



**Higher Savings Goals and the
Rebate/ Buy-down Elephant in the
Room—Recognizing When and How to
Move On to Market Lift**

**Rick Winch, Eileen Hannigan,
and Monica Curtis**



ABSTRACT

Reducing cost barriers through rebates and buy-downs—ranging from efforts targeting consumers to manufacturers—have a successful record of stimulating the demand for energy efficient equipment. However, in some markets—including compact fluorescent lighting—where “net” results are on the decline, these methods may have outlived their usefulness and new approaches deserve our attention. One approach is “market lift”—a time-tested method of moving markets in other industries by providing upstream incentives to retailers/wholesalers/manufacturers that increase their sales share of equipment above a pre-established baseline. The market lift concept involves obtaining historic sales data in order to establish baseline sales figures, which approximates the level of sales expected absent an incentive program. The concept has three main distinguishing characteristics: 1) a continuous feedback loop of sales and market data to establish a baseline and track performance; 2) commitment by trade allies to achieve sales of energy efficient equipment above their baseline; and 3) incentives for sales above the baseline. The approach maximizes the net energy savings attributable to a product incentive program.

This paper provides a framework for examining these important issues and highlights the results of several program efforts that illustrate the need for, challenges, and promise of this new approach.

Introduction

A recent Lawrence Berkeley National Laboratory study concluded that funding for energy efficiency programming is likely to double and perhaps quadruple, from 2008 levels, over the next 10 years (Barbose, Goldman, & Schlegel 2009). Never before has such attention been paid to the need for energy efficiency. And, consequently, never before has it been more important to ensure that energy efficiency programs are truly achieving results beyond what would have been expected in their absence.

In most jurisdictions, a variety of energy efficiency programs are offered. These programs touch a multitude of customer sectors, a wide array of energy using equipment, and a diverse set of channels through which equipment is manufactured, distributed, and ultimately sold. The fact of the matter is that markets—and the availability of energy efficient alternatives within them—vary significantly in size and complexity. Consequently, with respect to the availability and sales of energy efficient alternatives, one program may find itself working within an emerging market, another within a developing market, and yet another in a market that is relatively mature but not yet transformed.

The purpose, target and nature of energy efficiency programs must change as markets move towards greater maturity (Henriques 2008). After over 20 years of investments in energy efficiency, many markets are now developing or relatively mature, demanding different approaches from energy efficiency programming. Yet the vast majority of programs continue to focus on emerging market strategies, including energy audits, rebates, and buy-downs.

In this paper we outline a market analysis framework—consisting of a relatively simple set of information to consider when working through the program design and approval process—and illustrate the application of this framework through the use of real world program and market data. The framework offers regulators, utilities, and program implementers a tool to assess when (and when not) to deploy traditional programs. The information and analysis framework suggests that many traditional programs, specifically some rebate and buy-down efforts, may simply be too small to impact the market they seek to influence—highlighting the need for the program planning, evaluation, and regulatory communities to actively foster innovative programming. To

address these situations, we propose a new, somewhat revolutionary program design, coined “market lift.”¹ Market lift, or growth incentives as it is also called, refers to a time-tested method of moving markets in other industries by providing upstream incentives to retailers/ wholesalers/ manufacturers that increase their sales share of energy efficient equipment above a pre-established baseline.

Market Analysis Framework

The market analysis framework considers the total market size and the market share currently held by the energy efficient alternative, the maturity of the energy efficiency market, as well as the goal of the energy efficiency program. This analysis can be applied to both proposed programs, to evaluate alternative program designs and determine targets, and existing programs, to assess if the current approach is still the most appropriate or if the market has evolved to a point where a different approach is required.

Information Needed

A relatively simple—though often hard to obtain—set of data is needed to analyze a given program and market (Table 1).

Table 1: Data Requirements to Construct Market Analysis Framework

¹ While the concept is relatively new in the energy efficiency world, it is certainly not new to many of the market actors (e.g., retailers, contractors, distributors, manufacturers) that such programs interact with.

