Residential Lighting Market Lift Pilot Final Report

August 1, 2014

About NEEP & the Regional EM&V Forum

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and Mid-Atlantic to accelerate energy efficiency in the building sector through public policy, program strategies and education. Our vision is that the region will fully embrace energy efficiency as a cornerstone of sustainable energy policy to help achieve a cleaner environment and a more reliable and affordable energy system.

The Regional Evaluation, Measurement and Verification Forum (EM&V Forum or Forum) is a project facilitated by Northeast Energy Efficiency Partnerships, Inc. (NEEP). The Forum's purpose is to provide a framework for the development and use of common and/or consistent protocols to measure, verify, track, and report energy efficiency and other demand resource savings, costs, and emission impacts to support the role and credibility of these resources in current and emerging energy and environmental policies and markets in the Northeast, New York, and the Mid-Atlantic region.

About D&R International

Over its 29-year history, D&R International has helped introduce or re-introduce programs and marketing initiatives that compel consumers to action. The company's vision and mission statements explain its primary purpose in business: to further the advancement of resource-efficient technologies with an eye to preserving natural resources. D&R has worked with the retail supply chain, product manufacturers, utilities, the building industry, and energy-efficiency organizations to build strong environmental initiatives, while providing market-focused solutions that improve the client's bottom line.

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EXECUTIVE SUMMARY

Introduction

The Regional Evaluation, Measurement and Verification Forum (EM&V Forum), facilitated by Northeast Energy Efficiency Partnerships (NEEP), and the Bonneville Power Administration (BPA) recruited organizations in Massachusetts, Oregon, and Vermont to sponsor a pilot consisting of three coordinated demonstration programs in residential lighting using Market Lift, an innovative upstream program design.[1] Market Lift provides direct incentives to retailers for increasing sales of the targeted product – compact fluorescent lights (CFLs) in this case – above a baseline based on historical sales in the pilot region and a comparator region with stable program activity and, if possible, similar demographics. This model also provides the program sponsors with a valuable data set for understanding the market in their region and evaluating the impact of the program.

The pilot had two primary goals. One was to serve as proof of concept for the program design. The three programs were designed to test whether they could obtain sufficient sales data to develop a sales baseline and measure monthly sales increases above that baseline for which retailers could earn incentives. The other goal was to collect a set of full-category sales data – all medium screw-based lamps – to help inform an analysis of changes in the residential lighting market since the Energy Independence and Security Act of 2007 (EISA) standards went into effect and an assessment of whether the programs affected the lighting markets in their respective service territories. The pilot programs' effects could not be fully explored within this EM&V Forum project, and they may be addressed by ongoing third-party evaluations.

Market Lift Timeline

Work on the pilot began in 2012, when NEEP signed a contract with D&R International. Retailer outreach began in the summer of 2012, and program planning continued through the spring of 2013, when programs in Vermont and Oregon launched. Massachusetts began its program in the fall of 2013. Oregon's program closed in the fall of 2013, while Massachusetts and Vermont's programs closed in the winter of 2013/2014.

Retailer and Manufacturer Recruitment

Two retailers participated in the pilot. One agreed to participate after being approached directly by the project team, while the other was recruited by its lighting manufacturer. The project team approached seven retailers about participating. The retailers who declined to participate did so for a variety of reasons, including timing, unwillingness to share the required sales data, and concern about the risks involved with a new program model.

[1] While sponsors from Massachusetts and Vermont offered Market Lift programs, other members of the Forum – Connecticut, Rhode Island, Maryland, and the District of Columbia – provided financial support for the implementation and analysis of outcomes from the Market Lift pilot.

State-Specific Design and Implementation

Oregon and Vermont worked with the same retailer to implement their programs. Massachusetts worked with a different retailer – and that retailer's sole lamp manufacturer – and ran its Market Lift program concurrently with its existing markdown program.

Key Lessons Learned

The process of planning and implementing the pilot led to significant insights that can help guide future programs. These lessons include the following:

- Early involvement of program planners, evaluators, and manufacturers helps guide program design in vital ways, setting the stage for success in execution and evaluation.
- Incentive structures need to reflect retailer sales volumes, as well as program sponsor priorities.
- Non-disclosure agreements (NDAs) are necessary for collecting historical and program sales data, but negotiating those agreements takes time.
- Once data collection and delivery systems are in place, the data transfer generally proceeds smoothly.
- Retailers value field support in helping them sell more products.

Conclusions and Recommendations

The pilot demonstrated that Market Lift works, and the project met most of its goals, as it accomplished the following:

- Encouraged retailers and manufacturers to mobilize to sell more CFLs and earn incentive funds. All three states' programs observed lift in at least half their respective reporting periods. Calculated lift, expressed as percent above baseline sales, ranged widely during the pilot period – from around 5% to a high of over 200% for one retailer for one period.
- Demonstrated an observable increase in sales based on the lift calculation method agreed upon by program administrators and retailers. The net energy savings resulting from the program will be determined through ongoing or upcoming third-party evaluations.
- Generated a robust data set. Retail partners provided the data needed to develop baselines and track progress throughout the pilot. In all instances, the programs reported that the data was very useful and more extensive than what they had gotten through other efforts to obtain market-related data.
- Developed a partnership with a new retail partner, who participated in Vermont and Oregon lighting programs for the first time through the pilot.
- Introduced a new program model with applicability for a wide variety of products. The program sponsors indicated that the versatility of the Market Lift model is a step forward for energy efficiency programs.

The pilot also had the goal of attracting a sufficient number of retail partners to generate the sales data needed to conduct the post-EISA analysis. Though the pilot ultimately included only two retailers, the pilot team obtained alternative data to generate the inputs needed to model the impact of EISA regulations on sales of A-lamps.

Recommendations for implementation of future Market Lift programs include the following:

- Involve manufacturers early in the planning stages of the program.
- Provide retailers with in-store support that is tied to their retail support plans.
- Identify what non-financial incentives or support the retailer needs to engage in the program.

The pilot also encountered several challenges that will need to be addressed in future programs:

- Retailers showed reluctance to participate, citing the risk of losing funding from existing upstream buydown programs and the risk of sharing proprietary data.
- Retailers had constraints on what tactics they could implement in the stores. While manufacturer participation eased the burden, retailers and manufacturers reported that they would welcome in-store support from program administrators.
- Identifying a true comparator is challenging. Even after the program launch, comparator stores can have surprising changes in program activity that make them unsuitable as comparators.

In summary, the programs in Massachusetts, Oregon, and Vermont led to positive calculated lift in just over half of all reporting periods. The pilot also produced an extensive set of data on CFL sales and taught the project team many important lessons about working with retailers that can help improve program design and implementation in the future. Building on the experience of the three programs to expand Market Lift to programs with more participating retailers, longer promotion periods, other markets, and other products presents exciting opportunities for energy efficiency program sponsors to increase sales of efficient products, learn more about the markets for those products, and strengthen their relationships with retailers and manufacturers.

INTRODUCTION

Efficient lighting has long been one of the mainstays in the portfolios of efficiency programs. Across the country, efficiency programs have incentivized CFLs using an upstream buydown model that provides a per-bulb incentive. Under existing regulatory frameworks, many mature efficiency programs are able to claim only a fraction of the savings associated with the sale of an individual lamp. In a landscape with ongoing efficiency requirements and diminishing savings from lighting due to free-ridership, program administrators need new opportunities for savings.[2]

In 2012, the Regional Evaluation, Measurement and Verification Forum (EM&V Forum), facilitated by Northeast Energy Efficiency Partnerships (NEEP), and the Bonneville Power Administration (BPA) recruited organizations in three states – Massachusetts, Oregon, and Vermont – to sponsor a pilot consisting of three separate, but coordinated, demonstration programs in residential lighting using the Market Lift program design. Market Lift provides a direct incentive to the retailer or manufacturer for increases in sales of the target product above an agreed-upon baseline based on historical sales. This increase (the "lift") is adjusted based on sales at comparator locations, generally from the same retailer, which are selected to track natural market sales outside the program area. Paying incentives for lift above an established baseline is an attempt to reduce or eliminate free-ridership.

Market Lift allows program sponsors to claim full savings[3] for product sales above the baseline, relies on the retailers' expertise to sell product, and provides program sponsors with a robust set of data with which they can evaluate the impact of their program.

This pilot had two primary goals. One was to serve as proof of concept for the program design. Other industries, including retail, regularly demonstrate the principles of Market Lift by setting baseline performance levels and rewarding performance above the baseline. Examples include commission-based sales, athletes earning bonuses for certain levels of performance, and sales staff receiving bonuses, spiffs, or other rewards for hitting sales targets. But these principles have not been sufficiently tested as a mechanism for capturing energy savings for energy efficiency programs. Specifically, the Market Lift programs looked to test if they could provide claimable energy savings by incentivizing retailers to move CFL sales above the historical baseline and if they could obtain sufficient sales data to develop the historical sales baseline and measure sales progress on a monthly basis.

The other goal was to use the three programs to collect full-category sales data. The data could be used to assess the influence of these programs on the overall lighting market in their

[2] Free-ridership is when incentives are paid to consumers who would have purchased the product even in the absence of the incentive program.

[3] Claimed savings are calculated savings from which evaluators determine the actual savings with which a program can be credited.

respective service territories and analyze how the residential lighting market has changed since the Energy Independence and Security Act of 2007 (EISA) standards went into effect.

Other current program models do not gather the data needed for either of these analyses. The buydown model collects data only during the period of performance and only enough to determine that a certain amount of the target product was sold each month. This allows an efficiency program to verify that its allotment of bought-down products was sold, but provides no other insight into the market as a whole, including how, or if, the program changed the market.

In a Market Lift program, efficiency programs collect historical data from pilot stores as well as comparator stores – which traditional programs have not collected – allowing sponsors to compare pilot store performance during the promotional period to pilot store historical performance and the performance of non-pilot stores. This more comprehensive set of sales data allows better estimates of market share, analysis of trends in lighting sales, and calculation of sales baselines. Though often not available to program sponsors and administrators, this information is critical for more effective program planning, evaluation, and market characterization.

Because the Market Lift model collects market data before, during, and after the performance period, it allows program sponsors and evaluators to observe market changes due to programmatic and external factors in near real-time. The model is designed to collect the required data and bring program administrators, retailers, and evaluators together to plan the program and account for pre-existing sales and external market forces. This process helps program administrators avoid paying incentives for sales that would have occurred absent the program.

