EnergySmart Grocer: Mapping Industry Connections Delivers Success

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ABSTRACT

Since its launch in 2002, the California Public Utilities Commission (CPUC) sponsored EnergySmart Grocer Program has provided audits, technical expertise, and rebates to over 600 independent grocers. Retrofits for refrigeration, HVAC and lighting have yielded 282,000,000 kWh in lifetime energy savings.

The EnergySmart Grocer Program has pioneered an innovative approach in addressing a segment of the commercial market. The approach builds on effective market driven practices for gaining relationships of trust with customers and for building a market infrastructure to deliver services. Using Geoffrey Moore's concepts about technology adoption techniques, PECI found that there is substantial value in the role of Energy Experts in facilitating the transition from early adopter to early majority. The Energy Expert acts as the personal face of a comprehensive program that brings together market forces necessary to create change.

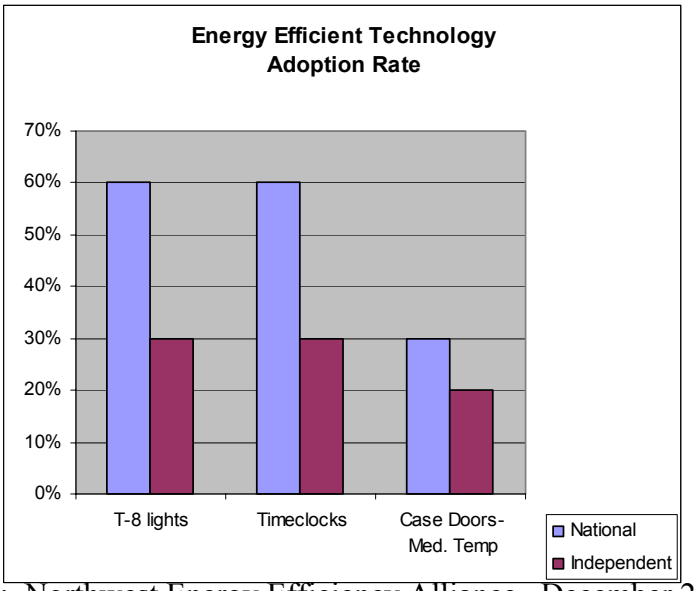
These elements address Moore's premise that what makes the early majority take action is a clear understanding of the decision implications, reduced risk and operational concerns. In addition to providing energy savings, this approach catalyzes long-term market transformation. In an ideal market, each organization's profit motive would drive the types of activities taken by the EnergySmart Grocer program. In today's world of fragmented businesses, 3rd party funding – either from the utility or CPUC – drives the outreach and marketing efforts that generate action in this distributed market and will eventually enable a profit-driven organization to capitalize on the opportunities.

Grocery stores comprise a significant percentage of overall commercial energy consumption in the US. By using industry-specific information presented in the context of the grocers' existing business model, the EnergySmart Grocer Program (Program) facilitated faster time to action and increased market penetration of energy efficiency equipment. Lessons learned from the EnergySmart Grocer Program will be relevant for audiences seeking to implement programs across the country for this untapped sector, or who wish to adopt this approach to other specialized markets.

Addressing Barriers

Market research shows that within the commercial market, grocery stores are large consumers of energy. Opportunities for market intervention exist in independent stores, which have a lower adoption rate for energy efficient technology than in supermarkets, as seen in Figure 1.