Data Required	Description
Size of Overall Market	<p>This refers to the overall size of the market the program seeks to influence. For a product category, this is the total of both standard and energy efficient units sold. For a sales channel or customer segment this is the total number of units sold through that channel or to that segment.</p> $\% \text{ Market Share} = \frac{\# \text{ Energy Efficient Units Sold in Product Category/ Channel/ Segment}}{\text{Total \# Units Sold in Product Category/ Channel/ Segment}}$
Size of Energy efficient Market	<p>This refers to the number of energy efficient units currently sold in that product category, channel or segment.</p>
Program Capacity	<p>This refers to the capacity of the program to influence the market. This can be calculated using the maximum program budget and the resulting forecast for the number of energy efficient units to be incented as a percentage of the number of energy efficient units currently sold in that market. This enables program designers and implementers to understand the potential a program offering has to impact the current share of energy efficient equipment.</p> $\% \text{ of Current Energy Efficiency Market} = \frac{\# \text{ Energy Efficient Units Incented}}{\# \text{ Energy Efficient Units Currently Sold}}$
Baseline or Comparison Area	<p><i>Size of Overall Market</i> and <i>Size of Energy Efficiency Market</i> for a comparable area that does not offer such programs. In absence of a suitable control or comparison area, pre-program sales data may be used to estimate what the market might look like in absence of a program.</p>

In addition to looking at overall market conditions, it may be important to also explore the possibility of differences in energy efficient market shares by delivery channel. An example would be compact fluorescent lighting that may be sold through big box/home improvement, grocery, hardware and discount retail channels, or commercial scale solar installations that may be sold through manufacturers or architecture/engineering consultants. To understand these variations, it is necessary to examine the market by channel.

Using and Interpreting Market Data

The analysis framework consolidates information to form a picture of the current market and the relevant program achievement and baseline curves. Further analysis of this framework can inform a number of key decisions in program design, including determining the program approach and level of investment needed to really influence that market.

What does overall market size tell us about our prospects for success? The number of units (both standard and energy efficient) currently sold—or, at a minimum a best estimate of this—should play a central role in the decision (and evaluation) of the likelihood of success. The larger the overall market, the more imaginative and well-funded the program effort will need to be.

What does the current number of energy efficient units sold tell us about the current market? The actual numbers of energy efficient units currently sold—or, at a minimum a best estimate of this—offers the most important information. Coupled with information on overall market size, it allows one to compute the present

market share. The higher the energy efficient market share, the more mature the market. The stage of market development informs the likelihood that various program approaches (e.g., education and audits, end-user rebates, upstream incentives, standards) can be successful.

How does the number of energy efficient units the program can influence (through financial incentives, facilities changed, etc.) compare to the number of energy efficient units currently being sold in the market place? To determine if the level of investment available is adequate, it is incredibly important to compare the number of energy efficient units the program can incent to the number of energy efficient units currently being sold (regardless of whether or not this is a new or existing program offering). It is only within this context that one can make an informed and, arguably, common sense-based assessment of the possible program impact. While there is no correct percentage to anchor on, it seems reasonable to assume that if the number of energy efficient units the program can incent through the selected program approach represents less than 25% of the number of energy efficient units currently being sold, prospects for moving the market forward may be bleak.

Understanding the maturity and the scale of the market strikes at the heart of this framework, as it provides a picture of the current energy efficient market and how it relates to the overall market. Ultimately, it informs the program approach and investment needed to achieve real results. This is the very issue that many designers, regulators, implementers, and evaluators too often over look.

How does the market we are seeking to influence compare with other markets where energy efficiency programming is not offered? Information on comparison (or control) areas can be extremely helpful to the program design process, as well as the assessment of potential and realized program impacts. This is particularly useful in situations where there is evidence to suggest that a market may be maturing, as it illustrates the rate at which energy efficient alternatives are naturally being adopted, informing the level of effort needed to accelerate that market. With the expansion of energy efficiency programming, the prospects for obtaining information for control groups or comparison areas become more challenging. While very useful, comparison areas are not essential to good program design and planning. The most important first step, as suggested by the framework, is to understand the market within which the program will operate—in particular, how the program’s ability to “incent” energy efficient purchases relates to the number of energy efficient units currently being sold.

Application of Analytical Framework to Real World Examples

The size of the overall market, the size of the energy efficient market, baseline/comparison area information, maximum program budget, and variations by market channel are the building blocks to understanding where an energy efficiency program lies along the program maturity continuum as well as how effective a traditional program can be, and whether a new approach is needed. Not all of these data points are always available; however, even a subset provides meaningful insight. The examples below discuss real world markets and programs and what the data tell us about those markets. In the name of brevity, we focus on two interrelated issues: 1) the importance of understanding the capacity of the program to incent energy efficient units and how that relates (compares) to the number of energy efficient units currently sold; and 2) how understanding that relationship provides insight into the resulting program impact.

Emerging Markets

Emerging markets are those with low sales and market share of the energy efficient equipment option. Traditional rebate/buy-down programs are most successful in these markets.