The three programs – while similar in purpose – varied somewhat from state to state, to meet specific needs and interests of the program administrators and retailers. However, they benefitted greatly from multi-state coordination. The collaboration allowed for better pilot design, greater ease of implementation, more available funding to attract retailer participation, and more lessons learned about implementing the program concept.

The purpose of this report is for D&R to document the experiences of planning and implementing the pilot and the perspectives of stakeholders; it is not a third-party evaluation of the programs. D&R helped design the program models; facilitated negotiations and collaboration among program administrators, retailers, and manufacturers; collected and analyzed the sales data; and calculated lift using a formula agreed upon by the program administrators and retailers. Third-party evaluations of each state's program are either in process or planned for the near future. These evaluations will include input from D&R and other stakeholders.

With only one participating retailer per state, non-disclosure agreements (NDAs) prevent providing detail to outside parties other than whether lift was achieved and, if so, the percentage of lift achieved. Raw data or any analysis from which proprietary information could be determined cannot be shared. Had three or more retailers participated in a state's program, there would have been additional options for reporting the analysis of the data while maintaining retailer confidentiality.

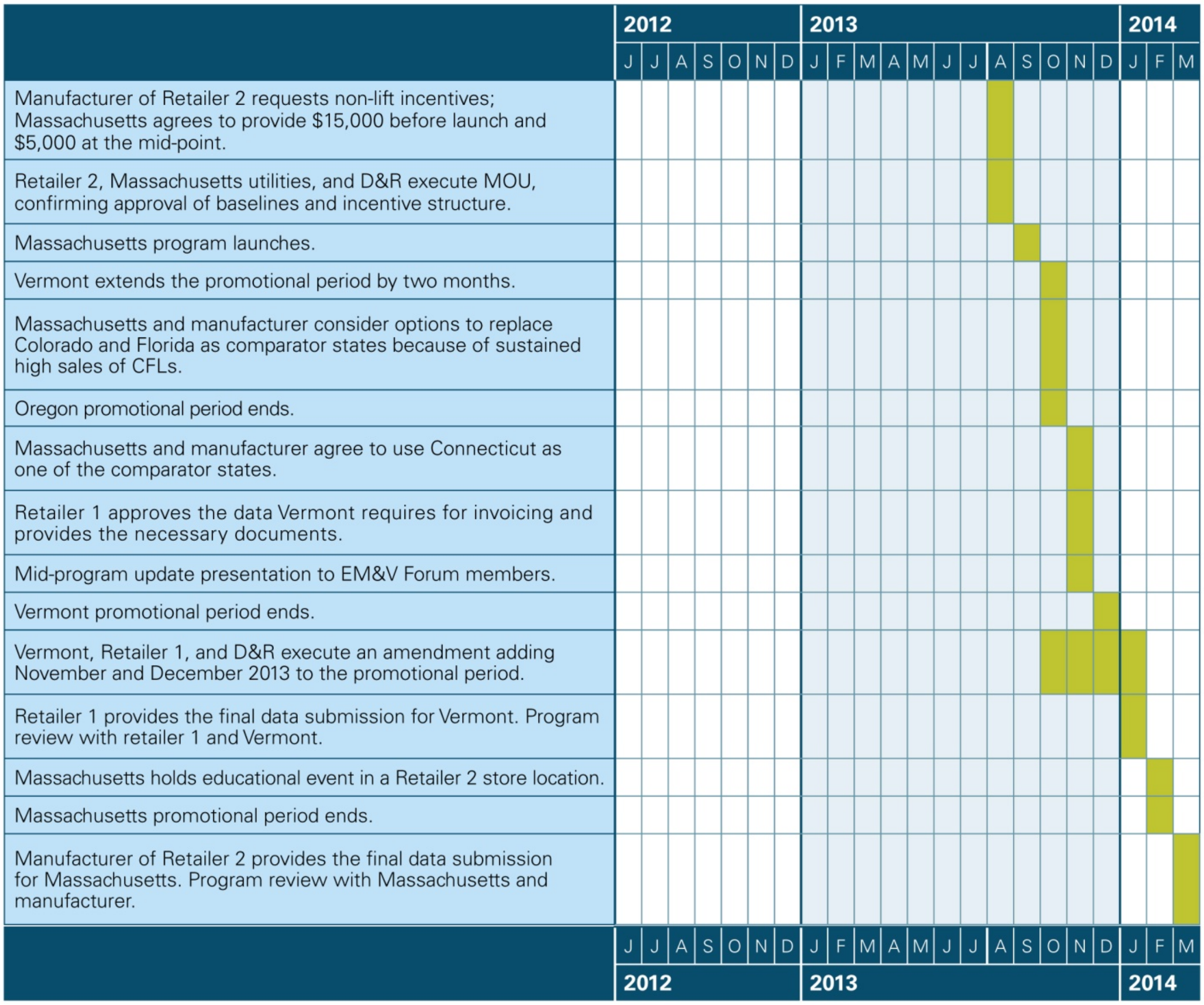
MARKET LIFT TIMELINE

This timeline presents the major milestones of the Residential Lighting Market Lift pilot.

	2012							2013												2014		
	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
NEEP and D&R execute contract.	■																					
Outreach to retailers begins. Two major retailers emerge as expressing the strongest interest in participating.		■	■	■	■	■																
Massachusetts, Rhode Island, and Vermont begin developing the incentive structures based on each state's evaluation needs.					■																	
Retailer 1 verbally commits to participating in the pilot.						■																
Kick-off meeting for the NEEP EM&V Forum subcommittee takes place.							■															
States begin reviewing the Memorandum of Understanding (MOU) template to provide feedback.					■	■	■															
Vermont begins developing its program implementation plan. MOU revised based on the state's feedback.							■															
Retailer 1 begins to provide sales data for baseline calculation for Massachusetts, Oregon, and Vermont to help refine the incentive structures.								■														
Outreach to manufacturer to begin recruiting third retailer to participate in the pilot.								■														
Retailer 1 begins developing implementation plan to share with Massachusetts, Oregon, and Vermont.								■														
Energy Trust and D&R execute MOU.									■													
Oregon program launches.										■												
Retailer 1 and D&R execute MOU for participation in the Oregon program.										■												
Massachusetts and manufacturer develop a lift model that uses out-of-state comparators.										■												
Efficiency Vermont, Retailer 1, and D&R execute MOU, officially approving the baseline and incentive structure.											■											
Vermont program launches.											■											
Lift for Vermont first calculated for May (retailer field tactics and support implementation begin in late April).												■										
Manufacturer for Retailer 2 expresses increased interest in participating.												■										
Second of original two retailers to express interest in participating decides not to participate in Market Lift. Rhode Island subsequently opts not to participate in Market Lift.													■									
Massachusetts ends negotiations with Retailer 1 when disagreements about liability and indemnification cannot be resolved.														■								
September 1 launch date for manufacturer, Retailer 2, and Massachusetts confirmed.														■								
First formal introduction of Retailer 1 manufacturer to Oregon and Vermont to begin more active collaboration.															■							
NEEP and D&R execute contract amendment and extension.															■							
Retailer 1 and Vermont execute NDA to allow sharing of sales data.															■							
	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
	2012							2013												2014		

Note: Oregon's program was funded separately, but timeline information is provided for comparative purposes.

MARKET LIFT TIMELINE (cont.)



Timeline Observations

Efforts to recruit retailers started early in the pilot. After a retailer or manufacturer expressed interest, the retailer or manufacturer was introduced to the program sponsors to begin discussing partnership. Once they agreed to collaborate, the next step was to execute an NDA to enable the sharing of sales data. The retailer or manufacturer submitted the historical sales data, and baselines were calculated by D&R and negotiated by the retailer, manufacturer (for Massachusetts), and program sponsor. Once the baseline was established, the team finalized the incentive structure. The Memorandum of Understanding (MOU) formalized the program requirements and incentive structures; executing the MOU indicated agreement among the parties and allowed the promotional period to begin. When the promotional period ended, the program sponsors, retailers, and manufacturers reviewed the program.

In general, the sequence of these efforts worked. However, some modifications could streamline the process for future programs. In Massachusetts, MOU negotiations with a potential retail partner went from January to July 2013, but the program sponsor and retailer’s inability to agree on terms ultimately prevented the parties from collaborating. Future efforts could begin the legal review process earlier to help identify any sticking points before putting effort into baseline calculations or lengthy negotiations.

Manufacturer participation is critical to success in this program, and the manufacturer should be involved in negotiations of future programs from the beginning. The manufacturer in the Massachusetts program was the primary point of contact from the point of introduction to the program sponsors, and without the manufacturer, the retail partner would not have participated. In the cases of Oregon and Vermont and their retailer, initial outreach to the manufacturer occurred in May, but there was no active engagement with the manufacturer until August, months after the program launched. The manufacturer was helpful in addressing stock shortages and merchandising, and its involvement earlier might have led to increased sales.

RETAILER AND MANUFACTURER RECRUITMENT

One of the first steps in planning the pilot was retailer recruitment. Retailer 1 agreed to participate after being approached directly about participating in the pilot. An interested manufacturer recruited Retailer 2's participation. Without the efforts of this manufacturer, Retailer 2 would not have participated. The manufacturer continued to be an essential partner throughout the pilot, handling nearly all program planning and implementation, including data collection.

Once the retailers and manufacturer committed to participating, the next step was agreeing on the terms of and executing the MOUs and NDAs. After Retailer 1 gave a verbal commitment to participate, it and the states began an 8-month process of negotiating the terms of the agreements. Massachusetts eventually decided against running a program with Retailer 1 because the program administrators did not accept the liability and indemnification terms requested by the retailer. In contrast, Massachusetts's negotiations with Retailer 2 and its manufacturer took only about 4 months. Vermont and Retailer 1 did not sign their NDA until after the program had launched. Because D&R already had an NDA with the retailer, D&R was able to obtain the data and calculate baselines to keep the program planning moving along.

Collaboration with the retail and manufacturer partners in the pilot took two forms. For Retailer 1, the MOUs and NDAs were executed with its parent company. All baseline negotiations and planning and implementation meetings involved the parent company and the retailer. The manufacturer acted on behalf of Retailer 2 throughout the program; the manufacturer, not the retailer, participated in the baseline negotiations and meetings to determine the incentive structure.

