

Teaching Customers to Value Energy Efficiency: A Comparison of CFL Fund Raisers

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ABSTRACT

In the past, many electric utilities have relied on more traditional approaches to promote CFLs to communities, usually through light bulb giveaways. But this approach dilutes the value of both the product and the message since customers have nothing invested in energy efficiency.

This paper compares the evaluation results for CFL Fund Raisers conducted in Colorado and Florida, targeting both rural electric and municipal utilities. These utilities viewed this program as a way to:

- Serve as a fund raising opportunity for local non profit groups,
- Provide educational benefits to residential customers, and
- Reduce demand and energy use by promoting the replacement of the five most used lights in a typical customer's home.

This paper also documents program savings to date in:

- Kilowatt hour reductions,
- Kilowatt savings during peak demands, and
- Carbon emission reductions.

This paper shows that this model is an effective way for energy organizations to promote energy efficiency improvements, such as CFLs, *without subsidies*. The light bulb fundraiser model also demonstrates that residential customers will pay the full retail cost when the energy efficiency message is conveyed in a *meaningful* way by communicating tying the savings directly to environmental and community benefits. This program yields benefits to the utilities, residential customers, retailers and local community groups.

Introduction

The CFL Light Bulb Fund Raiser Program is a new approach on an old idea – how to encourage customers to install energy efficient bulbs. Traditionally, U.S. utilities promote Compact Fluorescent Lamps (CFLs) through "giveaway" programs or with rebate or "buy down" programs aimed at retailer point-of-purchase display. Unfortunately, this has the unintended outcome of "devaluing" the CFLs so that consumer may be less willing to purchase more at the full retail price. It also creates a cross-subsidization where all customers are paying for those who take advantage of the free or discontinued CFLs.

This program was developed based on the findings from a comprehensive lighting review conducted on behalf of Delta-Montrose Electric Association (DMEA) in 2004. The key findings of the 2004 DMEA Efficient Lighting were:

- Incandescent bulbs are in 85% of lighting fixtures (EIA 1993)
- Residential lighting is about 13% of overall electric use (EIA 1993; Heshong Mahone 1997; Jennings et al 1997)
- Average home has 41 lighting sockets in 21 fixtures (EIA 1993; Kates et al 2003; Rubenstein 1998)
- Frequency of use is important because 20%–30% of sockets account for 70% - 80% of use (Kates et al 2003; Rubenstein 1998; Heshong Mahone 1997.)
- Average annual kilowatt hours (kWh) attributed to residential lighting is 1,233 based on a comparison of national and regional studies. (EIA 1993; Heshong Mahone 1997;
- Significant barriers remain to installing CFLs such as poor appearance, high first cost, and lack of versatility (Campbell 1994; EIA 1993; Kates et al 2003)
- Customers rely on energy organizations for information
- Utilities can achieve significant load reductions in peaking hours by promoting CFLs and fixtures. This is based on the fact that the utility must pay peak demand charges, 7 out of 12 months a year because the utility's peak demand occurred during the early morning or evening hours, when residential lighting is most likely to be in use.

Based on these findings (Johnson 2004), DMEA wanted to develop a program that would achieve the following objectives:

- Promote efficient lighting as an effective peak shaving strategy by promoting a technology that was in use during the peak hours.
- Target high use areas where bulbs on at least three hours per day
- Partner with a lighting manufacturer that offers a comprehensive line
- Consider third-party agreements with vendors and/or program administrators