Energy efficient (SEER 14 or higher) central air conditioning (CAC) in Wisconsin is one example of an emerging market. Combining industry-wide data on sales of standard and energy efficient equipment in Wisconsin and a comparable (baseline) Midwestern state for the last three years (WECC 2008) clearly illustrates the current state of the market in Wisconsin.²

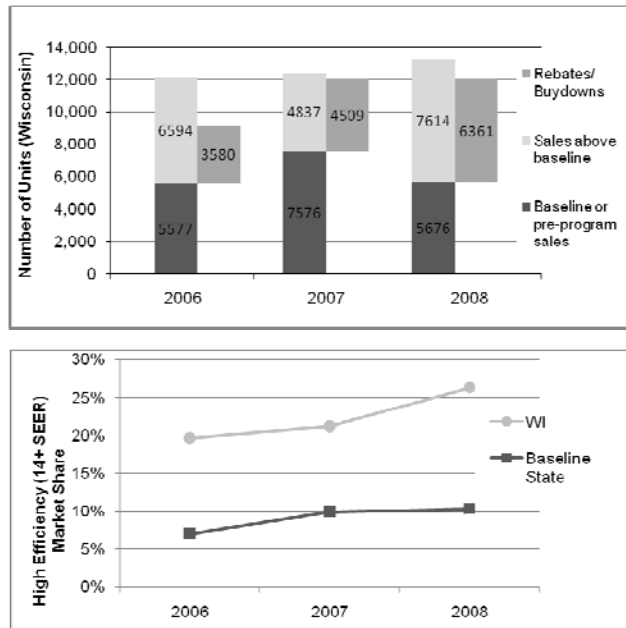
Figure 1 displays all of this data and enables us to conduct the market analysis suggested in the previously outlined framework. Focusing on 2008, a year in which Wisconsin offered rebates on energy efficient CAC, we see:

- Current (also referred to as “baseline”) sales of energy efficient units totaled 5,676.³ This is a relatively modest number and seems on a scale that could be influenced by a rebate program.
- A program that was able to provide incentives for 6,361 energy efficient units. This unit count is higher than current energy efficient unit sales—well above our general guideline of 25 percent. Again, suggesting that the program can provide incentives on a scale that can be effective.
- Sales of energy efficient units, after the program intervention, equal to 13,290. This consists of 5,676 units currently sold (i.e., pre-program or baseline sales) and an additional 7,614 energy efficient units.
- A very favorable program impact, as predicted, resulting in a net-to-gross ratio of 120% (6,361 rebates/7,614 program-induced sales).

² Wisconsin and the baseline state have similar northern climates, but while Wisconsin has had CAC rebate programs since 2002, the baseline state has not had any rebate programs.

³ In this example, baseline sales are what we expect would have been sold in the absence of a program which we estimate by multiplying the market share of energy efficient CAC in our comparison state by overall sales in Wisconsin.

Figure 1. Wisconsin High Efficiency CAC Sales and Rebate Activity



	2006	2007	2008
a) Sales above baseline	6594	4837	7614
b) # Rebates/ buy-downs	3580	4509	6361
c) Net-to-Gross (a/b)	184%	107%	120%

Early compact fluorescent lighting (CFL) programs are another example of programs operating within an emerging market. At the beginning of this century, with CFL sales low to non-existent, traditional program offerings—and their capacity to incent energy efficient CFLs (through rebates and buy-downs)—far outstripped existing CFL sales. As we illustrate later, a similar situation exists today in Wisconsin, but only within select channels, such as grocery, hardware, and deep discount (i.e., dollar stores).

Developing Markets

While an area may not have historically had a program for a particular energy efficient technology, market share for that technology may still be significant. It is crucial to understand this when entering a market that may already be developing. High-efficiency (AFUE $\geq 90\%$) residential furnaces in Indiana have been offered for years by some contractors even in the absence of energy efficiency programs (KEMA 2009).

