knowledgeable salesperson or trained contractor can emphasize the importance of energy efficiency, explain the life-cycle costs and benefits of a high efficiency product, introduce the availability of promotions and utility program rebates, and ultimately persuade the customer that a high efficiency product is the best purchase they can make.

The following profiles demonstrate the immediate impact training can have on program participation – which must be driven by customer awareness and sales associates and contractors making the case for energy efficiency to customers. These impacts are essential aspects to the success of energy efficiency in the market. However, market outreach and trainings are often undervalued when the Total Resource Cost (TRC) test is applied to program design. The TRC is a benefit-cost analysis used to determine whether a program is cost effective. Benefits (such as avoided supply costs and energy savings) are divided by the program costs – including administrative costs. Because training and market outreach strategies require resources that add to program administrative costs but the benefits are typically not objectively quantified for this type of analysis, they can detract from a program's apparent cost effectiveness. As a result, these critical activities are currently at risk in the face of program requirements which do not typically prioritize the long-term impacts of market transformation strategies and are instead focused on strategies and measures offering the highest Total Resource Cost (TRC) as the sole defining factor of program cost-effectiveness.

Project Profile: Retailer Trainings on High Efficiency Toilets

SoCal Water\$mart, sponsored by Metropolitan Water District of Southern California and the family of Southern California water agencies, offers customer rebates for water-efficient measures to Southern California residential customers. The program's total incentive budget was \$9.6 million the first year, and approximately \$5 million in the second (of a five-year program period). RSG (as a subcontractor to the Electric and Gas Industries Association, EGIA), provides market analysis and outreach services for the program. Retailers represent a

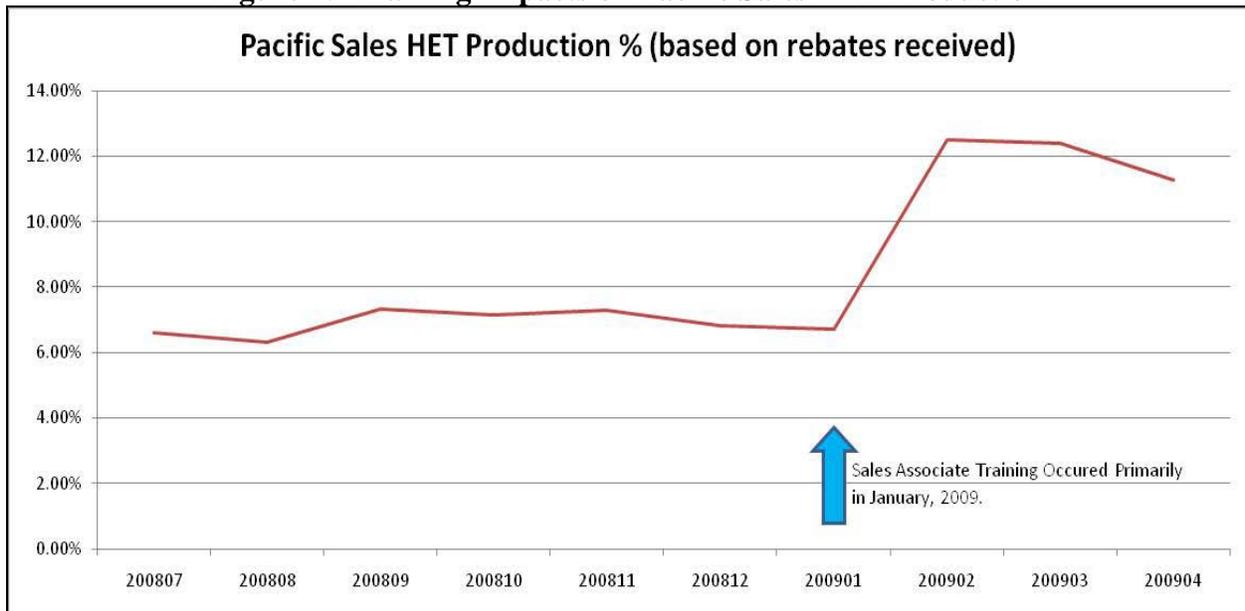
very significant share of High Efficiency Toilet (HET) sales in the program. Due to the heavily retail-oriented nature of the program measures, one of the primary elements of program marketing was an emphasis on retailer outreach.