The project team approached seven different retailers to participate. Two ultimately decided to participate. Discussions with the five retailers that did not participate ranged from short to long and involved. Their reasons for not participating were varied and included the following;

- **Timing**. One retailer had recently shifted to a new manufacturer and did not want to engage in a new pilot during this period of transition.
- **No energy efficiency program participation**. One retailer was very interested in the program design but had not yet participated in an energy efficiency program for a number of reasons – mostly related to branding. It was not willing to have its initial foray into energy efficiency promotions be as part of a pilot.
- **No interest**. One retailer simply said it was not interested.
- **Sales data**. Two retailers indicated that sharing this amount of sales data was too much of a risk from a legal perspective. While they approached the issue differently, they both reached the same conclusion.
- **Risk**. Two retailers indicated that their existing systems and operations were oriented to provide support to the current buydown model. While they were interested in seeing new

models for incentives – particularly in lighting – that rewarded them for their effort and provided a higher level of in-store support and customer education, they were not prepared to participate in a pilot. One retailer was told by an implementation firm that utilities would withdraw their participation from existing programs if the retailer participated in this pilot.

OVERVIEW OF OUTCOMES

The pilot demonstrated that the Market Lift model can work. Participating retailers were willing to provide the sales data needed to calculate baselines and lift. Retailers, manufacturers, and program administrators agreed on a formula to calculate the increase in sales for which incentives were paid.

Each program was successful in achieving an observable lift based on the agreed-upon formula and the collected sales data in at least half of its reporting periods. In Massachusetts, the retailer – which historically had high sales volumes – increased sales at least 12% above the baseline in two of the three two-month program periods, with a high of more than 26% for 23W lamps in one period and more than 35% for 13W lamps in another period. Oregon and Vermont partnered with a retailer with a much smaller baseline. In Oregon, the retailer achieved lift for A2-A4 lamps (40-75W equivalents) in six of the twelve half-month program periods and for A5 lamps (100W equivalent) in five of the periods – including lift of more than 277% in one period. Vermont achieved lift ranging from nearly 4% to more than 128% in nine of its sixteen half-month reporting periods. For more detail about reporting and results, please see Tables 4, 7, and 9.

Some of the principal findings from this pilot, generated in partnership with the three state sponsors, are explained below.

Early involvement of key stakeholders, such as program planners (in Oregon and Vermont), implementers (in Oregon and Vermont), and evaluators and planners (in Oregon and Massachusetts) **helped guide program design.** This helped provide direction about eligibility of products to incentivize based on considerations of what savings could be claimable for incentivized bulbs, appropriate incentive levels and tiers, and the selection of the baselines. Manufacturer involvement early in the process was critical in obtaining retailer participation in Massachusetts and identifying areas where execution could be improved. Without the manufacturer's efforts in Massachusetts, the retailer would not have participated, highlighting the need for future programs to incorporate efforts to engage with manufacturers early.

Incentive structures that were designed to provide retailers options early in the program gave the state sponsors an excellent opportunity to consider and talk through Market Lift program design issues. One of the first discussions among retailers and program sponsors concerned incentive structures. To facilitate the discussion, the program sponsors offered several possible scenarios of incentive amounts and sales goals. However, once sales baselines were established, all three states developed incentive structures that were better suited to the sales volumes of their respective retailers. Retailers asked for a fairly modest, easily attainable first tier to give sales staff an initial easy win. For two of the states, the first tiers in the final incentive structures are at 10% increase over baseline, and one state's first tier is at 3% increase over baseline. The pilot team also determined that the proposed increments between tiers were not ambitious enough. The calculated baselines revealed that for one retailer, the baseline sales volume was so low that the proposed increments between tiers represented a very small increase in the number of products sold, making them too easy to achieve. Final incentive structures have increments of 3% to 200%.

After the NDAs were signed, retailers and manufacturers were willing to share the data. Before the launch of the pilot, the project team emphasized the security of the data and executing the NDAs. Retailers and manufacturers needed lead time to review and sign NDAs to allow the sharing of sales data and to set up the data transfer process. Transferring the data typically required that the manufacturer or retailer run a query that, once created, could be used throughout the promotional period.

Data delivery results were mixed. One retailer sometimes needed to be reminded to deliver the data. Regular meetings with the project team may have contributed to the other retailer providing data unprompted. Frequent contact with retailers helped keep data submission on schedule.

Retailers placed a high value on in-store field support where it was offered. Both Oregon and Vermont provided active field support for the pilot stores in the form of in-store assistance with signage, training, stocking, and product displays. Oregon also provided monitoring of the comparator stores. Field support in Massachusetts was limited to one weekend event in one store. Table 1 summarizes key elements of each state's program.

Table 1. Characteristics of Market Lift Programs by State

	VERMONT	MASSACHUSETTS	OREGON
Sponsors	Efficiency Vermont	NStar, National Grid, Western Massachusetts Electric Company (Other program administrators would have participated if the retailer had locations in their service territories.)	Energy Trust of Oregon, Bonneville Power Administration
Pilot Promotional Period	May 1 – Dec. 31, 2013	Sep. 1, 2013 – Feb. 28, 2014	Mar. 1 – Oct. 31, 2013
Geographic Coverage	Statewide	Statewide	Energy Trust of Oregon electric service territory
Incentive Funding Available	$20,000 for performance; $9,000 for milestones	$117,000*	$50,000 for performance; $6,000 for milestones
Total Incentive Spending	$211.50	$12,755.00	$222.00
Incentivized Products	Bare spiral CFLs - ENERGY STAR	Bare spiral CFLs - ENERGY STAR	General service CFLs (including A-lamps)
Number of Pilot Stores	3	6	6
Number of Comparator Stores	4	26	4
Comparator Location	Northern New York	Connecticut, Florida	Non-participating stores in Energy Trust electric service territory
Frequency of Lift Calculation	Twice a month	Every 2 months	Twice a month
Frequency of Incentive Payments	Twice during pilot	Every 2 months	Upon project conclusion
Tiers (sales increase over baseline) and Incentives (% lift, per-bulb incentive)	Tier 1 - 10%, $0.75 Tier 2 - 60%, $1.00 Tier 3 - 135%, $1.25 Tier 4 - 235%, $1.50 Tier 5 - 385%, $1.75 Tier 6 - 585%, $3.00	Tier 1 - 10%, $0.75 Tier 2 - 15%, $0.80 Tier 3 - 20%, $0.85 Tier 4 - 25%, $0.90 Tier 5 - 30%, $1.00	**A2-A4 Lamps** Tier 1 - 3%, $1.00 Tier 2 - 53%, $1.25 Tier 3 - 128%, $1.50 Tier 4 - 228%, $2.00 **A5 Lamps** Tier 1 - 25%, $1.00 Tier 2 - 75%, $1.25 Tier 3 - 150%, $1.50 Tier 4 - 250%, $2.00
Incentive Cascades to Lower Tiers?**	Yes	Yes	No
Milestone Incentives (non-performance)	$2,000 per store - training for all staff; $1,000 per store - developing pocket card and program guidance for staff by pilot start	None	$3,000 for completing program plan; $3,000 for training 75% of sales staff in first month of the pilot
Concurrent Incentive Program	No	Yes – CFL markdown	No
Field Support Offered	Ongoing in-store support for signage and associate needs, including training	One in-store educational event	Ongoing in-store support and assistance developing training materials

* This incentive funding is for the Market Lift program. Massachusetts had a separate budget for the markdown program that ran concurrently.
** When a higher tier is met, the corresponding incentive applies to all lamps sold above the baseline.

STATE-SPECIFIC DESIGN AND IMPLEMENTATION

Massachusetts

The Massachusetts Residential Lighting Market Lift program included three investor-owned utilities (IOUs), National Grid, and two subsidiaries of Northeast Utilities — NSTAR Electric (NSTAR) and Western Massachusetts Electric Company. Cape Light Compact, an intergovernmental organization that delivers energy efficiency programs and electricity supply options, and Unitil, another IOU, were interested in the program, but were not able to participate because the retail partner did not have locations in their service territories.

Objectives

Massachusetts has a long history of energy efficiency programs and coordination among multiple program administrators in the delivery of statewide energy efficiency. The Massachusetts program sponsors had several objectives for this pilot. They wanted to test a new incentive model with the potential of increasing claimed savings and obtaining full-category sales data. Massachusetts wanted to increase sales above the level achieved by its long-standing standard incentive program. It ran Market Lift concurrently with the established markdown program to capture additional savings. Massachusetts sought to empower retailers with an additional incentive to increase sales in stores using their unique skills to best market, stock, and sell efficient equipment during the Market Lift promotional period.

Partners

Massachusetts partnered with a retailer and its sole lamp manufacturer to promote 13W and 23W bare spiral CFLs. Initially, Massachusetts negotiated with a different retailer to partner on the pilot, but they were not able to agree on final terms regarding liability and indemnification.

Baseline Calculation

D&R calculated baselines through analysis of historical data provided by the participating retailers. Retailers provided at least 12 months of sales data to ensure that seasonal fluctuations were captured. For a list of the required and requested data fields, please see Appendix 1. After initial analysis to calculate average sales volumes for both participating and comparator locations, D&R, the retailer, and the program sponsor negotiated baseline values. The negotiated baseline values reflected adjustments requested by both the retailer and the program sponsor to account for promotions, natural market growth, or other factors that might have affected sales such that the initial calculated values did not reflect anticipated sales during the performance period.

Comparators

Initially, the preferred Massachusetts model was an intrastate comparison where the retailer would keep pricing constant in the control stores while increasing marketing and trying different program activities in the participating stores, This model was approved by a consultant to the

Massachusetts Energy Efficiency Advisory Council, who believed it reliably captured the incremental effects of the Market Lift incentive layered on top of the existing buydown program.

When Massachusetts partnered with a different retailer with fewer locations in the state, the original program design was abandoned. The participating retailer has a company-wide policy that all locations in a state have to offer the same price on products, and it has too few locations in Massachusetts to select in-state comparator stores. All the in-state locations had to be pilot stores. Massachusetts decided to continue with the program by identifying with the help of the manufacturer two comparator states with similar branch-level sales volumes and demographics and using all the locations in each state. It wanted to use one comparator with a history of similar incentive levels, and one with no history of incentives. The program administrators chose Colorado (for its similar history and steady sales) and Florida (for its absence of programs) as comparators.

One key element in identifying the comparator states was stability in program or promotional activity, because changes in those activities typically affect CFL prices in the stores. This stability would allow the program administrators to isolate the impact of the Massachusetts program on CFL sales. However, in the first month of the program, several unexpected developments prompted a reconsideration of the comparator states. Colorado was one of several states in which the retailer pushed CFL sales, placing bulbs prominently at the store entrances and increasing inventory. Colorado also experienced statewide flooding, which altered bulb purchase patterns. An excess of CFL stock in Florida prompted the stores to reduce prices significantly. This ran counter to the expectation of stable prices. The sponsors were comfortable keeping Florida as a comparator state, but wanted to replace Colorado because the increased product promotion and flooding made it an inappropriate comparator state. With the help of the manufacturer, Massachusetts and the retailer chose Connecticut to replace Colorado. The program used 6 locations in Massachusetts as pilot stores, and 21 locations in Florida and 5 in Connecticut as comparators.