Developing the Light Bulb Fund Raiser Program

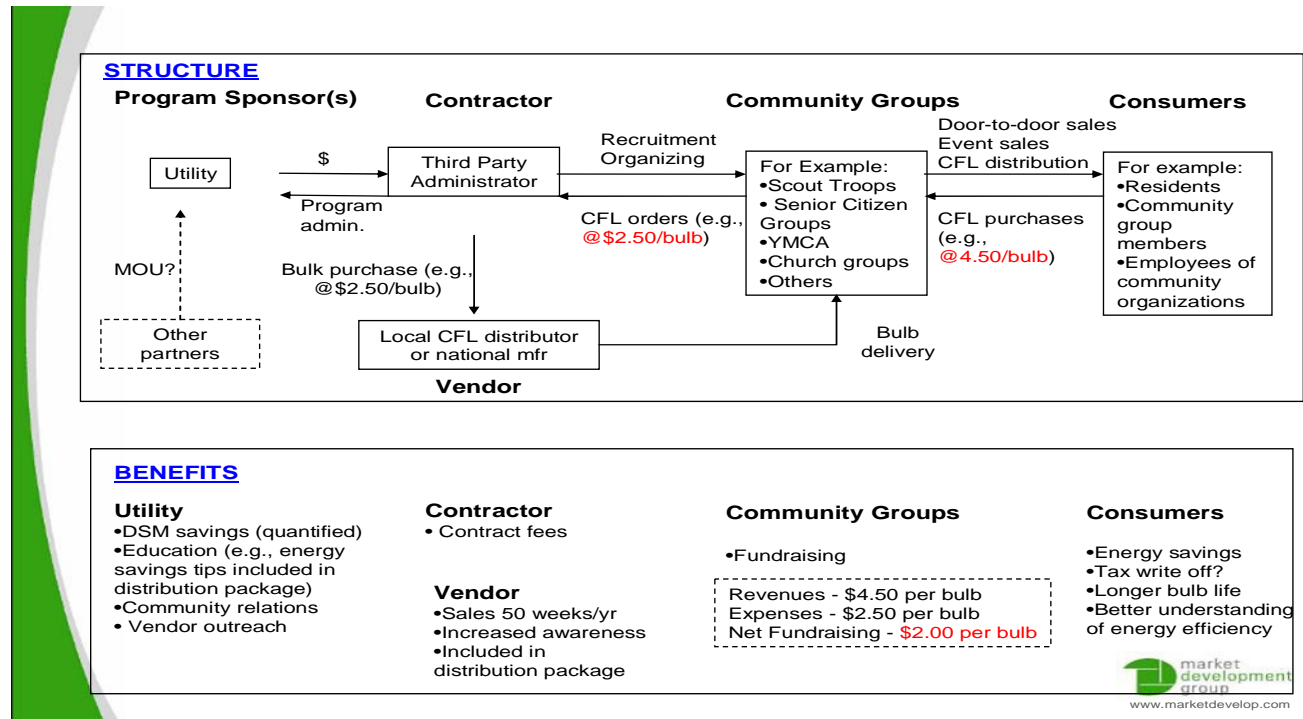
The Light Bulb Fund Raiser Program was designed to encourage the sale and installation of energy efficient light bulbs. The key message of the program was to encourage utility customers to replace the five most frequently used light bulbs with equivalent energy efficient light bulbs. This message was presented in all sales and training materials (Johnson 2005 & 2006).

The value proposition for CFLs at the full retail price can be complex to explain especially in a traditional retail environment. In this environment, CFLs appear on the shelf alongside traditional incandescent bulbs and appear to be five to 10 times more expensive, from a first cost-perspective. However, these giveaways and subsidies have the unintended effect of "disrupting" or "polluting" the retail sales proposition for CFLs.

The fund raiser model was designed to create a delivery mechanism that leveraged non-profit community groups to explain the complex value proposition for CFLs in a direct (i.e. face-to face) sales environment to support CFL sales of a premium quality product at its full retail price without utility customer cross-subsidies. This approach better supports customer's trial experience of the bulbs through initial purchases from the groups during a targeted 2-6 week sales campaign, while allowing the local retailers to generate follow-up sales at their full retail price for the remaining weeks of the year.

Figure 1 illustrates the overall program structure and describes the roles and responsibilities of each key group.

Figure 1: Overview of CFL Fund Raiser Program Structure



Two Utility Approaches

Delta-Montrose Electric Association (DMEA) and the Orlando Utilities Commission (OUC) both implemented light bulb fund raisers as a means to reach out to local community groups. Both utilities viewed this approach as a cost-effective way to educate customers about the value of energy efficiency improvements. They also viewed this as an opportunity to demonstrate their support for the local community groups. These goals were the over riding factors in their decision to support this fund raiser, rather than trying to sell a specific number of light bulbs.

DMEA launched its pilot program in the fall of 2005 to test the market and determine what would be feasible. Since the major focus of this program was customer education, the utility did not have specific expectations regarding the number of light bulbs that would be sold during the campaign. It repeated the fund raiser in the fall of 2006.