After the first few months of program outreach in 2008, including initial visits to retailer locations, the program sought ways to deepen relationships with retailers in order to increase and sustain participation and water savings. RSG offered an interactive training curriculum and quiz, paired with prizes (gift cards) for an entertaining and educational experience. One retailer in particular – Pacific Sales – is an example of the impact that the combination of corporate commitment and concentrated sales associate training can offer.

Pacific Sales is a premium home improvement retailer. The nation’s 10th-largest white goods retailer (Wolf, Allen 2006), Pacific Sales has 20 stores in the program’s service territory, representing fewer than 3 percent of store locations offering qualified HETs. Following corporate level discussions, Pacific Sales set a goal that 100 percent of eligible customers (customers of participating water agencies purchasing qualified products) would apply for and receive rebates. Increased point-of-sale materials and a commitment to associate training were identified as the first tier actions to increase sales and program participation.

Between November 2008 and January 2009, RSG provided the trainings in each location, answered sales associates’ questions, and witnessed tremendous enthusiasm for the program with a significant and immediate increase in program production as a result. Figure 1 illustrates the percentage program share for HETs that Pacific Sales represented during first program period (July 2008 – April 2009) – a total savings of 14.97 million gallons of water per year. Pacific Sales’ production was steady from July – December 2008. Immediately following the completion of sales associate trainings, program share increased dramatically and remained at that level through the end of the program fiscal year.

Figure 1: Training Impacts on Pacific Sales HET Production



Source: SoCal Water\$mart Program Data, 2008 – 2009

It is important to note that Pacific Sales only represented 2.86 percent of all retailer locations carrying qualifying program HETs, yet it represented a disproportionately high percentage of HET program production – over 12 percent – following training.

Project Profile: Retailer Outreach and Training for High Efficiency Clothes Washers

The Chicagoland Natural Gas Savings Program (Chicagoland) offers customer rebates for high efficiency natural gas measures. The program’s total incentive budget is \$3.6 million. Several of the program measures were sold through retailers, including High Efficiency Clothes Washers (HECWs).

RSG implemented a minimal number of direct customer marketing strategies for the Chicagoland program, including utility bill stuffers and a customer website. However, due to the retail and trade ally-driven nature of the program measures, one of the main elements of the program’s marketing plan was an emphasis on retailer outreach.

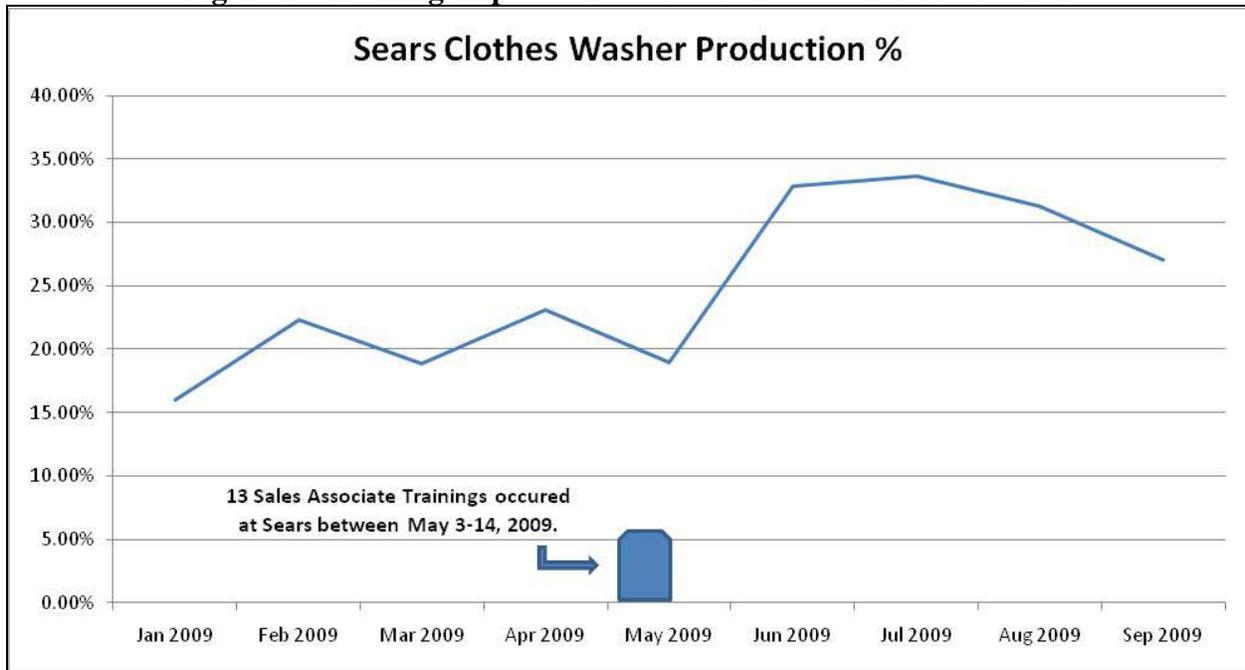
Chicagoland launched in late 2008, and retailer outreach began soon after. Following program launch and initial retail outreach, RSG developed a training curriculum, again pairing an interactive and competitive format with a prize for the “winning” sales associate, for an entertaining experience. RSG found that creating a competitive format with a tangible prize not only captured the attention of sales associates for the duration of training, but spurred competitive spirit so that all associates were fully engaged – leading to a higher likelihood that training participants would retain core messages about the program. RSG coordinated with headquarters and store manager contacts to schedule training, limited the training duration, and delivered to all department sales associates on duty at the time.