Budget

The Massachusetts budget for Market Lift incentives was more than $96,000, with an additional $20,000 for the manufacturer and retailer to use to further reduce the sales price of the CFLs. Massachusetts also had funding for a markdown that predated the Market Lift incentives and continued during the course of the Market Lift program.

Incentives

Massachusetts' markdowns for the retailer predated discussions to implement this pilot. The markdown paid $3 for each 13W 4-pack and $6 for each 23W 6-pack. Massachusetts decided to continue the markdown incentives to ease retailer concerns that Market Lift would replace the markdowns. Sales beyond the baseline would earn Market Lift incentives, which are summarized in Table 2.

The tiers represent sales volume targets. Each tier has a corresponding incentive for each lamp sold above baseline, and the manufacturer received incentives based on the highest tier it reached in each reporting period. For example, if lift was calculated to be between 10% and 15%, the manufacturer received the Tier 1 incentive of $0.75 per lamp sold above baseline. If lift was calculated to be between 15% and 20%, the manufacturer received the Tier 2 incentive of $0.80 per lamp sold above baseline. If lift was negative, the manufacturer received no incentive, but was not penalized.

The manufacturer earned $12,755 in sales incentives.

Table 2. Massachusetts Incentive Structure

Tier Target	Tier Target Sales Volume Lift	Cumulative Sales Volume Lift	Incentive Per Lamp
Tier 1	10%	10%	$0.75
Tier 2	5%	15%	$0.80
Tier 3	5%	20%	$0.85
Tier 4	5%	25%	$0.90
Tier 5	5%	30%	$1.00

The tier target sales volume lift percentages reflect the increase in sales needed to reach the next tier. The cumulative sales volume lift percentages are the overall sales increases over baseline needed to reach a specific tier. To measure sales volume lift (%), sales volume percentage changes for the participating stores were compared to sales volume percentage changes for the comparator stores. The formula for calculating lift was:

Lift = Participating Lift – Comparator Lift

where

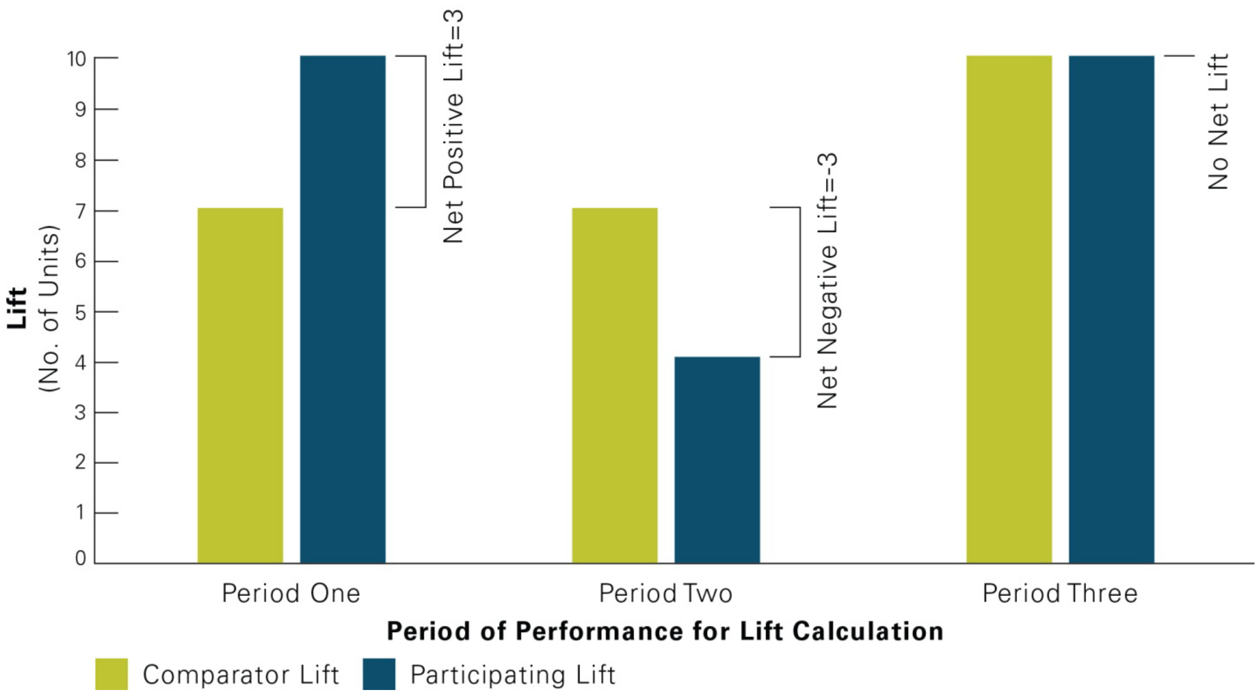
Participating Lift = [(ActualParticipating-BaselineParticipating)/BaselineParticipating]

and

Comparator Lift = [(ActualComparator-BaselineComparator)/BaselineComparator]

Figure 1 provides examples of positive lift, negative lift, and no lift.

Figure 1. Lift Calculation



In Massachusetts, two comparator groups were used. To calculate the percentage change for the comparator groups as a whole, the percentage changes were first calculated for each comparator group individually, and then the two values were averaged, applying equal weighting to both groups. The working formula was:

Lift = Participating Lift – (Comparator 1 Lift + Comparator 2 Lift)/2

where

Participating Lift = [(ActualParticipating-BaselineParticipating)/BaselineParticipating]

and

Comparator 1 Lift = [(ActualComparator1-BaselineComparator1)/BaselineComparator1]

and

Comparator 2 Lift = [(ActualComparator2-BaselineComparator2)/BaselineComparator2]

For both the participating and comparator groups, sales volumes were calculated for the entire group at once. That is, the volume percentage changes reflected the whole participating group or comparator group. This was done to account for differences in sales volumes, to prevent smaller-volume locations from disproportionately affecting lift measurement.

The calculation does not account for sales of competing inefficient lamps, LED replacement lamps, or non-ENERGY STAR qualified CFLs.

Before the program launch, the manufacturer expressed concern that the inability to use in-store tactics would make increasing sales difficult. End-caps and other prominent display spaces were reserved for other products. Customers were already accustomed to lower prices because of the markdown, and increasing sales without further price reductions would be challenging. Massachusetts agreed to provide $15,000 at the beginning of the program and an additional $5,000 midway through the program to enable the retailer to reduce prices further to encourage lift. This funding was separate from the incentives shown in Table 2. Table 3 shows multipack pricing during the promotional period.

Table 3. Massachusetts Retailer Prices with Markdowns and Reductions

			9/2/2013-1/31/2014		2/1/2014-2/28/2014	
Lamp Type	Lamps/ Package	Markdown Incentive/ Package	Additional Price Reduction/ Package	Sales Price/ Package	Additional Price Reduction/ Package	Sales Price/ Package
13W	4	$3.00	$0.40	$1.59	$0.60	$0.99
23W	6	$6.00	$0.60	$3.39	$1.40	$1.99

Field Support

Massachusetts did not offer field support because it was already offering markdown incentives. At the suggestion of the manufacturer, Massachusetts held an educational event in one location during the last month of the promotional period, resulting in the second-highest weekly 13W sales and the highest weekly 23W sales for that location.

Lift Results

Program Sponsor: Massachusetts Program Administrators
Program Start: September 1, 2013
Program End: February 28, 2014
Program Periods: 3 (two-month interval)
Lift Stores: 6

Products Promoted: ENERGY STAR Qualified Compact Fluorescent Lamps – General Service

The following lift results are calculated using the collected sales data in a formula agreed upon by the program sponsor and manufacturer. A separate third-party evaluation will calculate the net energy savings associated with this calculated lift. With only one participating retailer, the most detail that can be provided to outside parties is whether lift was achieved and, if so, the percentage of lift achieved. Raw data or any analysis from which baselines or sales volumes could be calculated cannot be shared.

Table 4. Massachusetts Lift Results - Overview

Program Period		% Lift		Incentive Tier Met	
Start	**End**	**13W**	**23W**	**13W**	**23W**
9/1/2013	10/31/2013	12.3%	26.1%	1	4
11/1/2013	12/31/2013	-1.7%	-22.9%	None	None
1/1/2014	2/28/2014	35.3%	20.5%	5	3

<u>Lessons Learned</u>

Offering a markdown and lift incentive concurrently is effective in achieving lift, but costly. An existing, concurrent markdown program helped secure retailer participation because the markdown program paid the retailer for all sales of CFLs, independent of any lift. This program also provided the retailer with additional funds to reduce sales prices. Because of the concurrent markdown program and limited use of in-store sales and marketing tactics, the manufacturer and retailer were concerned that increasing sales of CFLs without reducing sales prices would be difficult. The two-pronged approach was effective in securing the participation of the manufacturer and retailer. However, this layering of a Market Lift program onto an existing markdown was anticipated by the program administrator to be costly for ratepayers. A more complete analysis of this cost will be addressed in the forthcoming third-party evaluation report.

Identifying comparators is challenging. In determining a comparator location, the goal is to find a location with prices and program activity that best reflect those in the participating locations. In the absence of price fluctuations and programmatic changes in comparator locations, sales volume changes can be attributed to natural market transformation, which can isolate that similar change in the participating location. The comparator would thus ideally be a location with no history of incentive programs, or alternatively, a location with the same incentive program running continuously. In practice, finding a true comparator is challenging, because any external changes (i.e., outside the influence of the program administrator or retailer) can significantly impact the market and render the selected location unsuitable as a comparator. One group of comparator locations, located in a state with a stable program, suddenly experienced high sales volume increases when the state adjusted markdown incentives and increased program-related marketing. In addition, during the lift program, one of the chosen comparators had unusually high sales resulting from unexpected discounts on a discontinued product. The retailer offered only two CFL models, each with a different light output and both in multi-packs. When the program began, the retailer was phasing out one product, selling it at discounted prices in regions where there was excess supply (which did not include Massachusetts). This increased sales in the comparator states, reducing the calculated lift for Massachusetts. If a retailer offers many more products, makes frequent changes to its product mix, or has regional differences in stocking patterns, it may complicate the comparator selection.