Figure 1. Adoption Rate of Energy Efficient Technology Between National (Supermarkets) and Independent Grocery Stores



Source: Northwest Energy Efficiency Alliance. December 2000

The market research explored the reasons underlying the gap in participation between large chains, independent grocery stores and convenience stores. It suggested that the lack of a dedicated corporate staff was a key contributor to the gap. Large supermarkets such as Albertsons, Safeway, Wal-Mart, and Krogers have the ability to address the following issues:

- **Lack of Information.** Lack of information was found to be the primary reason that independent grocers do not invest in energy saving equipment. Survey respondents felt that it is hard to find reliable information on savings.
- **Lack of Contractor Network.** Contractors often are not willing to serve rural and independent stores, so even biased information can be difficult to get!
- **Lack of Refrigeration Expertise**. Refrigeration systems are complex. Grocers are not experts in refrigeration and energy efficiency, and are frequently unable to evaluate the expertise of contractors and product salespersons with whom they work. Their uncertainty about whether energy saving equipment will work in their environment causes them to delay decision-making.
- **Lack of Financial Resources.** In surveys with market players, almost all respondents said that incentives were critical for participation. Surprisingly, when the program was underway, we found that financing was not an issue.

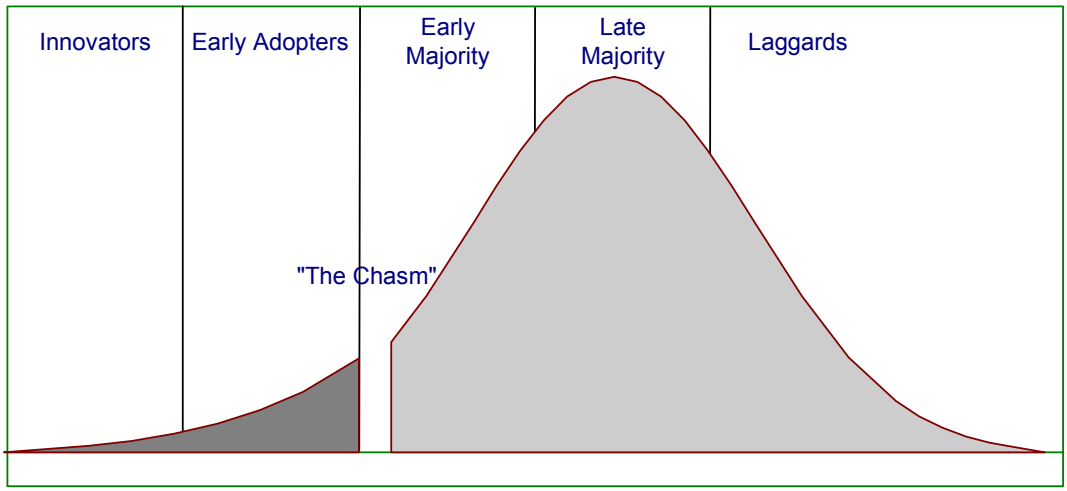
Program Design

PECI created the EnergySmart Grocer Program to meet the needs of this specific customer base (independent grocers), while working with and stimulating the existing market structure. The high adoption of energy efficiency measures in the national chains showed that the technologies were available and proven. The challenge was to levelize the adoption rate

among market players by increasing participation in all market segments including rural, hard-to-reach markets.

Lessons can be learned from the high tech arena where there is constant introduction of new products. In his groundbreaking book, *Crossing the Chasm*, Geoffrey Moore defines the technology adoption process (see Figure 2.) Geoffrey Moore is a best-selling author and renown expert on the impact of technology on society. He asserts that it's a fundamental flaw to assume that wide scale adoption will occur after early market adopter success.

Figure 2. Technology Adoption Process



Source: Moore, 1991

PECI's EnergySmart Grocer Program embraced Moore's concepts and integrated them into all elements of program design. Based on his definition of the adoption process, supermarkets were the early adopters, and independent grocer stores had the potential to be in the early and late majority. Independents are defined as singly owned stores and small to mid-sized chains. We hypothesized that convenience stores would be in the late majority or laggards and did not include them in the 2002-2003 program design. The California market has the following breakdown of stores.

Table 1. Breakdown of Grocery Market In California

Phase of Adoption	Number of stores
Innovator/Early Adopter	945
Early/late majority	5,256
Laggards	2,601

Source: Dunn and Bradstreet, 2004.