One participating retailer in particular – Sears – demonstrates the effectiveness of the strategy. Sears is the nation’s leading retailer of appliances, representing approximately one-third of appliance sales nationwide (Sears Holdings, 2010). It has approximately 30 locations in Chicagoland’s service territory, representing approximately 30 percent of store locations offering qualified HECWs.

The Chicagoland program engaged Sears in initial retail outreach from February to April 2009. As stores became more engaged, RSG worked with Sears headquarters to discuss ways to better promote qualifying HECWs in their stores. Sears readily agreed to in-store training for associates and assisted in scheduling training sessions for 13 locations. In early May 2009, RSG trained Sears’ sales associates, and as a result, similar to results described for Pacific Sales in the SoCal WaterSmart program, Chicagoland saw a significant and immediate increase in program market share.

Figure 2 illustrates the percentage of program HECW rebates purchased at Sears’ locations prior to and following trainings – a total savings of 7,098 therms and 5.55 million gallons of water per year. Production was somewhat steady from program launch in January through May 2009, but following sales associate training in May, production spiked. It is worth noting that Sears’ program market share slowly decreased in August and September 2009. Due to program shifts in budget and priorities, Chicagoland offered no retailer outreach after May 2009, suggesting that sustained levels of program impacts require ongoing retailer outreach and engagement. This leveling also demonstrates the need for sustained market transformation activities to truly build both supplier and customer awareness and demand for efficient products, especially in markets new to energy efficiency offerings. Conversely, rapid program shifts away from education and training can result in lost momentum, market share, and energy savings.