OUC is a municipal utility serving 300,000 customers in the Greater Orlando area. OUC launched a pilot program in the late fall of 2007. The goal was to recruit 30 community groups to sell 5,000 light bulbs. However, the short time frame of only six weeks was not sufficient to reach those sale goals. In 2008, the program was launched in the spring with the goal of recruiting 50 groups and selling 5,000 light bulbs. To date, nearly 40 groups have been recruited and it appears the utility will meet its sales goal in 2008. The results of the OUC's full-scale efforts will be available in June 2008 and will be included in the final visual presentation.

Product and Price Points

The CFLs selected for use in these programs are a high-quality product manufactured by TCP, a leading manufacturer, in 60 watt, 75 watt and 100 watt equivalent sizes to fit in any standard lighting fixture that is not connected to a dimmer switch. All CFLs have a 9-year manufacturer's warranty. The lamps were available packaged individually or in multi-packs. The retail sales price established was \$4.50, \$5.00 and \$5.50 per lamp, if purchased individually.

One of the key findings in reviewing the results from the 2005 campaign was the need to "refresh" the product line in DMEA's service territory. Since this was a small rural community that had enjoyed a high participation rate in 2005, the groups asked for an additional product to sell during the 2006 campaign. So, in keeping with the theme of promoting energy efficient lighting products, DMEA expanded the fund raiser offerings to include LED holiday light strings. The holiday LEDs were available in two types: strings of 50-bulbs in either multi-colored LEDs for \$16.50 or all white for \$18.50. Since this was a higher-priced items, the groups received a \$6.00 per string sold compared to \$2 per light bulb.

OUC also made some product adjustments between the pilot and full program launch. In 2006, the OUC activities focused on selling individual light bulbs in three Wattages ranging in price from \$4.50 to \$5.50. The bulbs were also available in four-packs.

In 2008, OUC's focus changed to selling the light bulbs in three-packs at price points ranging from \$13.00 to \$15.00. The packaging for the three-pack light bulbs was much more environmentally friendly and provided additional customer messaging about the carbon savings and benefits of installing these light bulbs. The three packs also offered a slight discount to encourage customers to purchase more light bulbs.

In both fund raisers, the community groups received \$2.00 for every light bulb they sold, regardless of the packaging. The wholesale cost of the light bulbs included sales tax, and therefore simplified the sales transaction for these community groups.

CFL Fund Raiser Marketing Strategies

Both utilities promoted the value of replacing standard light bulbs with compact fluorescent lamps (CFLs). In Colorado, DMEA placed advertisements in several publications in the months leading up to the fund raiser kick off. DMEA also dedicated the front page of its September bill insert newsletter to the topic. All promotions clearly recognized the ENERGY STAR "*Change a Light, Change the World*" campaign. (This campaign is a national challenge to encourage every American to help change the world, one light - one step - at a time. The campaign culminated in the fall around ENERGY STAR Change a Light, Change the World Day on October 5th, with promotions running locally and nationally beginning October 1. Details are at http://energystar.gov/index.cfm?c=change_light.join_changealight)