The Program employs a codified programmatic approach for the early majority. First, the Program developed an Inform-to-Invest methodology focusing on reducing risks to decision-makers, working within their existing business environment, and linking opportunities to productivity improvements. This fits with Moore's assessment that the early majority is looking for productivity improvements for existing operations. They want to minimize risk and they

want proven technologies, strong references, and a clear understanding of the impact to their operations.

The second prong is the relationships within the market, or where PECI has addressed service barriers to these hard-to-reach customers and helped stimulate the market. Incentives were provided as a motivator to get action within a set program timeframe.

Inform-to-Invest Methodology

PECI's Inform-to-Invest Methodology has three components that provide grocers with the comfort and targeted information necessary to go forward with retrofits.

1. Credible, trusted advocate who can speak knowledgably about the grocers' business as well as energy saving equipment.
2. Store specific information that customizes the impact of recommendations to their environment.
3. Phased approach that delivers increasing successes that reduce organizational risk and create trust in results.

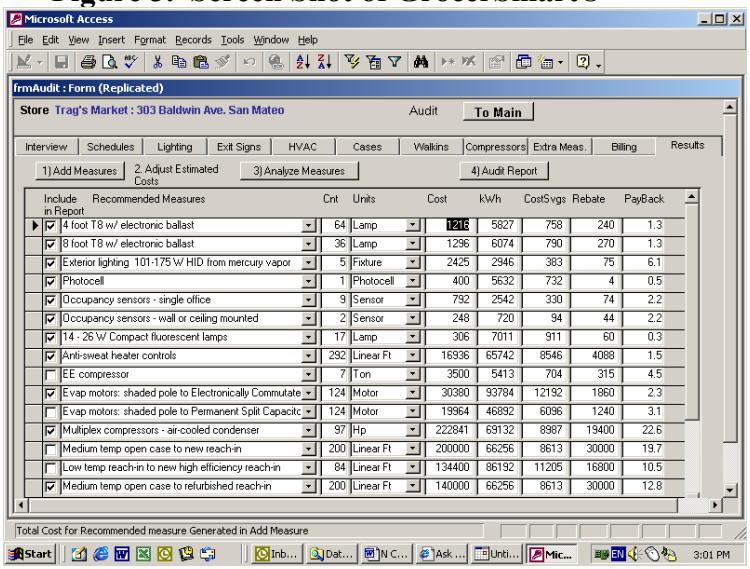
Credible advocate. PECI employs a team of experienced, knowledgeable, and capable Energy Experts who work with grocers from first audit through investment and equipment installation. This soup-to-nuts approach generates results. Our field team brings superior experience and training in the complex decisions surrounding refrigeration needs. Because they enter into conversations with store managers as advisors, rather than equipment salesmen, their information about how to save the most energy and cost is valued. Further, because they have relationships with key contractors and with other leaders in the food and grocery industries, their advice is trusted.

Site specific information. Understanding that buyers of energy efficiency equipment are risk averse, the EnergySmart Grocer Program provides detailed technical information and a site-specific report of anticipated energy savings gained by a comprehensive on-site audit.

1. GrocerSmart© Audit: Energy Experts use a proprietary tablet-based software program called GrocerSmart to provide customized energy savings calculations for each store's refrigeration, lighting and HVAC systems. PECI's GrocerSmart software has been used in over 600 food industry facilities. GrocerSmart sets the stage for all ongoing discussions regarding energy savings by providing a site-specific and comprehensive analysis of energy saving opportunities.

The audit modeling produces an Energy Savings Report which recommends facility-specific measures, providing customized estimates of energy savings, installed cost, rebates, and simple payback. EnergySmart Grocer's unique auditing software allows the Program's Energy Experts to provide grocers with relevant information for their store within three hours, on their first visit. The Energy Experts provide this analysis on-site, immediately establishing that the energy expert is a resource that will provide value in a timely manner.

Figure 3. Screen Shot of GrocerSmart©



2. Detailed technical comparisons: Grocery store managers are very busy people who lack information on energy efficiency technologies. They look to PECI's Energy Experts to provide unbiased help in sorting through the options. The team spends significant time understanding product offerings. Most importantly, product information needs to be assimilated into the grocery store's refrigeration system. There are tradeoffs between various implementations and choices of energy saving measures.