Figure 2: Training Impacts on Sears Clothes Washer Production

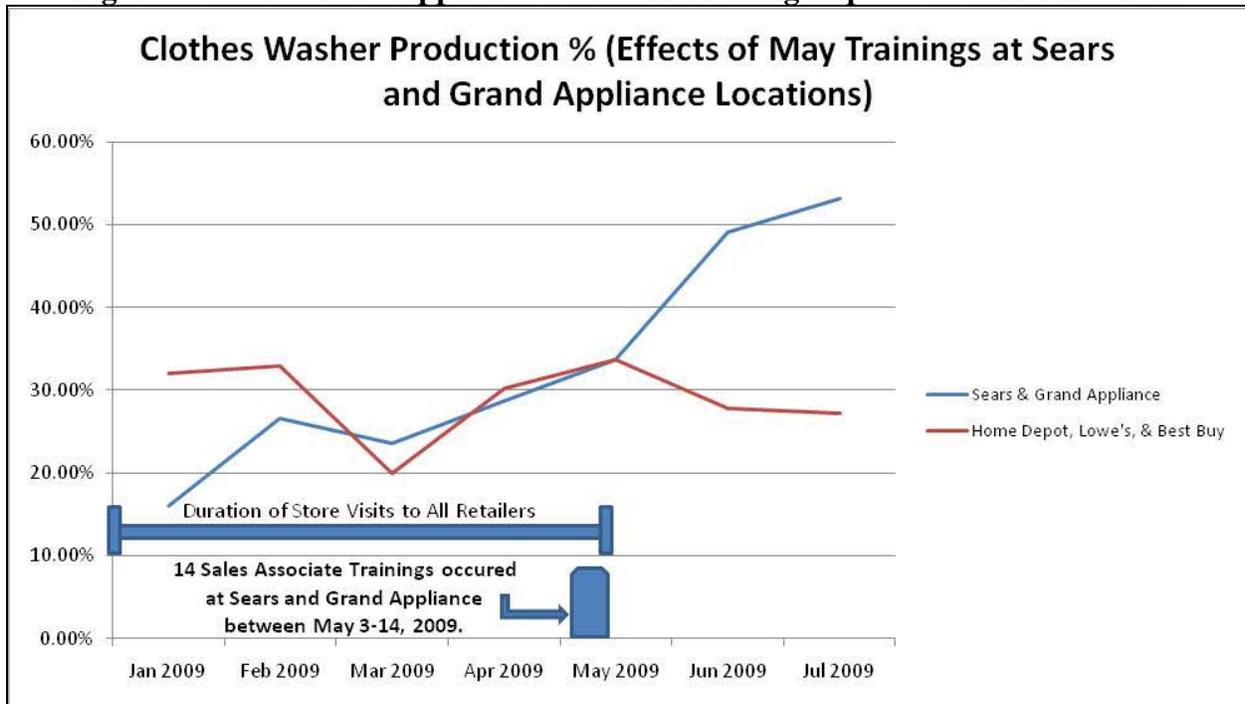


Source: Chicagoland Natural Gas Savings Program Data, 2009

Although the program conducted on-site visits to Sears and other retailers, only Sears and one local retailer, Grand Appliance, fully embraced the offering of program training. Therefore, RSG examined the combined impact of trainings and on-site visits on Sears and Grand Appliance's program market share to the impact of on-site visits only on other retailers.

Figure 3 demonstrates the early impacts of Chicagoland's initial outreach to all appliance retailers (segregating Sears and Grand Appliance from Home Depot, Lowe's and Best Buy) compared to the retailer-specific impacts of sales associate program training on HECW market share. Sears and Grand Appliance's participation resulted in savings of 6,409 therms and 5.01 million gallons of water per year, while the combination of Home Depot, Lowe's and Best Buy's participation resulted in savings of 4,680 therms and 3.66 million gallons of water per year. The figure shows some fluctuation in market share across retailers during the period of initial on-site visits, while Sears/Grand Appliance production increased steadily and significantly after corporate offices engaged with the program (April 2009). Further, once RSG provided trainings to Sears/Grand Appliance (May 2009), market share increased immediately. These results additionally demonstrate that ongoing retailer outreach, combined with well-designed training delivery, can result in significant boosts in retailers' ability to influence customer decisions on the selection of high efficiency products.

Figure 3: Sears/Grand Appliance Outreach/Training Impacts vs. Other Retailers



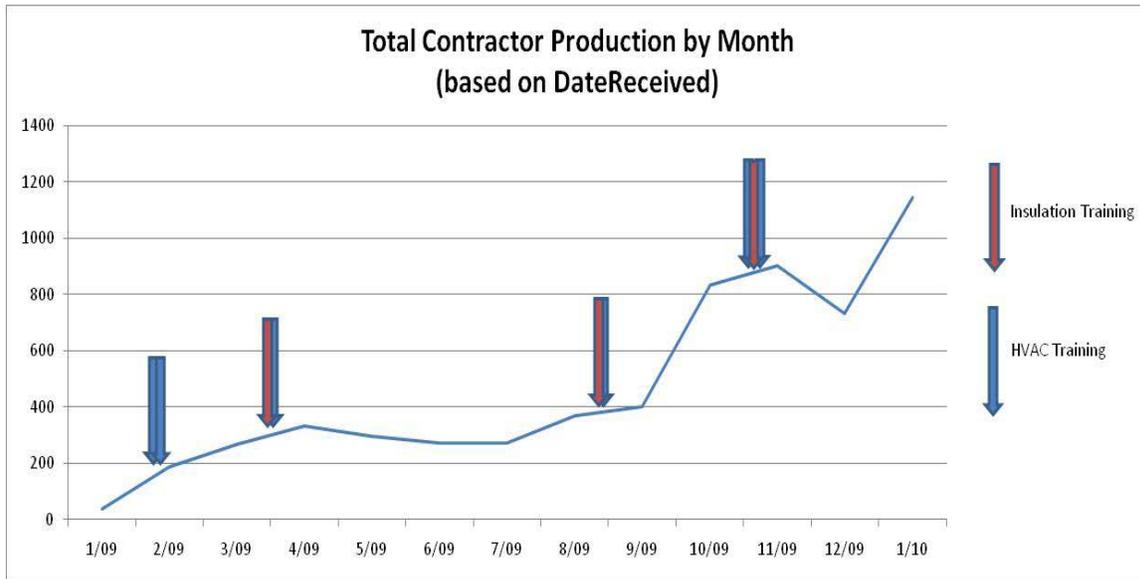
Source: Chicagoland Natural Gas Savings Program Data, 2009