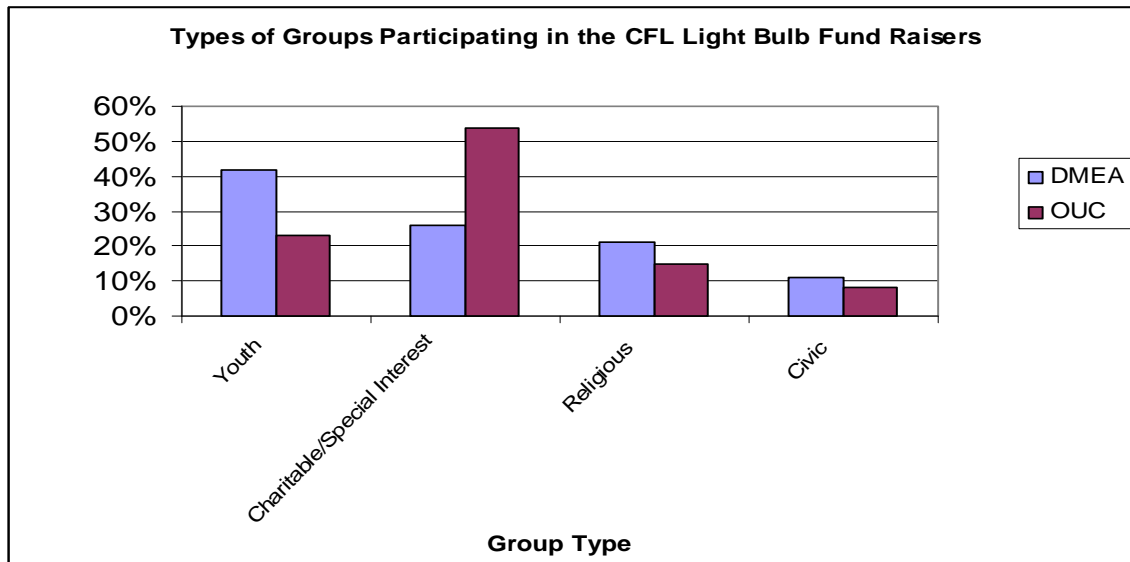
DMEA also used other promotional materials such as newspaper inserts, four-color flyers, and advertisements which promoted the light bulb fund raiser in September. The materials included pictures of the light bulbs, prices, and Wattage equivalencies.

OUC promoted its Light Bulb Fund Raiser through news releases distributed to the local media and on its website, flyers, posters, and special announcements to its current and retired employees. It also sent out letters to more than 100 local community groups describing the fund raiser opportunity and inviting them to participate.

Types of Participating Groups

The most critical aspect of this program is to recruit interested community groups. Unlike traditional fund raisers, this model allows the utility to reach out to a cross-section number of community groups. Both utilities recruited groups that represented the diversity of the community and reached beyond youth groups to include senior citizens, civic organizations, and religious groups.

Figure 2: Types of Groups Participating in the CFL Light Bulb Fund Raisers



In 2005, DMEA recruited 15 community groups in its service territory and this increased to 19 in 2006. OUC's pilot program recruited 15 groups in 2007 and 38 groups in 2008.

The organizations recruited for this fund raiser included community groups with the charitable or special interest groups representing the largest component. In DMEA's service territory, the groups included Meals-On-Wheels, a local public library foundation, and the Daughters of the American Revolution. In OUC's territory, the groups recruited included non-profits reaching out to teachers, adult learners, and a community advocacy organization called ACORN. OUC also recruited a number of youth organizations, such as local scouting troops, and school organizations including bands and clubs.

The groups participated in this fund raiser because it offered them a chance to raise money under the auspices of the local utility. The groups who embraced this fund raiser concept the most were those that did not already actively participate in other fund raisers. For example, the Scout and youth groups had regularly scheduled fund raisers, there were less likely to be interested in participating this activity. However, senior citizen groups, church groups, and civic and community groups, such as the Retired and Senior Volunteer Program and Keep Orlando Beautiful embraced this activity because it provided them with an unexpected fund raising source. OUC's participating groups in the first year included a large number of not-for-profit organizations. These groups are generally more sophisticated in their understanding of the fund raising activity, since they often have a staff member dedicated to these types of activities. However, it became a challenge to incorporate this new type of fund raising activity into their existing activities, in a way without interfering with their long-term goals.