Phased implementation. Keeping with Moore's hypothesis that the early majority is risk averse, PECI applied a phased implementation approach that provides increasing success to participants. PECI filters the entire range of energy management possibilities into discrete stages, providing storeowners with a step-by-step roadmap from "quick wins" to those requiring longer-term investment. The EnergySmart Grocer model guides grocers to implement energy efficiency retrofits in four phases:

1. *Direct installation low-cost measures:* It is critical to build momentum with an instant installation. We encourage participation by offering a beverage merchandiser controller or low-temp CFLs for walk-ins as a starter when there is an appropriate application. The energy savings from direct install measures are small. Their role is to get decision-makers involved and to show quick success.

2. Low-cost quick payback measures: The low-cost measures are those that are generally less than $2,000 from start to finish. Many such opportunities for quick energy savings are in cooler and freezer cases. With new door gaskets, auto closers, strip curtains, and T-8 lights in cases, we can reduce energy use at a price that the business owner can pay out of his monthly operating costs budget. We create urgency to implement these retrofits by pointing out that the savings from these early retrofits can finance the next phase, mid-term measures.

Generally, because the price is relatively low, retailers don't feel the need to get quotes for these services, but trust the program to refer them to a qualified, professional contractor. The EnergySmart Grocer Program in California has cultivated relationships with contractors who can

deliver quality service to all customers upon program request. This shortens the time to achieve results, which once again builds buyers' confidence in the program.

3. *Mid-term measures with energy and non-energy benefits that pay back within a year:* Mid-term measures are those that require more investment, but don't require budgeting a year in advance. For example, opportunities to install anti-sweat heater controls for reach-in doors, case retrofits, or T-8 lighting represent an investment of $10,000 - $20,000. For these retrofits, PECI highlights the energy savings cash flow and the decreased expenditures on maintenance. Because these are larger ticket items, the business owner will want multiple contractor bids. The Program sends out requests for bids to multiple contractors, and includes detailed store information that allows contractors to scope the project even before bidding. Bidding and bid evaluation can take several months. If an owner has adopted the immediate, low-cost items in the first phase, then by the time they are ready to take action on a lighting bid, their savings may have accumulated to the point that they have the cash flow to fund the mid-term measure without financing.

4. Incremental upgrades in capital investment decisions: The fourth and final phase of achieving energy savings is to make incremental efficiency improvements in the largest purchases. Upgrading a condenser replacement to a high efficiency condenser or switching from single to multiplex compressors represent major expenditures and depend on a trusting and value-driven relationship between the business owner and the Energy Expert. The sales cycle for a new multiplex compressor is often at least a year. The Energy Expert helps the grocery store outline the requirements for the equipment so that it is energy efficient.

Rebates

Our "Inform-to-Invest" approach facilitates the grocer's decision-making process and the financial incentives seal the deal. Most EnergySmart Grocer rebates cover 20 percent of the installed cost of the retrofits. It is not so much a matter of covering first costs – in fact, very few grocers actually need financing to implement their retrofits. Rather, it is a matter of providing a third party endorsement and lowering the grocer's perceived risk. In some cases, contractors had worked for years to sell retrofits to customers with little success. When the Program offered rebates in terms they could understand, the grocers began requesting the retrofits from the contractors and the contractors had more work than they could handle.

Pre-qualification for large refrigeration rebates. One of the largest barriers to working with the hard to reach market is the lack of trust. Grocers can't quite believe that there is a rebate check at the end of the retrofit tunnel. Rebate processing is not straightforward for refrigeration measures and many participants have had rebates rejected from other programs for not meeting terms and conditions.