Project Profile: Contractor Outreach and Training for Gas-Efficiency Measures

In addition to working through retailers, the Chicagoland Program engaged contractors installing efficient products. RSG coordinated sales and technical trainings to promote the program’s offerings and encourage quality installation and maintenance practices. Contractors were not required to attend the trainings to participate in the program.

Figure 4 illustrates the contractor participation in program production by month and correlates this to the dates of program trainings. Contractor participation with insulation measures resulted in savings of 760,624 therms per year, while contractor participation with HVAC measures resulted in savings of 441,136 therms per year. Initial trainings in January and February 2009 corresponded with a gradual increase in contractor participation. The decrease in contractor participation during late spring and summer is likely due to the seasonal decrease in sales (as many of the program’s measures are weather-related). There is a significant spike in contractor participation after the trainings in August. The slight dip in December is likely attributable to the seasonal slowdown typical with the holidays, as it was followed immediately by an increase in contractor participation. While the increased contractor participation in October 2009 and January 2010 could also partly be attributed to program duration deadlines, it is significantly higher than the previous deadline (April 2009), suggesting that trainings encouraged greater contractor participation. Because RSG’s contractor outreach was ongoing, Figure 4 also suggests that consistent engagement of trade allies is critical to increased participation.

Figure 4: Contractor Participation by Month Compared with Contractor Training



Source: Chicagoland Natural Gas Savings Program Data, 2009 – 2010

Program Strategy #2: Instant Discount

An instant discount is a mechanism by which a customer is able to offset the first cost of upgrading to a high efficiency product through an immediate discount on the purchase price of the qualifying product. Typically, a rebate program uses retailers or contractors as the conduits, and reimburses them once the customer's data is verified. Especially in an economic downturn, an instant discount can be a significant motivation for customers to select high efficiency equipment, because they are not required to pay the full price of the higher efficiency equipment and wait for the rebate applications to be processed and paid.

Project Profile: Instant Discount on High Efficiency Toilets

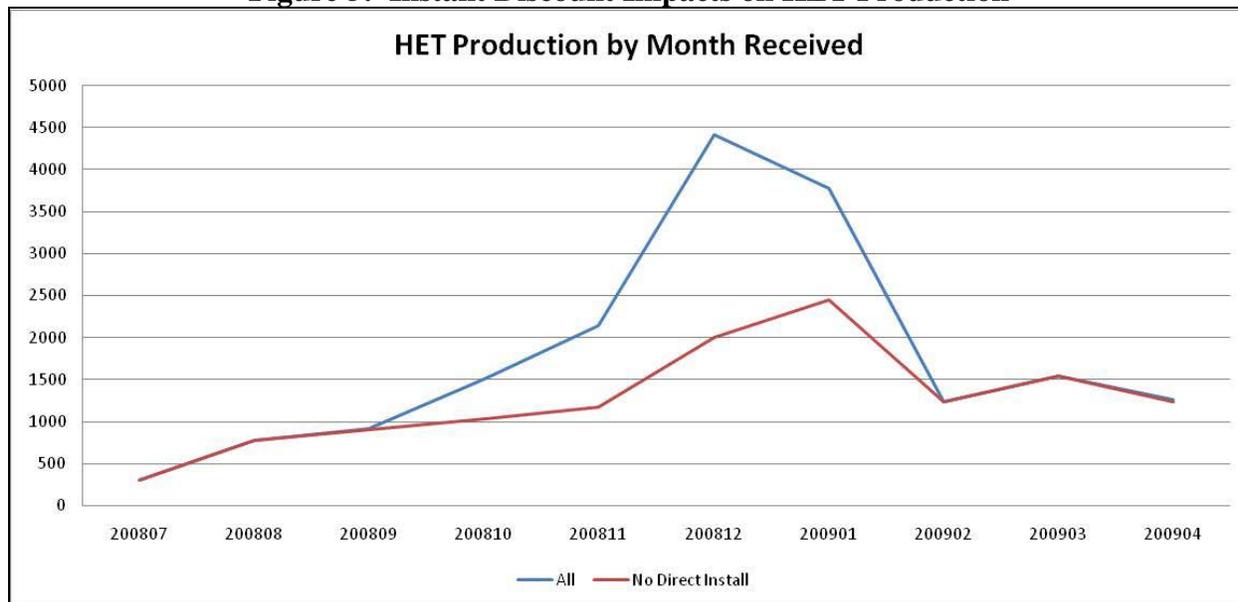
In addition to working through retailers, SoCal Water\$mart leveraged the participation of contractors installing water-efficient products. Several suppliers would install the HETs at no cost to the customer, and then apply to the program for reimbursement. Upon submitting the proper customer and product documentation, the direct-install contractor would be reimbursed the customer's rebate.