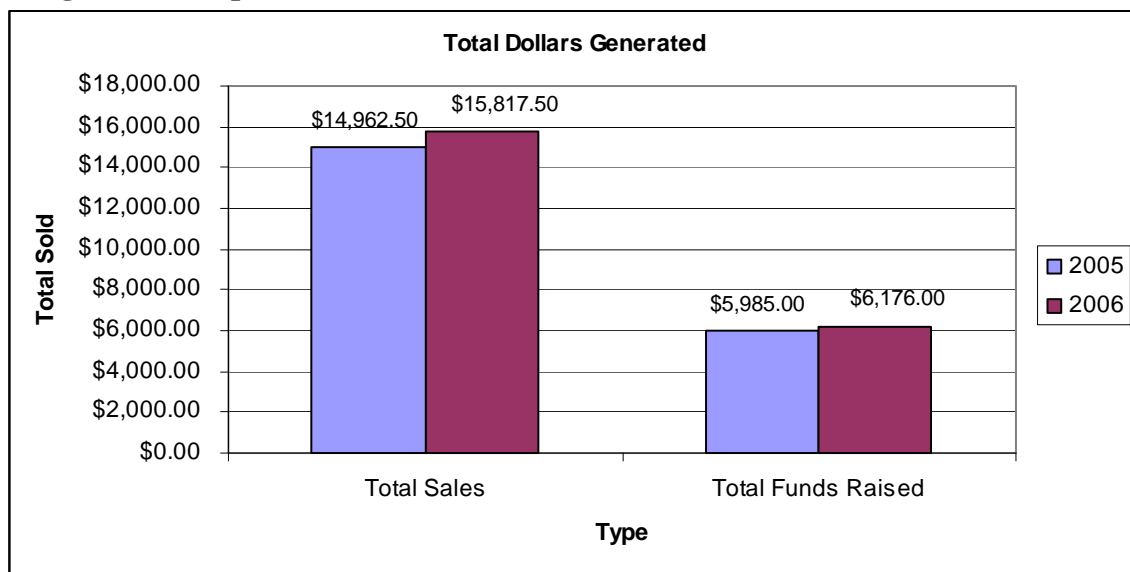
Since the community groups recruited for this program were not “energy experts,” it was critical to provide proper sales training and support, as well as the promotional materials necessary to support them in their fundraising activities. They received sales scripts, email versions of the materials, Frequently Asked Questions (FAQ’s) as well as posters, flyers, order envelopes, and product samples. A representative from each community organization met with OUC’s implementation contractor and received a program briefing. While the focus was on selling light bulbs, the major emphasis of the group training was to provide them with the tools they needed to help achieve their goal- raising money for their organization. Samples of these materials are available at the following website (www.cflfundraiser.org).

DMEA Results

The comparison between the two program years also revealed the following. DMEA, which served a smaller and close-knit community, sold more than 3,000 light bulbs in each year. These results were better-than-expected given the overlap in the participating groups for each year. These sales figures were bolstered by the fact that the groups were able to offer an alternative product in the second year, which provided them the chance to sell to customers who had purchased the year previously. Thus, the ability to get “repeat business” helped the groups raise additional funds the second year.

Figure 3 compares the total funds raised by the community groups during DMEA’s two sales periods. As Figure 3 shows, this fund raiser resulted in total product sales of more than \$30,000 (or about 6,000 CFLs in 600 households). While DMEA was pleased to know that 6,000 light bulbs were not distributed in their community, the message they emphasized most was that these fund raisers helped the community groups raise more than \$12,000. The emphasis on the community group’s success was integral to achieving DMEA’s goals of increasing community awareness and supporting local community groups.

Figure 3: Comparison of Revenues and Funds Raised for DMEA 2005 and 2006



The comparison between the two program years also revealed the following:

- Participation among the community groups increased in 2006 (19 vs. 15) due to greater awareness within the community about the fund raiser through the publicity and word of mouth.
- There was a marked increase in the number of youth groups participating in 2006, compared to 2005, based on a greater awareness of the fund raising program during its second year
- More than half of the community groups participating in 2006 were new to the fund raiser. Some groups opted not to participate in the following year, because they viewed it as too time-consuming or labor intensive. However, this attrition rate was offset by many other community groups who learned about the fund raiser during 2005 and were then prepared to take advantage of it in the following year.
- The groups generated fewer product sales, however total revenues were higher.