To reassure grocers that the program will deliver on larger refrigeration rebates, the EnergySmart Grocer Program has developed a multi-step protocol for complex refrigeration measures, allowing us to pre-qualify a project. First, the team works with the contractor and customer at the beginning of the bidding process to make sure that the specified and quoted equipment will be eligible. At this stage, approximately 30 percent require some type of modification. When the plans meet all terms and conditions, the grocer receives a letter, specifying the rebate amount and the terms and conditions. After the equipment is installed, the

energy expert conducts a post-installation check to make sure that the equipment is installed correctly. Thus, the program ensures installations that meet terms and conditions while assuring the grocer of their rebate.

Through the Inform-to-Invest methodology and rebates, the program works with grocery decision-makers to implement a phased model for achieving energy savings. Low-cost, easy measures pay for the mid term measures, and education and incentives move the long-term capital decisions to incrementally more efficient systems. In this way, our program works holistically to address energy use in the target facilities. Rather than simply advocating a particular technology or measure, we show decision-makers how a bundle of decisions can work together to achieve long term, lasting, cost-effective efficiency.

Market Driven Approach

The program design focused on creating demand for energy efficient equipment by presenting a compelling, industry-specific business case. We soon discovered that it was equally important to bolster the supply chain for this equipment. The Program developed a network of relationships with contractors and manufacturers to accelerate the Inform-to-Invest process. Our challenge was to coax existing contractors toward efficiency-oriented products, while expanding the number of contractors and suppliers in the market.

Contractor Infrastructure for Hard to Reach Markets

The initial project design relied on market research that showed that contractors would compete to fulfill the grocer's requests for project bids. Our experience showed that this was not the case. Barriers to working with contractors were two-fold. First, contractors who have success with this market tend to bid low first cost systems, which tend to be less efficient. Second, most contractors prefer to work with larger customers and are simply not interested in serving this market. In short, contractors and equipment suppliers pursue the most profitable opportunities - not hard to reach customers.

Outreach to Contractors

The Program enrolled contractors through centrally managed phone contact, grocer references, and face-to-face meetings. The central outreach was used to develop a broad list of potential contractors. These contractors provided information on their business and were registered in a list that the Energy Experts have in their kit.

The most successful way to ensure quality contractors is through face-to-face meetings. The Energy Experts meet with contractors on an ongoing basis and develop a relationship. Our experiences show that many contractors are non-responsive to bid requests until they have met with the Energy Experts to better understand the opportunities provided by the Program.

Our best successes happen when the Program works closely with contractors. This involves treating the contractors as if they are customers. We work to understand their business, go the extra step to adjust our systems to work with their systems, and communicate frequently.

The Program has created value-added features to encourage participation. In addition to leads, contractors look to the program to demonstrate the value of energy efficiency as a sales

tool and to lower the contractor's cost of selling into these markets. To that end, the Program began:

- Providing a validation of energy savings as a contractor sales tool
- Creating warm leads
- Simplifying the ordering process

These steps built a network of contractors to deliver retrofit projects - even in small and remote installations. This expanded network also provided a corollary benefit – an increased awareness of the business value of energy efficiency among customers and suppliers, ensuring sustainable savings.

Validating energy savings. To help existing contractors promote energy efficient products, the Program – with explicit permission from owners – shared the results of the GrocerSmart surveys, which calculated the value of the energy savings. Contractors learned that their products were even more valuable than they imagined, and they began to see the Program as an ally. Today, participating refrigeration contractors often request that an Energy Expert work with them to develop the presentation of Energy Savings Report, as part of their sales process.

At the start of the Program, existing market forces discouraged contractors from installing the most efficient equipment. Some efficiency measures, such as ECM motors, suffer from a bad reputation, so contractors tend not to include them in a bid. The Program invested significant time in teaching contractors about the energy benefits of meeting specific terms and conditions, providing the GrocerSmart calculations showing the dollar value of the energy savings, and debunking myths about equipment. These efforts, combined with the financial incentives, converted many initially reluctant contractors.