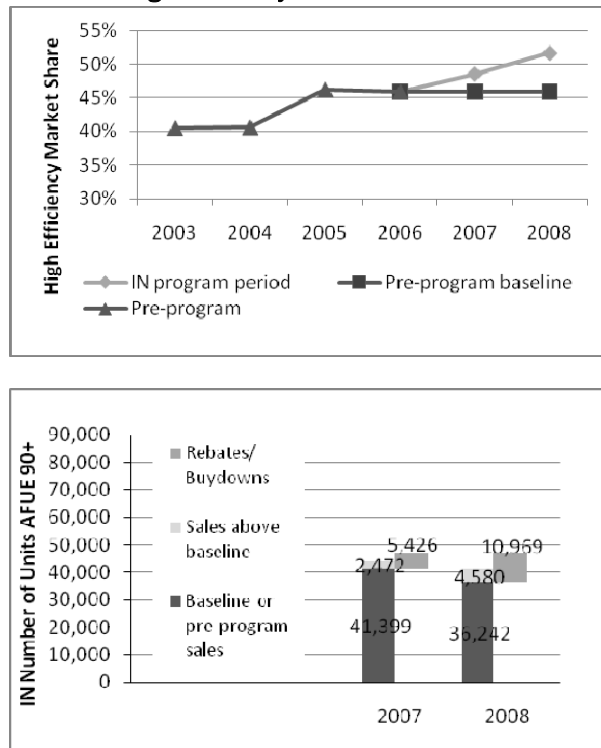
Figure 2 displays high-efficiency furnace market share and program activity for Indiana through 2008. Focusing on 2008, a year in which most natural gas utilities in the state offered rebates on high efficiency furnaces, we see:

- Current (also referred to as “baseline”) sales of high efficiency furnaces totaled 36,242 units.⁴ This is a relatively high number, seemingly on a scale that might be difficult to influence with a traditional rebate program.
- Programs able to collectively provide incentives for 10,969 units. This unit count is about one-third of current high efficiency sales levels—hovering around our general guideline of 25 percent. Again, suggesting that the programs may not be operating on a scale that can be effective.
- Sales of high efficiency furnaces, after the program intervention, equal to 40,822. This consists of 36,242 units currently sold (i.e., pre-program or baseline sales) and an additional 4,580 high efficiency units.
- A modest program impact, as predicted, resulting in a net-to-gross ratio of 41.7% (10,969 rebates/4,580 program-induced sales).

While the rebate programs appear to be having some impact on the Indiana high-efficiency furnace market, the market data suggest it may be time to begin to explore alternative program approaches. Noteworthy is the fact that high-efficiency furnace markets are in the developing stage in other Midwest states as well. In 2008, market share of high-efficiency furnaces in Illinois, Michigan, and Ohio range from 52 to 73 percent with volumes of high-efficiency CACs sold exceeding 65,000 units.

⁴ For this example, we use the 2006 high-efficiency market share in Indiana multiplied by total 2008 furnaces sales in Indiana to arrive at our baseline. Market share of high-efficiency furnaces was flat in 2003 and 2004, jumped in 2005 at the same time natural gas prices jumped and then flattened out again in 2006 just before programs were launched.

Figure 2. Indiana High-Efficiency Furnaces Sales and Rebate Activity



	2007	2008
a) Sales above baseline	2,472	4,580
b) # Rebates/ buy-downs	5,426	10,969
c) Net to Gross (a/b)	45.6%	41.7%

Mature Markets

While the residential furnace market in Indiana is best characterized as a developing market, the residential furnace market in Wisconsin is significantly transformed (WECC 2008). In 2008, 76,712 furnaces were sold in Wisconsin and 70,575 were high-efficiency for a market share of 92 percent. Clearly, in this type of market, rebate programs cannot incent enough units to capture the final eight percent of customers that are purchasing standard efficiency equipment. At this point in a market, it would appear to be time for a change in codes and standards.

Other markets, such as white goods, are also either partially transformed or just too large for end-user rebates to have a material effect. For example, market share for efficient clothes washers in Wisconsin stands at about 50 percent (EPA 2010). Early programs in Wisconsin rapidly moved the market share from near zero to 50 percent. However, as it became impractical to continue offering rebates in Wisconsin, market share in other states has caught up and the market share remains stagnate. The sheer volume of current sales of efficient clothes washers, refrigerators, and other white goods (EPA 2010) suggests that rebate activity is unlikely to be

on a scale that will drive further movement in market share. Also, given the large number of models and the complexity of the purchasing decision for the consumer (size, features, colors, availability, etc.) it is nearly impossible to have two models (one high-efficiency and one standard) that look and function similarly but differ mainly in energy use. In this market, higher, minimum efficiency standards may be the only path to a transformed market.

Market Maturity (by Sales Channel)

The furnace and CAC markets are simpler to understand than some markets because most sales generally flow through one channel—HVAC manufacturers to distributors to contractors. CFLs, on the other hand, are sold through a variety of retail channels including hardware stores, discount (i.e., dollar) stores, grocery stores, home improvement centers, and big-box stores. The sheer quantity of CFLs sold (more than 8 million in WI in 2007) suggests that program budgets and their ability to incent CFLs is beginning to pale in comparison to the overall size of the existing CFL market. The number of incented bulbs (1.4 million in WI in 2007) represents less than 20 percent of existing CFL sales.