The inability to control pricing and program activity in Massachusetts's out-of-state comparators presented the team with some challenges. Future efforts should work to identify ways to better anticipate and, if possible, manage pricing and programmatic activity in in-state and out-of-state comparator stores. For multi-state efforts, it would be helpful to have a standard method for selecting comparators. Program administrators should build consensus to select in-state or out-of-state comparators.

Legal agreements can make planning complicated. Massachusetts engaged with an interested retailer for seven months, including initial baseline calculations and discussions about incentive structure. Multiple meetings were held with attorneys from the retailer and the program administrator, and the MOU underwent several revisions, but the parties could not agree on terms regarding liability and indemnification. Following that experience, Massachusetts revised its MOU template, and planning and legal discussions with the second retailer took only three months.

Data obtained offers great insight. The program was effective at obtaining sales data, and this data provided a great deal of insight into the lighting market and the environment in which Massachusetts programs operate. The manufacturer provided all the sales data on behalf of the retailer and did so in a timely manner. For the first half of the program, the manufacturer provided sales data twice each month; for the second half, it provided sales data weekly. Obtaining sales data for all store locations in multiple states enabled comparisons among states.

Engaging retailers is challenging. National corporate goals can overshadow state-level efforts to achieve lift. Aligning programs nationally could be a successful strategy. At the same time, branch-level managers ultimately decide what their store promotes – the strength of corporate influence on this can vary. The incentive funding available also has to be significant enough to attract retailer interest. Providing sufficient incentives is one part of the value proposition, but future Market Lift efforts must also be prepared to show how they are not displacing the traditional markdown program, provide retailers enough achievable incentives to justify participating, and mitigate the risk associated with the data requests.

In-store support and product placement are critical. In-store support like consumer education events and addressing any shortages of stock could help achieve lift. During the promotional period, the Massachusetts locations experienced a shortage of CFLs, which likely limited lamp sales. Having sufficient stock is a key factor in increasing sales. Being able to use critical merchandising tactics, such as end-caps and other unique product displays, also helps drive sales. The value of the in-store support is indicated by the impact of the single event held in Massachusetts. During that week, the store had its second-highest weekly sales volume for 13W CFLs and its highest weekly sales volume for 23W lamps. In-store support and events in other locations could have spurred additional sales, increasing the lift achieved.

Retailers and manufacturers opposed calculating lift by market share. Early in the design process, the sponsors in all three states considered calculating lift using market share, not sales volume. The market share method would provide better insight into how the sales of efficient products compare to sales of non-efficient ones. However, participating and non-participating retailers and manufacturers objected to the market share approach, citing an unwillingness to sacrifice their incandescent lamp sales for this program. The participating retailer in Massachusetts did not carry incandescent lighting so the market share approach was not an option for this program.

<u>Conclusion</u>

Massachusetts observed lift, even with minimal in-store support—one in-store event. More in-store support would probably have led to even more lift. While one objective of the Market Lift pilot was to let the retailers determine how to achieve lift, the participating retailer was not able to implement in-store tactics to promote the product. More lead time and advance funding were needed to use end-caps and other prominent locations. Manufacturer engagement was critical for obtaining sales data and understanding how the retailer operated. Identifying comparator areas with stable prices and program activity is extremely challenging. Even the manufacturer, who was instrumental in implementing the program and obtaining the retailer’s participation, was not notified of changing prices or increased promotional activities in the initially selected comparator states.

Oregon

Energy Trust of Oregon is an independent nonprofit organization dedicated to helping Oregon customers of Portland General Electric, Pacific Power, NW Natural, and Cascade Natural Gas, as well as Washington customers of NW Natural, benefit from saving energy and generating renewable energy.

Objectives

Energy Trust had several objectives for participating in this pilot. It provided an opportunity to explore new and innovative ways of engaging with retailers to collaboratively drive program savings. If incentives for consumers become too small to drive consumer action, offering incentives to retailers in aggregate using a model like Market Lift may motivate retailers to increase the availability or sales of efficient products. Another key driver was the opportunity to receive full-category sales data, which would allow Energy Trust to make informed decisions about the best direction for future lighting programs.

Energy Trust's standard incentive model for CFLs is a buydown model through the regional Simple Steps, Smart Savings program. Energy Trust also provides free CFLs through direct installs during home energy reviews, trade ally direct installs, and free Energy Saver Kits. This pilot gave Energy Trust an opportunity to capture additional energy savings from CFLs, test the effectiveness of a different incentive model, and obtain data that could provide valuable information about the CFL market. The retailer does not participate in the Simple Steps, Smart Savings program, so there was no overlap of incentive dollars in these locations.

Partners

Energy Trust partnered with Bonneville Power Administration (BPA) for this pilot. BPA indicated that it saw Market Lift as an opportunity to test a new program model that could offer greater savings from residential lighting and better data on the lighting market. BPA used its Simple Steps, Smart Savings in-store retail support program to assist the retailer and provide on-the-ground intelligence about in-store tactics being deployed for the program.

Baseline Calculation

D&R used the same baseline calculation process for Massachusetts, Oregon, and Vermont. For a description of the process, see the Massachusetts portion of the State-Specific Design and Implementation section.

Comparators

Energy Trust chose to use comparators within its electric service territory for this pilot, believing that they would provide the most relevant comparison. Energy Trust designated 6 of the retailer's Oregon stores as pilot stores and 4 as comparator stores.

The test stores were in Beaverton, Portland, Gresham, Salem, Roseburg, and Klamath Falls. The comparator stores were in Oregon City, Corvallis, Albany, and Coos Bay. In making these choices, Energy Trust attempted to provide some balance among urban/suburban/rural markets, in addition to other demographic factors.

Budget

Energy Trust had $50,000 available for incentives on general service, medium screw-based, spiral CFLs and $6,000 available for non-sales incentives for providing a program plan and conducting staff trainings by specific due dates.

Incentives

Energy Trust set up a two-part incentive structure for its participating retailer, including incentives for non-sales activity to help mitigate the risk and cost of participating in the program.

For non-sales incentives, Energy Trust offered $3,000 to the retailer for completing each of the following activities:

- Completing within the first month of launching the program a Program Plan containing "reasonable detail on the marketing activities" that the retailer would deploy to sell more lamps.
- Developing training materials and training 75% of sales staff in pilot stores on details of the program in the first month of the program.

The retailer earned $222 in sales incentives, but it did not provide the program plan or conduct staff training, so it did not earn the non-sales incentives.

Tables 5 and 6 present the incentives Energy Trust offered for increases in bulb sales over the baseline. Oregon had two sets of incentive structures: one for category A2-A4 lamps and another for category A5 lamps. The tiers represent sales volume targets. Each tier has a corresponding incentive for each lamp sold above the previous tier (in the case of tier 1, the previous tier is the baseline). For example, if lift for category A2-A4 lamps was calculated to be between 3% and 53%, the retailer received the Tier 1 incentive of $1.00 per lamp sold above baseline. If lift for category A2-A4 lamps was calculated to be between 53% and 128%, the retailer received the Tier 1 incentive of $1.00 per lamp for each lamp sold from baseline to the 53% lift level, and the Tier 2 incentive of $1.25 per lamp sold above the 53% lift level. If lift was negative, the retailer received no incentive, but was not penalized.

Table 5. Oregon Incentive Structure – Category A2-A4 lamps (40-75W equivalents)

Tier Target	Tier Target Sales Volume Lift	Cumulative Sales Volume Lift	Incentive Per Lamp
Tier 1	3%	3%	$1.00
Tier 2	50%	53%	$1.25
Tier 3	75%	128%	$1.50
Tier 4	100%	228%	$2.00

Table 6. Oregon Incentive Structure – Category A5 Lamps (100W equivalent)

Tier Target	Tier Target Sales Volume Lift	Cumulative Sales Volume Lift	Incentive Per Lamp
Tier 1	25%	25%	$1.00
Tier 2	50%	75%	$1.25
Tier 3	75%	150%	$1.50
Tier 4	100%	250%	$2.00

The tier target sales volume lift percentages reflect the increase in sales needed to reach the next tier. The cumulative sales volume lift percentages are the overall sales increases over baseline needed to reach a specific tier. To measure sales volume lift (%), sales volume percentage changes for the participating stores were compared to sales volume percentage changes for the comparator stores. The formula for calculating lift was:

Lift = [(ActualParticipating-BaselineParticipating)/BaselineParticipating]
- [(ActualComparator-BaselineComparator)/BaselineComparator]

For an illustration of this formula, please see Figure 1 (p. 18). The calculation does not account for sales of competing inefficient lamps, LED replacement lamps, or non-ENERGY STAR qualified CFLs.

Field Support

BPA provided field support through its Simple Steps, Smart Savings program. Simple Steps field support contractors visited each pilot and comparator store roughly every three weeks. The wide-ranging support under this program included the following:

- Training staff
- Developing and hanging in-store signage
- Assisting with stocking
- Developing end-caps, aisle violators, and other in-store displays

The in-store support provided by the Simple Steps program was invaluable for tracking in-store developments that affected the program. The retailer noted the value of the on-the-ground intelligence provided by Simple Steps.

Initially, the store visits revealed lighting aisles filled with clearance items and inconsistent signage. This was in large part due to the retailer's planned, nationwide reset of its lighting aisle. As the retailer's new planogram was implemented, the field support teams showed how it was being executed in the stores. The in-store support demonstrated that inventory for CFLs tended to be very low – generally 2-5 products. While the retailer developed a lighting end-cap during the period of promotion, the limited stock of CFLs available in the stores restricted possible sales.

<u>Lift Results</u>

Program Sponsor:	Energy Trust of Oregon
Program Start:	March 1, 2013
Program End:	October 31, 2013
Lift Stores:	6
Program Periods:	16 (half-month interval)

Products Promoted: ENERGY STAR Qualified Compact Fluorescent Lamps – General Service

Energy Trust intended to run the program promotional period through the end of August. However, because of slow in-store implementation, Energy Trust extended the promotional period through the end of October.

The following lift results are calculated using the collected sales data in a formula agreed upon by the program sponsor and retailer. Energy Trust reviewed the sales results and used its deemed savings amounts to claim savings. A third-party evaluator will conduct a process evaluation to document the program and summarize lessons learned and recommendations for other, similar efforts. With only one participating retailer, the most detail that can be provided to outside parties is whether lift was achieved and, if so, the percentage of lift achieved. Raw data or any analysis from which baselines, sales volumes, or sales prices could be calculated cannot be shared.