Creating warm leads. To help bring new contractors into the market, the Program focused on creating warm leads and pre-selling projects. When presenting the Energy Savings Report, the Energy Expert asked for a verbal commitment from the Grocer, identifying the measures they were interested in pursuing. We obtained the grocer's permission to request bids for these retrofits.

In addition, several contractors provided a list of "Furnished and Installed" pricing for items such as gaskets and strip curtains, so that the Energy Expert could present the project cost to the grocer. Where the grocer agreed to the F&I pricing, the contractor could make a sales call with the confidence that they had an interested customer who would not suffer sticker shock. With the grocer's consent, information from the audit was also provided to contractors, allowing the contractor to scope the job and in some cases, provide a bid remotely. All of these strategies helped to sell the retrofit before the contractor ever set foot in the store, significantly lowering the cost of sales.

Simplifying the ordering process. When we first began working in California, we found many contractors would simply refuse to serve the smaller, rural or independent customers. Contractors claimed that it was not cost-effective to sell jobs store by store, in remote areas. By aggregating requests for installation services, providing store-specific information necessary to prepare for installation, and pre-selling the owner on the service, the program has won contractor participation.

It is not cost-effective for contractors to bid on small jobs, and grocery store owners do not consider the purchases large enough to warrant a bid process. For measures that could be installed by store employees, the program developed a list of product sources. For lower price measures, it was practical to find one or two suppliers. In addition, the Program provided Order and Instant Rebate forms, allowing the grocer to order product such as CFLs and apply for the rebate on the same piece of paper.

The Network Today

Smaller contractors tend to be more open to business process changes and are therefore able to take advantage of the Program's opportunities to increase sales. Several smaller contractors have nimbly taken the program lead and carved out a niche for themselves in providing services to the independent grocery sector. In markets where there was once no choice of contractors, grocers now have several.

Furthermore, as the program continues through 2004-2005, contractors are adapting their business practices to add services and products that mirror the Program structure. For example, we have at least 3 statewide contractors that are adding products. From the Program's view, they can provide a more complete solution. From the contractors' view, they expand the amount of business that they get from a store. Contractors (and suppliers) talk to us about their energy saving ideas and products.

There is still a struggle with contractors on the terms and conditions for rebates. There is a continual need for education on what system configurations qualify and on the appropriate invoicing documentation for receiving a rebate. There is still a need for more contractors in rural areas and for more diversity.

Lessons Learned and Results

EnergySmart Grocer delivered over 26,000,000 annual kWh of savings. These savings were distributed among independent grocers, including smaller stores and rural locations. While the Program delivered outstanding results, PECI learned several important lessons.

Lessons Learned

The fundamental aspects of the Program – creating the entire infrastructure with a targeted audience in mind and delivering through a high touch approach – exceeded our expectations. However, there were many areas where we adapted our approach to new information.

Preliminary evaluation results indicate that the most important element of the program is the Energy Experts as the conduit or "face" of the program. These field people have a strong understanding of the grocery business and energy efficiency. Their ability to work closely with the grocers and their unbiased opinion created trust, which in turn created retrofits.

Much of the program centered on the audit to garner support for change. This turned out to be even more important than anticipated. Grocers thirst for unbiased information. GrocerSmart is unique in that it covers a variety of energy saving measures, so that storeowners get a comprehensive snapshot of possibilities. This increases confidence that they are making decisions that fit with a big picture view of their opportunities.

Our original design focused on the wholesaler as a conduit of information and a source of program credibility. However, we found out that their business priorities were not well aligned to our program goals. In addition, grocery stores have a buyer-vendor relationship with the wholesaler, where the EnergySmart Grocer Program creates a technical consultative relationship. The program found that having a positive endorsement, but a hands-off relationship created the best balance. In addition, the program expanded the supporting relationships to include all influencers.

Given the number of contractor-based programs, PECI believed that contractors would be able to take over opportunities once the Energy Expert generated interest. It turned out that contractors tend to leave the smaller businesses as a secondary priority. Furthermore, grocery owners are too busy to manage the retrofit process. Our Energy Experts became much more involved in managing the full process from audit to retrofit than originally intended.