Contractors were allowed to receive rebates on behalf of customers from the beginning of the SoCal Water\$mart program. Starting in the fall of 2008, contractors represented a disproportionately large portion of the program's production, such that by January 2009, the program discontinued rebates to any party other than end use customers in order to manage the overall program budget.

Figure 5 shows the impacts that the instant discount feature had on HET program production. The influx of applications received from direct-install contractors (blue line) from September 2008 until late January 2009, when contractor reimbursements were discontinued, demonstrates the impacts that contractors can have on the market and in a specific program (it

also represents a total savings of 247.88 million gallons of water per year, compared with a total savings of only 175.39 million gallons a year without the direct install contractor participation). This suggests that an instant discount can help overcome the first cost barrier to high efficiency products that even post-purchase rebates may not overcome, especially for higher-cost products.

Figure 5: Instant Discount Impacts on HET Production



Source: SoCal Water\$mart Program Data, 2008 - 2009

Program Profile: Instant Discount on Attic Insulation

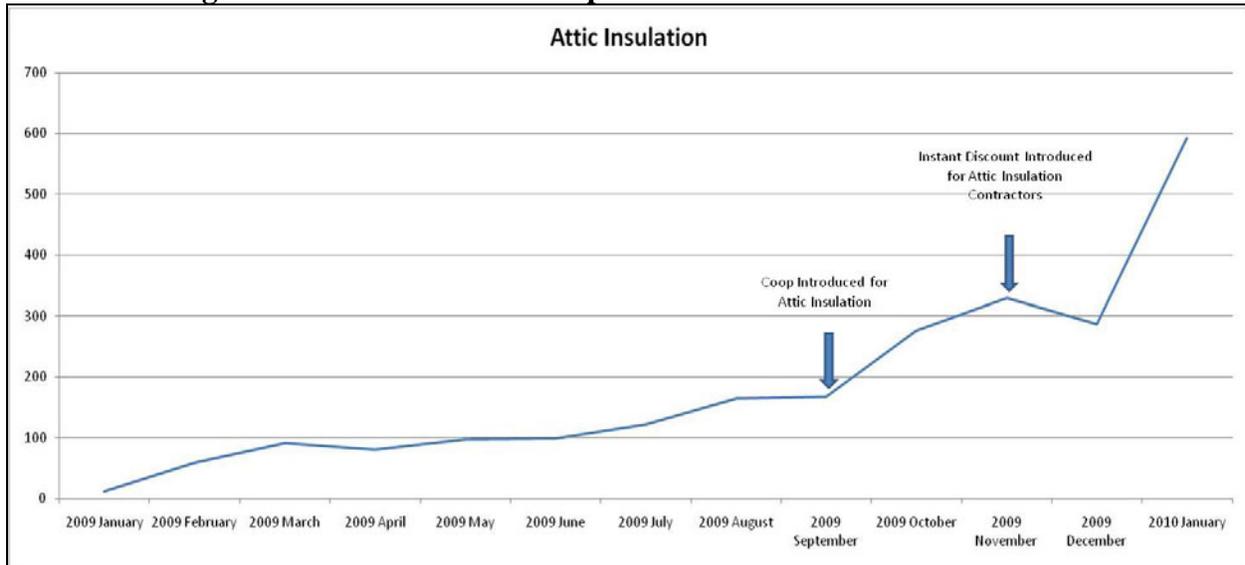
In a very different part of the country and very different measure type, a similar result illustrates the importance – especially in tight economic times – of actual purchase price in customer decisions that not even rebates can influence. During the first few months of the Chicagoland program, attic insulation rebates increased steadily, but not at the level of projections. As one of the program measures with the highest energy savings, attic insulation was a critical element to meeting program goals. Accordingly, it was a priority to focus on ways to identify market barriers and find program design mechanisms to overcome them for this measure. RSG found that, due to the difficult economy, customers were struggling to afford attic insulation – despite a very generous rebate amount (the highest offering in the Midwest) and the benefits of increased comfort and the related energy and cost savings.