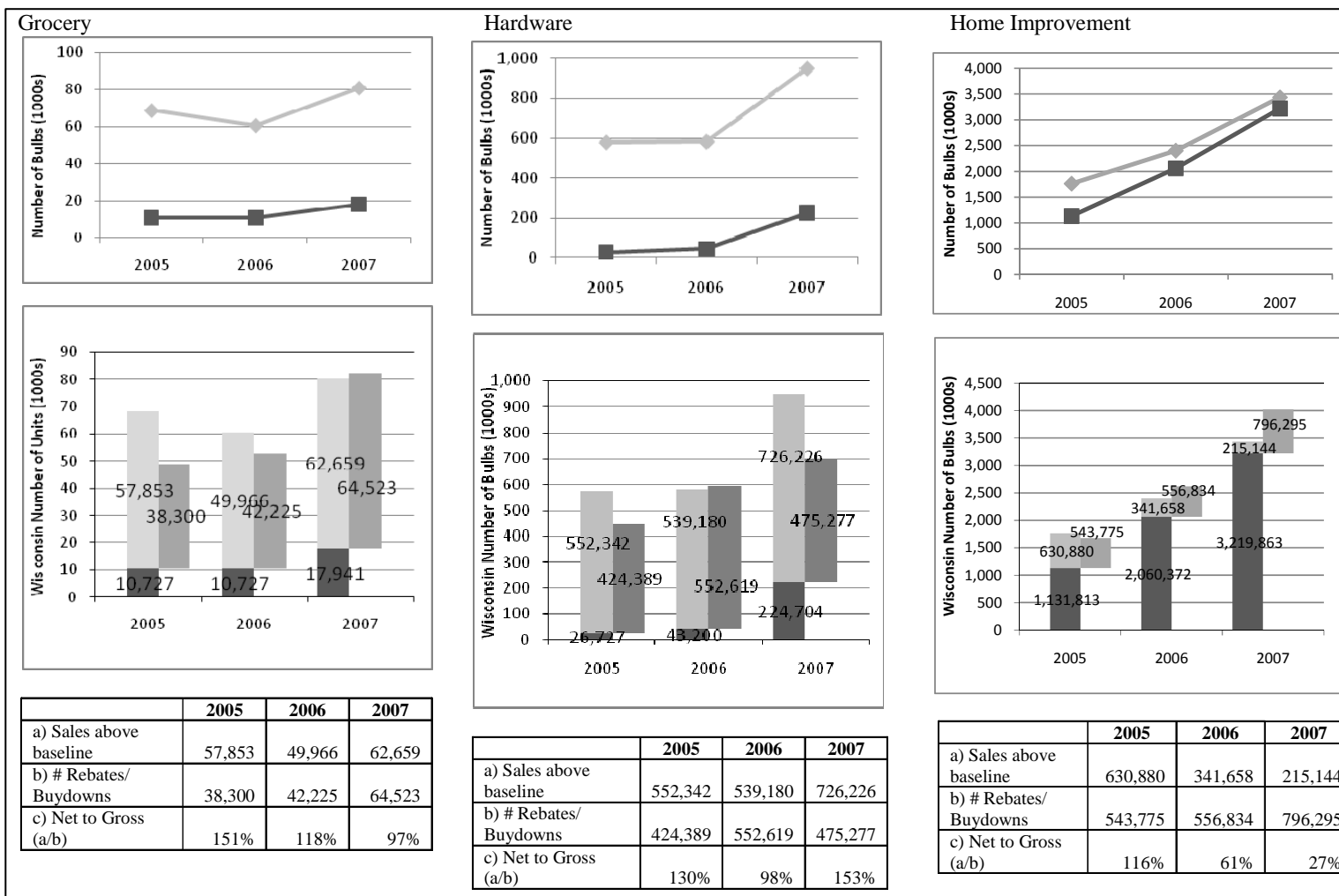
We can, however, gain a more nuanced and meaningful understanding of the market by examining CFL rebate and sales activity by channel. The Wisconsin CFL market at dollar stores, for example, is really still an emerging market since most of these stores do not stock CFLs without a buy-down to lower the price point. Grocery, hardware, and home improvement stores, on the other hand, are each at different phases of development.