Results

The EnergySmart Grocer Program has delivered outstanding results. The energy savings were very strong. The Program delivered 282,068,376 lifetime kWh or 26,534,626 annual kWh of savings. With retrofits in 378 stores, the Program saved the equivalent energy used by 31 grocery stores for 10 years. These savings are substantial. The Total Resource Cost ratio was 2.1. PECI's approach blended demand side management and market transformation elements. The program was more expensive in the short-run than a direct install program. It is easier to give something away than to persuade people to take action. But the persuasive approach is worth it. EM&V discussions show that grocery stores are much more aware and interested in taking action regarding retrofits than they were before. Early results from the 2004-2005 program suggest that while there has been a attitudinal shift, continual communication is needed to get continued action.

As shown in Table 1, Summary of Program Results, the Program visited 650 stores, providing customized audits and Energy Savings Reports for each. A total of 378 stores (58% of audited stores) took action and got a rebate for a retrofit. Excluding the direct install measures, we had 55 percent of the stores installing energy efficiency measures.

Table 1. Summary of Program Results

	All	<20,000 Sq Ft	>20,000 Sq Ft
Number of Audits	650	386	264
Urban	406	235	171
Rural	244	151	93
Number of stores with retrofits	378	209	169
Urban	177	108	69
Rural	201	101	100
Deemed Savings (lifetime MWh)	282,068	115,443	166,625
Urban	130,518	63,272	67,246
Rural	151,550	52,171	99,378

The high touch approach enabled the Program to reach traditionally hard to serve markets. Over one-third of audited stores and over half of retrofit stores were outside the large urban areas of San Francisco, Oakland, San Jose, Los Angeles, and San Diego. In other words, retrofit participation was higher at rural stores than in the urban areas. This suggests that the pent-up demand in rural areas was greater; we provided contractors in rural areas where none existed before and served several mid-sized chains that were almost exclusively rural.

The results show that the Program was able to reach smaller stores as well. There was not a direct correlation between store size and geographic locations, so the Program is confident that both hard to reach markets were successfully addressed.

The Program achieved the majority of the energy savings (80 percent) from refrigeration measures. To provide perspective, Express Efficiency, California's contractor driven program achieved 6,192,380 annual kWh of savings in 2002 from refrigeration measures, with 147 stores participating. This reinforces that refrigeration measures are complex and need additional support to gain adoption. And PECI anticipates getting larger savings in the 2004 program because many stores need to budget for large capital expenditures and because grocers are more comfortable and trusting in our relationships.

Summary

The EnergySmart Grocer Program has pioneered an innovative approach in addressing a segment of the commercial market. The approach builds on effective market driven practices for gaining relationships of trust with customers and for building a market infrastructure to deliver services. There is substantial value in the role of Energy Experts in facilitating the transition from early adopter to early majority. The Energy Expert acts as the personal face of a comprehensive program that brings together market forces necessary to create change. These elements include:

- Audit, which sets the stage for discussions and the business case for grocery store owners
- Project management, which shifts the burden of small decision making to someone who is familiar with the technologies and the specific grocer environment
- Network of qualified contractors and suppliers
- Technical expertise filters to the concerns of the buyer

These elements address Moore's premise that what makes the early majority take action is a clear understanding of the decision implications, reduced risk and operational concerns. In addition to providing energy savings, this enables long-term market transformation. In an ideal market, a large energy retrofit company with a profit motive would drive the types of activities taken by the EnergySmart Grocer program. In today's world of multiple market players trying to reach a hard-to-reach customer base, 3rd party funding – either from the utility or CPUC – drives the outreach and marketing efforts that generate action.

Targeted information that is grounded in the existing business practices of grocery stores bridged the gap between a technology and a business solution. Understanding and collaborating with contractors and equipment manufacturers enhanced their ability to work with our hard to reach market. The energy savings are substantial. Just as important, the Program has created positive momentum for all future energy saving programs.

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