Table 7. Oregon Lift Results – Overview

Program Period		% Lift		Incentive Tier Met	
Start	**End**	**A2-A4**	**A5**	**A2-A4**	**A5**
3/1/2013	3/15/2013	14%	-111%	1	None
3/16/2013	3/31/2013	-56%	22%	None	None
4/1/2013	4/15/2013	-2%	-56%	None	None
4/16/2013	4/30/2013	33%	56%	1	1
5/1/2013	5/15/2013	-12%	78%	None	2
5/16/2013	5/31/2013	62%	-50%	2	None
6/1/2013	6/15/2013	37%	278%	1	4
6/16/2013	6/30/2013	-78%	-117%	None	None
7/1/2013	7/15/2013	-23%	-89%	None	None
7/16/2013	7/31/2013	28%	-106%	1	None
8/1/2013	8/15/2013	32%	67%	1	1
8/16/2013	8/31/2013	-20%	-72%	None	None
9/1/2013	9/15/2013	9%	-28%	1	None
9/16/2013	9/30/2013	-303%	56%	None	1
10/1/2013	10/15/2013	-291%	-72%	None	None
10/16/2013	10/31/2013	-126%	-44%	None	None

Note: Some lift percentages are very high, but this retailer's baseline was based on a small sales volume.

<u>Lessons Learned</u>

While the Oregon program achieved lift, the energy savings will most likely be relatively small Key lessons from the Energy Trust program include the following:

Involve all the actors – program planners, implementers, and evaluators – in the program design phase. Based on feedback from Energy Trust staff, this was critical in designing a program that could be easily evaluated. A Market Lift project has different data sets and pays incentives differently from traditional incentive programs. Involving evaluation staff early in the program design can help guide program design and familiarize the evaluation team with key program decisions, which will streamline the evaluation.

Leverage retailer strengths. When developing lift strategies, seek retailers who have a focus on the product being targeted. Partnering with a retailer with a stronger emphasis on lighting might have provided more insight into the effectiveness of Market Lift.

Understand the importance of field visits and support. Field visits provided the implementation team with valuable insight into what was occurring in pilot and comparator stores for the duration of the program. This enabled the team to make mid-effort adjustments, which resulted in continued lift toward the end of the program. The retailer gave field staff authority to assist with merchandising, including executing planograms that had not been completed in the lighting aisles. Field staff also documented product pricing to enable analysis of the effectiveness of lower prices and engaged with the relevant manufacturer, who worked with retail management to replenish inadequate stock.

Require manufacturer participation in any future programs. Once Energy Trust engaged with the manufacturer, the lack of stock was addressed and stores began to achieve lift. The manufacturer can also help with merchandising and provide another layer of support for the retailer.

Incentivize and require program planning efforts. Energy Trust and BPA offered the retailer support and incentives for developing a project plan and developing training materials, but the retailer did not do either. Future efforts should consider requiring both a program plan and training materials.

Conclusion

Energy Trust and its partner BPA offered incentives and field support for this project, but success ultimately hinged on the actions and activities of the retail partner. Feedback from the participating retailer indicated that a few key factors hindered them in this pilot, including the small number of participating stores, lack of systems to work directly with stores from corporate, and changes in product mix and the planogram at the beginning of the program that discouraged additional, store-specific promotional activity. Integrating the manufacturer changed this dynamic somewhat in Oregon, but its involvement came too late in the program to make a significant difference. Partnering with a retailer who is invested in the success of the project may yield better retailer engagement.

Vermont

Efficiency Vermont is a statewide energy efficiency utility created by the Vermont Public Service Board and the Vermont legislature and supported by public benefit funds.

Objectives

Efficiency Vermont participated in the Market Lift pilot to gather information to guide future planning. As free-ridership for conventional programs continues to increase, Efficiency Vermont wanted to try a new incentive model that could achieve more savings and allow it to collaborate with other energy efficiency program administrators, learning from each other through the effort. Another benefit was obtaining full-category sales data, critical for understanding market transformation and general lighting trends and obtaining real-time feedback on participation in its programs.

Partners

Efficiency Vermont partnered with a retailer that was a new partner, and Efficiency Vermont saw this as a good opportunity to develop the relationship, possibly leading to other collaborative programs.

Baseline Calculation

D&R used the same baseline calculation process for Massachusetts, Oregon, and Vermont. For a description of the process, see Massachusetts portion of the State-Specific Design and Implementation section.

Comparators

Because the retailer had only three retail locations in Vermont, the program used four stores in New York near the Vermont border as comparator stores. The comparator locations were chosen based on their demographics, which were similar to those of the Vermont stores. The test stores were in Bennington, Rutland, and South Burlington, Vermont, and the comparator stores were in Albany, Greenwich, Plattsburgh, and Queensbury, New York. Early in the program, there was a possibility that New York would launch a CFL Market Lift program, which might have made some changes necessary, but that program had not begun when the Vermont program ended. During the program, there was a $0.99 CFL program running in other retail stores.

Budget

Efficiency Vermont had a budget of $20,000 for incentives for achieving lift and $9,000 for non-sales incentives to reward the retailer's efforts to train sales staff about the program. The targeted products were medium screw-based, bare spiral CFLs. It spent $211.50 on lift incentives, and because the retailer did not accomplish the training efforts, Efficiency Vermont did not pay the non-sales incentives.

Incentives

Vermont offered an incentive structure with a low first tier and subsequent tiers separated by larger increments with higher incentives. The tiers represent sales volume targets. The retailer received incentives based on the highest tier it reached in each reporting period. For example, if lift was calculated to be between 10% and 60%, the retailer received the Tier 1 incentive of $0.75 per lamp sold above baseline. If lift was calculated to be between 60% and 135%, the retailer received the Tier 2 incentive of $1.00 per lamp sold above baseline. If lift was negative, the retailer received no incentive, but was not penalized.

Table 8. Vermont Incentive Structure

Tier Target	Tier Target Sales Volume Lift	Cumulative Sales Volume Lift	Incentive Per Lamp
Tier 1	10%	10%	$0.75
Tier 2	50%	60%	$1.00
Tier 3	75%	135%	$1.25
Tier 4	100%	235%	$1.50
Tier 5	150%	385%	$1.75
Tier 6	200%	585%	$3.00

The tier target sales volume lift percentages reflect the increase in sales needed to reach the next tier. The cumulative sales volume lift percentages are the overall sales increases over baseline needed to reach a specific tier. To measure sales volume lift (%), sales volume percentage changes for the participating stores were compared to sales volume percentage changes for the comparator stores. The formula for calculating lift was:

$$\text{Lift} = [(\text{ActualParticipating}-\text{BaselineParticipating})/\text{BaselineParticipating}] - [(\text{ActualComparator}-\text{BaselineComparator})/\text{BaselineComparator}]$$

For an illustration of this formula, please see Figure 1 (p. 18). The calculation does not account for sales of competing inefficient lamps, LED replacement lamps, or non-ENERGY STAR qualified CFLs.

Vermont also offered the retailer incentives of $2,000 per store for conducting staff and associate training about the program and its goals and $1,000 per store for developing a “pocket card” to provide talking points that would help sales staff promote CFLs. These measures were discussed and agreed to at the corporate level, and Efficiency Vermont offered the corporate office assistance with developing the training materials. However, the retailer did not develop the materials or conduct training.

Field Support

Vermont provided field support to the participating stores. An Efficiency Vermont staffer visited each store monthly to answer questions from the retailer and ensure that signage was displayed properly. The staffer also took photos of the shelves and display area and tracked prices. Efficiency Vermont provided in-store signage with the program theme “Love Your Light,” including information about CFLs and their benefits. (For examples of the collateral, please see Appendix 2.) In the last two months of the project, Efficiency Vermont began to collaborate with the retailer’s lighting manufacturer on efforts to make the CFLs more visible and appealing to customers.

The Love Your Light signage was displayed in each store from the first month of the program, though visibility varied over time and by location. Field staff noted that during the first two to three months, there were few labels protruding from the shelves to attract customer attention to the target products. By the middle of the program, the number of labels increased significantly and there were two different colors, possibly confusing the customer. In the last few months, one color was used for the labels, giving the shelves a cleaner, more organized look. The shelf stock sometimes appeared low, and other times appeared full. For pictures, please see Appendix 3.

Lift Results

Program Sponsor:	Efficiency Vermont
Program Start:	May 1, 2013
Program End:	December 31, 2013
Lift Stores:	3
Program Periods:	16 (half-month interval)

Products Promoted: ENERGY STAR Qualified Compact Fluorescent Lamps – General Service

The following lift results are calculated using the collected sales data in a formula agreed upon by the program sponsor and retailer. A separate third-party evaluation will calculate the net energy savings associated with this calculated lift. With only one participating retailer, the most detail that can be provided to outside parties is whether lift was achieved and, if so, the percentage of lift achieved. Raw data or any analysis from which baselines, sales volumes, or sales prices could be calculated cannot be shared.

Table 9. Vermont Lift Results – Overview

Program Period		% Lift	Incentive Tier Met
Start	End		
5/1/2013	5/15/2013	-20%	None
5/16/2013	5/31/2013	-31%	None
6/1/2013	6/15/2013	-64%	None
6/16/2013	6/30/2013	21%	1
7/1/2013	7/15/2013	37%	1
7/16/2013	7/31/2013	4%	None
8/1/2013	8/15/2013	-42%	None
8/16/2013	8/31/2013	129%	2
9/1/2013	9/15/2013	15%	1
9/16/2013	9/30/2013	-12%	None
10/1/2013	10/15/2013	-97%	None
10/16/2013	10/31/2013	-76%	None
11/1/2013	11/15/2013	61%	2
11/16/2013	11/30/2013	29%	1
12/1/2013	12/15/2013	63%	2
12/16/2013	12/31/2013	82%	2

Note: Some lift percentages are very high, but this retailer's baseline was based on a small sales volume.

Lessons Learned

The Vermont retailer achieved lift in most months of the promotional period. It did not achieve lift at the beginning, but when it did, the lift continued for several consecutive reporting periods. The retailer also achieved lift in all reporting periods for the last two months of the program, which coincided with the cleaner look of the shelf labels and the collaboration with the manufacturer. The period with the greatest lift coincided with a special shelf placement of the CFLs, but the field report does not describe that placement. Other lessons that can aid in future implementation include the following:

Identify the partner with the resources to increase product sales. The disconnect between the retailer's corporate and local levels is a major concern, and it affects program success. The program sponsors and the manufacturer for this retailer did not meet until August, nearly four months after the program launch. Collaboration among them began in November, which coincides with the start of successive promotional periods with observed lift. Shifting from a retailer partnership to a manufacturer partnership is one possible strategy, because the manufacturer might be able to send account representatives to stores and focus solely on its products and local store engagement. The manufacturer has a specific focus on its product, while a retailer must concentrate on many different products. Note that the manufacturer was not eligible for incentives in this program.