Figure 3 (Winch and Talerico 2008), using graphics similar to those used for central air conditioners and forced air furnaces, illustrates the power of understanding CFL rebate and sales activity by channel. On the far left, we see grocery stores, a market that is still emerging in Wisconsin. Focusing on 2007, we see that programs incented 64,523 CFLs, far outstripping current (i.e., baseline) sales of 17,941. And, as predicted from our framework discussion, we see fabulous program impacts (97% net-to-gross ratio).

In the middle of Figure 3, we illustrate the impact of the Wisconsin hardware store effort. This market appears to be transitioning from an emerging to a developing market. Focusing on 2007, we see that programs incented 475,277 CFLs, slightly more than double current (i.e., baseline) sales of 224,704. And, as predicted from our framework discussion, we see a favorable program impact (153% net-to-gross ratio). Clearly, much like the grocery channel, traditional programs (rebates/buy-downs) are having a significant impact.

To the far right of Figure 3, we see a more challenging situation—the home improvement channel. A review of the 2005-2007 data illustrates rapidly growing CFL sales and a maturing market. In 2005, baseline CFL sales were strong, but the program's ability to provide incentives (55% of current or "baseline" sales) was also very strong. By 2007, however, the situation became very different. Current (i.e., baseline) sales stood at nearly 3.2 million and the program was only able to incent 796,295 units (about 25% of CFL sales, and right at our guideline of 25%). Not surprising, and as predicted from our framework discussion, we see a poor program impact (27% net-to-gross ratio)—suggesting a strong need to develop and apply an alternative approach. [Important Note: we do not believe this data suggests that CFL programs in the home improvement channel (note that we would include mass merchants such as Wal-Mart in this characterization) should be ended. Rather, it suggests a need to deal with this channel in new, more innovative ways.] One potential new program approach, market lift, is outlined below.

Figure 3. CFL Sales and Reward Activity by Channel



Higher Savings Goals and the Rebate/Buy-down Elephant in the Room—
 Recognizing When and How to Move On to Market Lift
 Page 11 of 16

Market Lift – A Program Approach to Move Maturing Markets

While the Market Analysis Framework and supporting analysis offers important insight into the market a program is intending to influence, the real challenge comes when, as program designers and implementers, we find ourselves in a maturing market such as the CFL home improvement channel in Figure 3. Where the market is only partially transformed (so not yet a candidate for standards), but program budgets pale in comparison to the overall size of the energy efficient market, a new program approach is needed. While this is the moment to celebrate the tremendous success of early efforts—those programs have truly moved markets—it is also the time to begin the process of transitioning to alternative programs that have the potential to move the market to the next level.

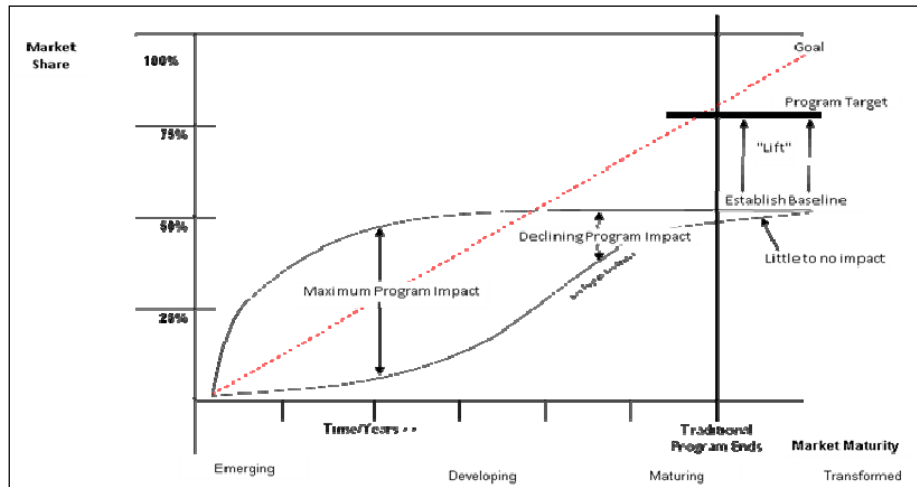
To address these situations, we propose a somewhat revolutionary design, coined “market lift.”⁵ Market lift refers to a time-tested method of moving markets in other industries by setting a baseline and then paying market actors, such as retailers, contractors, distributors, or manufacturers, to achieve higher levels of sales of energy efficient product as a percent of overall category sales (i.e., higher market share). The objective of traditional rebates and buy-downs is generally to increase demand for energy efficient product, so that market actors stock/promote the higher efficiency alternative. This is accomplished by driving energy efficient sales. The objective of market lift is to push the energy efficient product towards becoming the norm. This is accomplished by increasing market share.