In an attempt to reduce out-of-pocket costs to customers and thereby trigger increased attic insulation installations, the program introduced an instant discount option for attic insulation in November 2009. At first, contractors were somewhat reluctant to carry the financial risk, but when they realized that the program would expedite processing of the applications that they submitted for reimbursement – as well as the tremendous increase in sales that the feature provided – they were extremely enthusiastic about offering the instant discount.

Figure 6 shows the impacts of the instant discount on program attic insulation production – which resulted in a total savings of 871,625 therms per year. The slight decline from November – December 2009 is attributable to a brief hiatus in installations during the holidays, immediately followed by a spike to unprecedented levels of participation for that measure.

Further, the instant discount also served to reduce the program’s rebate application denial rate and decrease the application processing time, because the contractors who submitted the applications on behalf of their customers were more equipped to ensure that all documentation was complete and in order, reducing the program’s administrative burden and speeding rebate payment.

Figure 6: Instant Discount Impacts on Attic Insulation Production



Source: Chicagoland Natural Gas Savings Program Data, 2009 - 2010

One additional element important to note is that cooperative marketing was introduced to attic insulation contractors in September 2009. This program element provided matching funds, messaging, program logo, and strategy development support to qualifying attic insulation contractors, in an attempt to reward them for their participation and generate additional production. Figure 6 also shows that the introduction of cooperative marketing positively impacted attic insulation production, suggesting that well-crafted marketing materials – that lend the credibility of program branding to contractor efforts – can also be an effective strategy.

Program Strategy #3: Refinements to Program Offerings

It is often necessary for rebate programs to shift offerings to the market. These changes can be triggered by a variety of elements, including budget shifts, regulatory requirements, and market fluctuations. While not always ideal, refinements to program offerings can sometimes have tremendous impacts – both positive and negative – on end-use customer decisions.

Project Profile: Increased Rebate and Program Duration

One of the measures included in the Chicagoland program was high efficiency, natural gas water heaters. This was a measure that struggled to succeed, despite repeated attempts to engage the plumbing industry.

Figure 7 displays water heater program production – which resulted in a total savings of 36,140 therms per year. The first important aspect of the graph is that it indicates that spikes in

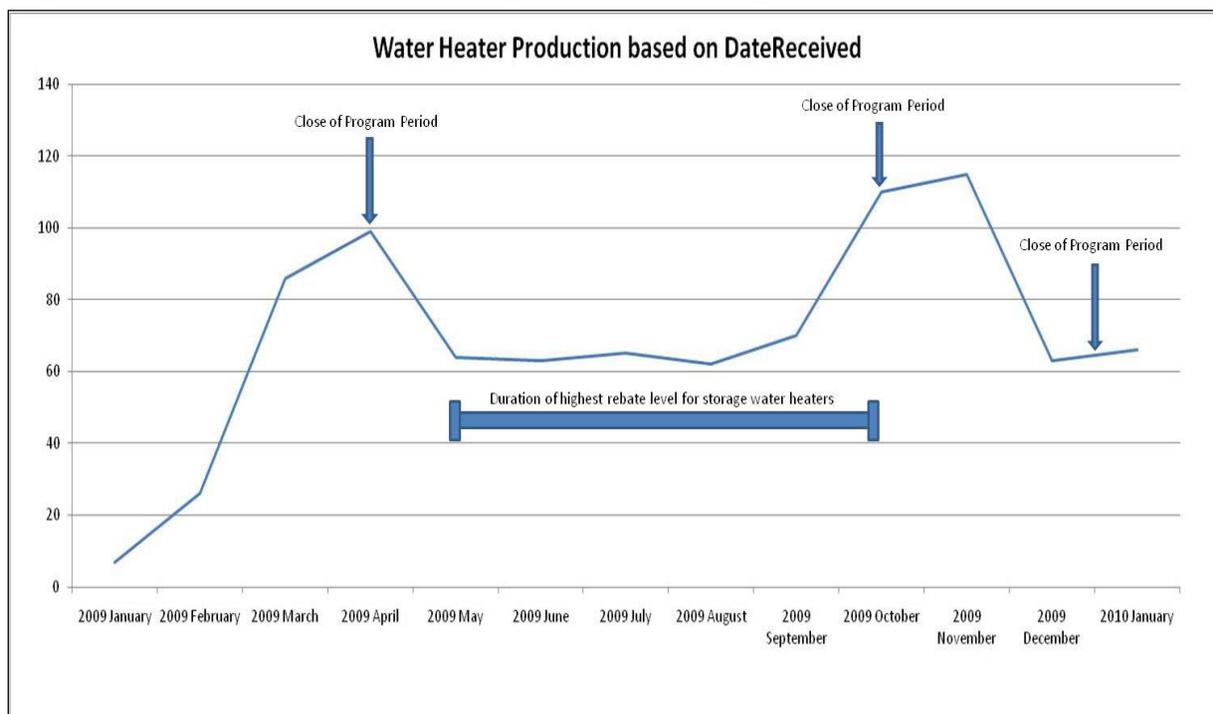
water heater production corresponded with major program duration deadlines. This is due to the fact that many customers are motivated to apply for rebates when they know the submission deadline is approaching. While frequently starting and stopping rebate programs can lead to customer confusion and contractor dissatisfaction, program duration does impact participation, and a sense of urgency related to rebate availability can be used as an effective tool to motivate customers to choose high efficiency products.¹