Ask the retailer what it really needs to succeed. The retailer might not be interested in financial incentives for conducting trainings or creating materials when it has very limited bandwidth. Meeting in person with corporate management early in the planning phase or deploying field staff to support in-store activities may be more effective and yield better engagement. In this program, the retailer did not accomplish the goals set for the non-sales incentives (training and pocket card) and therefore, did not receive these incentives.

<u>Conclusion</u>

Though the retailer encountered challenges in implementing in-store promotional measures and was not able to incorporate elements of training, it achieved lift and finished the program with successive months of strong lift.

KEY LESSONS LEARNED

Similarities and Differences

The Market Lift pilot provided multiple tests of the same program model to better understand how the model performs under different circumstances, including variations in incentive levels, tiers, and types and amount of field support.

Generally, this pilot produced the desired balance between consistency and variation. Table 10 illustrates the areas of program consistency and difference. Table 11 presents program time frames.

Table 10. Program Elements by State

	MA	OR	VT
Field Support		√	√
CFLs only	√	√	√
Non-sales incentives		√	√
In-state Comparator		√	
Net Lift Calculation	√	√	√
Achieved Lift	√	√	√
Tiered Sales Incentives	√	√	√
Lift Incentives Layered onto Existing Markdowns	√		
Cascading Tiers	√		√
Retail Partner 1		√	√
Retail Partner 2	√		

Table 11. Program Time Frames

	Program Period	Duration (months)
MA	9/2013-2/2014	6
OR	3/2013-10/2013	8
VT	5/2013-12/2013	8

Oregon and Vermont's programs were consistent in many elements. That is not surprising, as both states have mature statewide public benefit programs with a history of cooperation. They worked with the same retailer and even included similar messaging on the in-store materials.

While Massachusetts also has mature statewide energy efficiency programs and a history of cooperation among program administrators in delivering its residential lighting program, the Massachusetts Market Lift program worked with a different retailer, provided no sustained field support, and offered only sales-based incentives.

While there is still room for much exploration about the best settings for the Market Lift model, this pilot provided a reasonable level of variation and determined that the model works under different circumstances.

Retailer Engagement
Working with the retailers through the Market Lift pilot yielded many lessons, including the following:

Resource constraints affect willingness to participate. One reason retailers cited for not participating is the resources required to participate in a pilot. While retailers indicated a strong interest in the Market Lift model, their organizations are oriented toward the buy-down model prevalent in energy efficiency programs. Redirecting resources to participate in a pilot program was too risky for retailers without evidence that Market Lift programs would likely proliferate. Developing a larger critical mass of participating programs in future pilots would help address this.

Existing relationships are influential. Some efficiency program service providers told retailers that they and their clients were opposed to developing a new model for efficiency programs. The retailers who heard this were reluctant to risk upsetting existing clients to test a new model. As noted above, a larger critical mass of participating programs would help shift some of the retailers' attitudes. Program administrators who participated in the pilot were outstanding ambassadors for the project to numerous retailers; they also provided generous incentives. Future efforts should look to have a larger number of program administrators participate in the project.

Data requirements can make recruitment difficult. Sales data is proprietary and closely guarded. While retailers have been willing to provide sales data for national programs such as ENERGY STAR and the State Energy Efficient Appliance Rebate Program, providing a new set of full-category sales data for a pilot program was a difficult sell. One retailer said that it was not sharing any sales data with efficiency programs due to problems with past data releases. Another reported that data sharing could happen only in a coordinated fashion that affected many programs, and this pilot did not meet that test. A third retailer believed that sharing data with one efficiency program would lead to a flood of requests from other programs and it was unwilling to set this precedent. Having leading-edge efficiency programs develop a consensus on data needs to effectively monitor and evaluate their programs would be an important step to address this.

Legal agreements can be sticking points. Legal issues prevented one retailer from participating in the Massachusetts program as initially planned. When Massachusetts and the retailer could not agree on liability and indemnification requirements specific to Massachusetts, the retailer's participation was abandoned. Unfortunately, planning for challenges arising from legal agreements will be difficult.

The key lesson from these interactions is that while there is strong anecdotal evidence to suggest that retailers would support a shift away from the current efficiency program buydown model, such a change would require a much more coordinated effort on the part of efficiency programs than currently exists. Most retail organizations are accustomed to the needs of a buy-down program; developing and testing new models for residential lighting efficiency programs may best be done with the limited number of retailers not currently participating in traditional efficiency programs or through manufacturer-driven participation models (like one of the participating retailers and many drug stores) that could allow a more flexible approach to participation.

Evaluator Feedback about Sales Data

Anecdotal evaluator feedback about sales data and methods to calculate lift to date has been positive. A Massachusetts final report is pending, Oregon's evaluation is underway, and Vermont has not yet begun the evaluation process on its project. Preliminary evaluator feedback indicates that the sales data collected during the program is very valuable. Obtaining sales data directly from the manufacturer or retailer is much easier than trying to collect it in the evaluation stage and provides a higher level of confidence in the reported sales.

Non-Disclosure Agreements

A critical element of the Market Lift pilot was obtaining the sales data from participating retailers. The data is proprietary and confidential, and it must be treated with the highest level of care. The retailers had to weigh the benefits of participating in the pilot against the risk of sharing the data. The NDA made the data sharing possible.

Building working relationships with retailers takes time and effort, and the parties who signed the NDAs must comply with its terms to maintain the trust inherent in those relationships. Any disclosure of the data to other parties would be damaging to the retailer. Accordingly, the NDA requires the signers to protect the data as if it were their own confidential data; they may not disclose the data or any modification of the data to anyone other than the NDA signers.

Oregon and Vermont executed NDAs differently from Massachusetts. The three program administrators, the manufacturer, and D&R executed one NDA for Massachusetts. Oregon and Vermont each had two separate NDAs – one between the retailer and D&R, and one between the retailer and the relevant program sponsor (Energy Trust and Efficiency Vermont). In all cases, the data was sent to D&R to maintain and eventually provide to the sponsors.

With only one participating retailer per state, the most detail that can be provided to outside parties is whether lift was achieved and, if so, the percentage of lift achieved. Raw data or any analysis from which baselines, sales volumes, or sales prices could be calculated cannot be shared. If three or more retailers had participated in a state's program, there would have been additional options for reporting the analysis of the data while maintaining confidentiality.

Multi-State Collaboration

Massachusetts, Oregon, and Vermont had to design and implement their programs under different regulatory requirements, funding schedules, and incentive frameworks. Nonetheless, their collaboration offered several advantages. The recruitment of retailers benefitted from a larger pool of incentive funding and the opportunity for a retailer to participate in a larger geographical area. During the pilot, the collaborators learned from each other by sharing feedback and effective tactics. The lessons learned from one program can inform design and implementation of other concurrent and future programs.

Multi-state collaboration can advance upstream programs in several ways. The process for a retailer to provide data for one state is the same as for multiple states, and larger data sets help reveal market trends. In the case of multiple neighboring states, the incremental effort for implementing the program in another state is small. A coordinated effort by states can boost retailer recruitment and foster the environment for an upstream program.

Performance Period Duration

There was a strong consensus among sponsors that the period of performance needed to be at least six months long to track impacts; two programs extended the period by two months. A shorter time frame would not give the retailer or manufacturer enough time to address low sales or gain organizational support. Based on feedback from the participating retailers and manufacturers, however, a longer performance period would better allow retailers and manufacturers to prepare inventory and marketing for the program, respond to initial program results, and obtain organizational support for the program. All three states noted that a significantly longer period of performance may require resetting the baseline mid-project to adjust for any changes in the market.

Comparator Selection

Even if the program sponsor and retailer choose seemingly appropriate comparator locations, outside factors may affect those locations' suitability as comparators. The Massachusetts program's experience with the comparator stores in Colorado is a good example. During the program, stores in Colorado began to promote CFLs heavily and there was flooding throughout the state, resulting in a dramatic increase in sales. The instability in program activity and pricing and the natural disaster made Colorado an inappropriate comparator.

CONCLUSIONS AND RECOMMENDATIONS

Market Lift worked, though the programs as implemented were different from how they were originally envisioned. This pilot met most of its objectives, as it did the following:

- Demonstrated observable increases in sales, for which retailers received monetary incentives. These increases were calculated using a formula agreed upon by the program administrators, retailers, and manufacturers. Third-party evaluators are in the process of determining the net energy savings that these sales increases represent. Massachusetts had the largest number of lamps incentivized, probably because the retailer had higher baseline sales volumes than the retailer for Oregon and Vermont.
- Generated full-category sales data. One retailer provided full-category sales data, while the other did not. However, retail and manufacturer partners provided the longitudinal data necessary to develop baselines and the regular monthly updates to track progress. This represents an important departure from past program data submissions.
- Developed a partnership with a new retail partner. This pilot was the first Vermont lighting incentive program in which the retail partner participated. Efficiency Vermont staff indicated that this was a significant achievement.
- Introduced a new program model that has applicability across many products. All the program sponsors indicated that the versatility of the Market Lift model to apply to a wide variety of measures was a significant step forward in the evolution of efficiency programs.

It is important to note that the pilot did not meet all of its objectives, particularly being able to attract a sufficient number of retail partners to generate the critical mass of sales data to conduct the post-EISA analysis. Though the pilot team was not able to obtain the critical mass of sales data, it obtained alternative data to generate the inputs needed to model the impact of EISA regulations on sales of A-lamps. Identifying ways to engage retailers more fully may lead to even better results for future efforts.

The data collected through the pilot offers myriad options for analysis and helps identify issues that need more attention, but it can also raise questions without easy answers. For example, comparator store sales data can identify comparator locations that are performing well, but it raises the question of what that particular location is doing to achieve greater sales or what factors unrelated to retailer or manufacturer efforts are affecting sales.

For future implementation of Market Lift, D&R recommends the following:

- Involve manufacturers early in the process. The manufacturer can assist in the planning stages by preparing for changes in product stocking, assisting with promotional efforts, and participating in training. During the project, the manufacturer can assist with merchandising and ensuring availability of sufficient product. In some cases, the manufacturer may also provide the sales data and work directly with program administrators.