Program Concept

Market lift, or “growth incentives” as it is also called, has three main distinguishing characteristics: 1) a continuous feedback loop of sales and market data to establish a baseline and track performance; 2) a commitment by trade allies to achieve sales of energy efficient equipment above that baseline; and 3) incentives for only those sales that are above the established baseline. Figure 4 illustrates the concept.

⁵ While the concept is relatively new in the energy efficiency world, it is certainly not new to many of the market actors (e.g., retailers, contractors, distributors, manufacturers) that such programs interact with.

Figure 4: Applying Market Analysis Framework to Market Lift Program



The concept is relatively simple, but information intensive. For each market actor, historic sales data is used to establish a sales baseline figure, which approximates the level of energy efficient sales (and share) absent an incentive program. Payment is then based on ongoing reporting of market activity (total category sales and energy efficient sales). Take the CFL market as an example. The retailer reports category sales for screw-based bulbs of 1,000,000 unit sales in the past 12 months, 500,000 of which were CFLs (50% market share). In the subsequent 12 months, the retailer is paid an incentive for each percentage point increase in market share above 50% (i.e., no incentive dollars exchange hands if market share does not exceed 50%).

Implications for program objectives

Applying a market share approach to energy efficiency programming requires a fundamental shift in the relationship between program actors—sponsoring utilities/program administrators, retailers, distributors, manufacturers and trade allies, and regulators/program evaluators.

Noticeably absent is the end-user. The market transformation curve (Henriques 2007) reminds us that for an energy efficient product to enter the market there must be a minimum level of demand. That is, end-users must be made aware that a more efficient alternative exists, how to use it, and how to get it (introduction). Traditional energy efficient programming has focused on creating demand amongst end-users through consumer education including energy audits, and product rebates and incentives.

As markets begin to mature (commercialization)—that is, as end-users generally accept that the energy efficient alternative is a legitimate, effective alternative—efficiency programming shifts from affecting awareness to affecting market price, availability and service. Market based approaches, such as market lift, are needed to continue to drive market penetration of the energy efficient equipment and practices. Market actors, not end-users, become the key influencers and therefore the target of energy efficiency programming.

Transformed markets (common practice)—where end-users accept that the energy efficient alternative as the generally accepted choice and market actors sell and service energy efficient equipment as the norm—

Higher Savings Goals and the Rebate/Buy-down Elephant in the Room—
Recognizing When and How to Move On to Market Lift

standards and regulations secure the energy efficient alternative as the norm. To accomplish this, regulators and government standards-setting agencies become the target of energy efficiency programming.

The market share approach is for those markets that are beginning to mature. This may be equipment markets that are “moving” but not yet transformed (such as white goods) or markets with a large volume of energy efficient product relative to the program reach (such as CFLs in “big box” retailers).

Implications for program approach

The market share approach requires a continuous flow of market data for both the total market size within each channel, and the portion served with energy efficient alternatives. Program designers and evaluators are therefore reliant on retailers, distributors, manufacturers, and trade allies to provide timely, accurate data. This data can be highly sensitive competitive intelligence for channel partners. To acquire this data, a number of strategies need to be employed within the energy efficiency industry, including collaboration and relationships, as well as the use of pay for performance arrangements.

Greater collaboration within the energy efficiency industry will enable programs to approach channels on a scale that matches the scale the channel operates in. For example white goods, HVAC and lighting manufacturers, and large scale distributors and retailers such as “big box” stores and national chains, work in hundreds of thousands to millions of units and value consistency across jurisdictions. The energy efficiency industry could build coalitions that enable programs of a national or continental scale to be able to affect the actions of these market actors. Conversely, a market share approach in a niche market like high bay lighting in warehousing, which has relatively fewer units and players, may best be served through regional or utility-specific programs.

Implications for program evaluation

While the focus of this paper is on program planning and design, evaluation does influence program policy, design and implementation decisions. Current evaluation practices often focus on issues of attribution and free-ridership, which can lead to the abandonment of energy efficiency programs too early (Peters and Rae 2008). A market share approach to program design calls for a market based approach to evaluation. This involves setting aggressive market goals for adoption of energy efficiency programs and services (i.e., percent market share) and conducting ongoing market studies to track progress toward increased market share. Utility data, such as load research, offer market level information to corroborate that sales are translating into energy usage reductions.