The second important aspect of Figure 7 is the largely stagnant period in rebate production from May 2009 through October 2009. It was throughout this time period that the Chicagoland program offered a rebate that was double the amount of the initial program offering, in an attempt to generate additional water heater participation, fully covering any price differential for a high efficiency model. The logic was that a higher rebate would motivate customers to upgrade to high efficiency water heaters. However, as indicated in Figure 7, no such correlation occurred. Instead, production during this time period dropped and remained sluggish, only to peak again at the end of the program period.

In November 2009, the rebate returned to the original amount and production dropped back to the level of when it was offered at the higher rebate amount. This indicates that the program participation may not be particularly correlated to the value of the rebate. In the case of water heaters, after consulting with midstream and upstream actors in the plumbing industry, feedback indicated that local stocking practices had not yet responded to program rebates – which was likely the reason that program production lagged, despite the high incentives during the May – October 2009 timeframe. The Chicagoland program is working to further engage midstream and upstream actors to improve the integration of high efficiency water heaters into local stocking practices in the hope that this will have positive impacts on program production.

¹ Further evidence of this is the appliance rebate programs recently offered through the American Recovery and Reinvestment Act of 2009 (ARRA). Driven by media and limited time offerings, many of these programs have experienced incredible and immediate participation (the State of Iowa's ARRA program hit expected participation levels the very same day that the program launched).

Figure 7: Increased Rebate and Program Duration Impacts on Water Heater Production



Source: Chicagoland Natural Gas Savings Program Data, 2009 - 2010

Conclusions

There are a variety of ways – beyond traditional marketing of rebate offerings to customers – to influence end-user decisions about high efficiency products. Engaging key market actors, including retailers and contractors, and demonstrating the mutual benefits of promoting program measures can have direct and immediate impacts on program participation because these market actors interact directly with customers at the time of sale. However, the key to the long-term sustainability of high production is ongoing engagement and relationship cultivation with these market actors. Additionally, program offerings, such as instant discount options, cooperative marketing, and program durations can also offer motivation for both contractors and customers to select high efficiency products and take advantage of program rebates. Finally, program refinements, like increased rebate amounts, may have little impact on product selection when other market barriers (such as stocking practices that do not include high efficiency products) persist.

Another key conclusion from a program design perspective is the fact that the impacts of non-incentive activities can be tracked in a way to allow for attribution when sufficient program data are available. As shown above, the program impacts of certain education and outreach strategies are immediate and striking. Collectively, the energy efficiency community should seek methods beyond rebates for claiming and attributing savings so that the merits of market transformation activities can get their due credit.

Finally, every successful activity has its role in an effective energy efficiency program strategy. When some of the key factors for success – such as training and education – are eliminated from the program mix due to budget constraints or a cost/benefit analysis that does not fully count the benefits, the long term goal of energy efficiency suffers. With sufficient

analysis and proven results, energy efficiency program administrators, implementers, and evaluators should be able to make the case for cost-effective market transformation strategies.

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