- Provide retailers with in-store support that is tied to a retail support plan. Requiring a retail support plan before program launch provides a clear understanding of what tactics the retailer is planning to use to achieve lift and how the program administrator can best support the retailer.
- Identify non-financial incentives or support that the retailer truly wants. Financial incentives do not necessarily motivate a retailer to develop materials or conduct trainings. Meeting in-person with corporate management during the planning stages or providing the training for the retailer may engage the retailer more successfully than financial incentives.
- Consider implementing Market Lift programs in retail stores with large sales volumes of the target product and strong manufacturer support. In this pilot, one retailer had a much higher volume of sales than the other. The retailer with larger sales volumes had management that placed a high priority on the product and was able to offer more support to the program.
- Determine some key standard criteria for selecting comparators and calculating lift, and encourage consistency in these steps in multi-state efforts. Program administrators should develop consensus on using in-state or out-of-state comparators and the formula for calculating lift. This will likely make implementation easier and increase the information available from comparing or aggregating market impacts.

The challenge moving forward will be to identify additional opportunities to deploy the Market Lift model. There are currently at least four other Market Lift pilots being planned or implemented in the United States and one under consideration in Canada. The pilots focus on a wide variety of products other than residential lighting, including a project sponsored by BPA, the Northwest Energy Efficiency Alliance, and Argonne National Laboratory targeting low-wattage T8 lamps. Some scenarios where Market Lift may be appropriate include:

- Measures where more robust data is needed to justify incentives. The ability to secure and use data was one of the most significant achievements of this pilot. While the pilot did not result in sufficient data for the post-EISA report, the data it secured was unique for efficiency program requirements and resulted in significant program-level insight.
- Sectors where the retail/distribution channel has a significant impact on consumer choice. Incentivizing the distribution channel to influence consumer choice is the fundamental purpose of the Market Lift model, and this pilot demonstrates that incentives can spur meaningful actions that result in advantageous consumer behavior.
- Mature markets with a long history of efficiency program support, concerns that the market is transformed, and existing program models that are no longer effective due to concerns about free-ridership, net-to-gross, or other program-related considerations. Major appliances are the immediate example. Market penetration for efficient products is

high, savings for efficient appliances are small but present, and utility programs have largely moved away from the measure. There are energy savings to be captured through efficient appliances, but current utility program models don't allow that to happen.

- Programs for linear fluorescents and heating, ventilation, and air-conditioning (HVAC) equipment. LED products are another intriguing possibility; the challenge for this product is that performance and baselines are changing rapidly.

The Market Lift pilot in Massachusetts, Oregon, and Vermont led to increases in sales of CFLs. It also produced an extensive set of data on CFL sales in test and comparator stores and taught the project team many lessons on working with retailers that can help improve future program design and implementation. Building on the experience of the pilot to expand Market Lift to bigger programs, other markets, and other products presents exciting opportunities for program sponsors to generate claimable savings from sales of efficient products, learn more about the markets for those products, and develop stronger relationships with retailers and manufacturers.

APPENDIX 1 – Sales Data Requirements

Program administrators required certain sales data from participating retailers or manufacturers for pilot and comparator stores. Other data was requested, but not required.

Required	Requested
Purchase Date	Technology Type
Purchase Date	Shape
Store Number	Base Type
System Number	Switch Type
Quantity Purchased	Wattage
Average Price	Lumen
System Item Number	Color Temperature
UPC/Barcode Number	Color Rendering Index
Brand	Rated Lifetime
Model Number	Lamps per Pack
Store Company	
Store Number	
Store Name	
Store Address	
Store City	
Store State	
Store ZIP code	

APPENDIX 2 – Efficiency Vermont Collateral

Image 1 – End-cap Topper

Image 2 – Large Aisle Violator

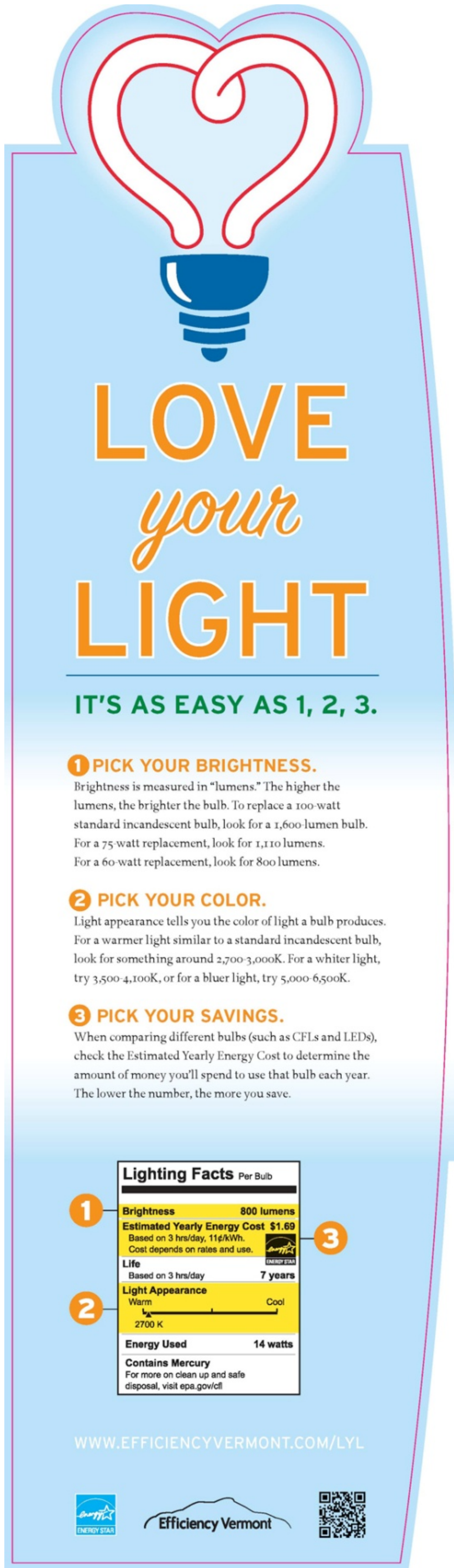
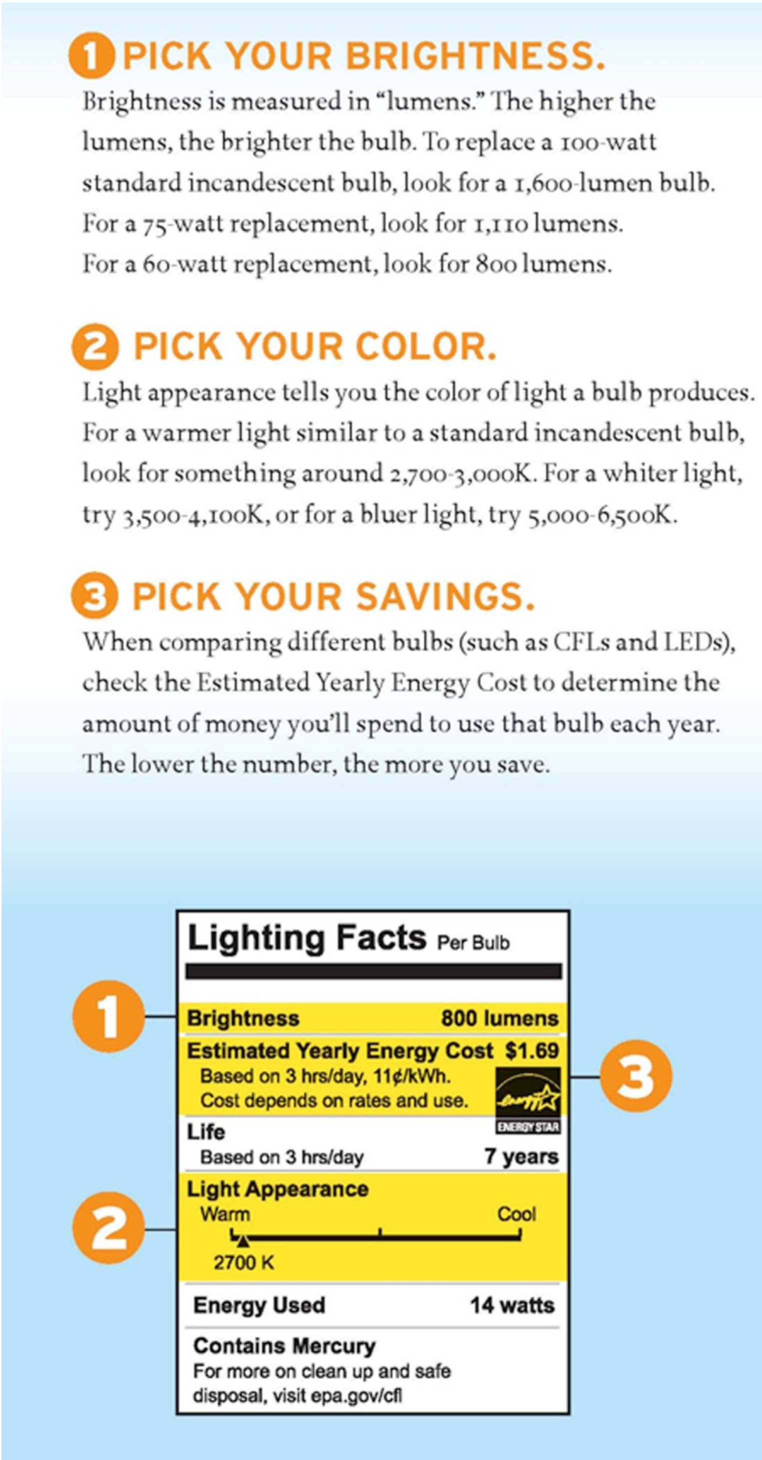


Image 3 – Large Aisle Violator with Action Steps



APPENDIX 3 – Photographs

The following photographs show the appearance of the shelves at multiple locations of the participating retailer in Vermont at various stages during the program.

Photo 1 - No retailer labels protruding from the shelves to attract customer attention. Shelves are well-stocked. May 2013.

Photo 2 – Few retailer labels protruding from the shelves. Shelves appear well-stocked. Use of collateral provided by Efficiency Vermont. May 2013.

Photo 3 – Many labels protrude from the shelves, possibly confusing customers. Shelves are well-stocked. July 2013.

Photo 4 – Different colored labels protrude from the shelves, possibly confusing or distracting customers. Shelves are missing some stock. July 2013.

Photo 5 – Many labels protrude from shelves. Low stock. August, 2013.

Photo 6 – Only one color is used for the labels to create a cleaner look. Stock appears to have increased also. November 2013.