Implications for program sponsorship

The concepts of different incentives for different channels and the shift from end-users to market actors as the primary target audience for energy efficiency programs challenges long standing concepts of fairness within utilities and government agencies. This truly shifts energy efficiency programming from a customer service to a resource allocation strategy—that is, using investments in energy efficiency to “buy” energy. Over time, this will impact everything from how utilities and government agencies incorporate energy efficiency into supply planning to the content of requests for proposals issued for program design, administration, and participation.

[Higher Savings Goals and the Rebate/Buy-down Elephant in the Room—
Recognizing When and How to Move On to Market Lift](#)

Page 14 of 16

A market share approach also requires a long-term commitment from program sponsors. Market transformation takes time. By incenting only for those sales above the established baseline, programs are demanding that market actors make investments into their marketing approaches, data collection, and reporting. Market actors can only be expected to make investments if they are confident that the sponsoring utilities and/or government agencies are going to “stick with it.”

Conclusions

Over 20 years of investment in energy efficiency has achieved significant increases in the awareness of the value of energy efficient products and practices, and the availability of higher efficiency alternatives. Societal factors, including the implications of climate change, are bringing unprecedented levels of funding to energy efficiency. The purpose of this paper has been to highlight the opportunity this presents to “take energy efficiency programming to new heights,” to offer a market-based planning framework to assess the impact various program approaches can have relative to the size and maturity of the market, and to introduce market lift as a program concept to apply to maturing technologies and channels.

The real dilemma presented in the analytical and decision making framework and related discussion thus far is what to do in situations where the market share for a particular technology is maturing, potentially stagnating, but not yet transformed.

Market-based planning requires a continuous stream of sales and market data. Maturing markets require increased involvement from retailers, distributors, manufacturers, and trade allies to continue transforming that market and moving it to the next level. Market lift programs pay for performance.

These factors demand a different kind of relationship between the energy efficiency industry and market actors (retailers, distributors, manufacturers, and trade allies) than most energy efficiency programs demand today. Market actors are not “customers doing us a favor” but “suppliers delivering increased market share.” Program participation and the contracts supporting those relationships will need strengthening to deliver the required sales and market data to evaluate market performance, and to demand higher expectations in return for an investment of ratepayer dollars into that market and channel.

Market actors are accustomed to these kinds of relationships. Manufacturers and retailers have contractual commitments to sales targets linked to shelf space, product positioning, and marketing activity. However, the energy efficiency industry has not traditionally approached market actors on such terms. To get participation under those terms will require greater collaboration across the energy efficiency industry. Without an aggregate demand, there will be little reason for the largest and most influential market actors to pay attention and cooperate.

As markets do indeed begin to transform, we advocate adopting a market-based approach to program planning, design, implementation, and evaluation. This will be challenging, as it will call for innovation to all elements of the efficiency industry. It also challenges program administrators and evaluators to critically examine relatively small programs operating in large markets. While change can be uncomfortable, it is also necessary to ensure energy efficiency continues to develop as the norm. The market planning framework and market lift program concept offer practical tools towards continued success in transforming energy efficient products and service markets and influencing the market actors at each stage of transformation.

References

- Barbose, G., Goldman, C. and Schlegel, J. 2009. "The Shifting Landscape of Ratepayer-Funded Energy efficiency in the U.S." Environmental Energy Technologies Division – Ernest Orlando Lawrence Berkeley National Laboratory.
- Henriques, D. 2007. "DSM 101." Paper presented at the DSM Training for SaskPower, Regina, Saskatchewan, October 2008. Adapted from Morse, S. 1998. *Successful Product Management*. 2nd ed. London.
- Kogan Page and Wilkins, A. 2005. "Energy Star Year 3 and Beyond" Presentation to Natural Resources Canada Energy Star and Energuide Participants Meeting. Ottawa, Canada.
- [WECC] Wisconsin Energy Conservation Corporation. 2008. Internal communication. October.
- KEMA, Inc. 2009. *Vectren Indiana Natural Gas DSM Program Impact Evaluation—Draft Report*. August 25.
- U.S. Environmental Protection Agency (n.d.).
http://www.energystar.gov/index.cfm?c=manuf_res.pt_appliances.
- Winch, Rick & Tom Talerico. 2008. *Focus on Energy Public Benefits Evaluation Second Annual Comprehensive CFL Market Effects Study—Final Report*. Madison, WI.
- Peters, J. and Rae, M, 2008. "Free-ridership Measurement Is Out of Sync with Program Logic...or We've Got the Structure Built but What's Its Foundation?" In *Proceedings of the 2008 ACEEE Summer Study on Energy efficiency in Buildings* 5-219-234. American Council for an Energy efficient Economy.