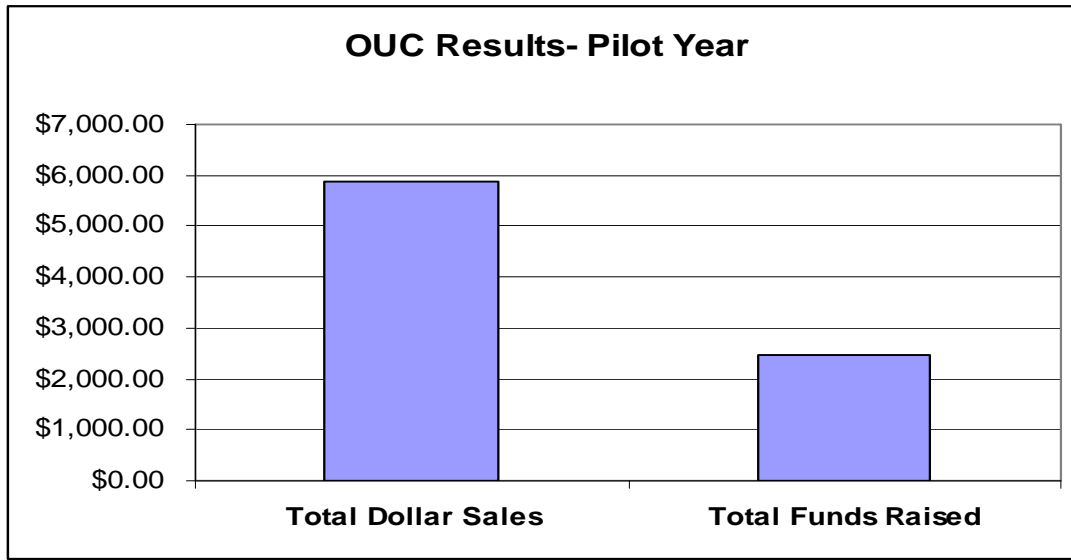
The last finding is based on the addition of the higher margin LED holiday light strings which compensated for the decrease in overall sales.

OUC Results

The pilot program results for OUC were disappointing, with sales of only 1,000 light bulbs compared to the goal of at least 5,000. The two-week sales period yielded the following results:

- More than 1,000 energy efficient light bulbs were sold and installed in service territory
- 13 organizations raised nearly \$2,500 for their charitable causes
- The net effects from first year savings are nearly \$2,100 and nearly \$10,500 over the five-year life span of these light bulbs.
- OUC customers will save more than 76,000 kilowatt hours annually, which equals more than 380,000 during the next five years.
- OUC will reduce by more than 445 kilowatts its system peak demand during 6 months of the year. This will save more than \$12,000
- The light bulb installations will result in a reduction of 48 metric tons of carbon emissions. During the next five years, the light bulb installations will reduce 281 metric tons of carbon emissions.

Figure 4: OUC Pilot Program Results



A major reason for the disappointing pilot program was due to the abbreviated schedule in which to implement this program. Unlike DMEA, which recruited groups during a four-month window, OUC's pilot program provided only one month for group recruitment prior to the launch of the fund raiser. This issue was addressed in the full program roll-out, which has already resulted in a four-fold increase in the number of participating groups. Full results will be available in June 2008.

Process and Impact Evaluation

Program evaluation was built into the program design and therefore included both a process and impact evaluation for both years. The process evaluation included conducting telephone surveys with a random sample of program participants and interviewing representatives from the participating community organizations. These included interviewing those organizations who participated as well as those who dropped out, as a way to better determine the best way to launch this program in subsequent years.

Program impacts were calculated by extrapolating key findings from the participant survey to all customers who purchased CFLs. The survey findings were used to calculate the following critical inputs:

- Number of CFLs that will be installed in the utility's service territory as a result of the program.
- Hours of use for these CFLs.
- Number of CFLs already in place (i.e., the baseline) that will be replaced with comparable light bulbs in the future.
- Free ridership rate – how many customers would have purchased CFLs in absence of the program.
- Free drivership rate – the number of CFLs that will be installed outside of the service territory.

The light bulb fund raiser did lead to generating awareness among OUC customers regarding the benefits of energy efficient light bulbs. However, the installation rate fell far short from the projections. Based on the feedback from both community organizers and program participants, this fund raiser should be modified in the following ways in order to assure a higher participation rate in 2008.

Summary of Results

As a result of these two utility fund raiser programs to date:

- More than 30 local community groups in both service territories sold more than 6,000 CFLs.
- Local community groups raised more than \$14,500
- The utilities lifetime avoided power purchases were more than \$47,000
- These utility programs have resulted in a savings of more than 467,000 kWh lifetime
- These utility programs will lead to lifetime kW savings of 15,000
- Estimated carbon reductions are nearly 1,200 metric tons

The key findings from the utility process evaluations emphasized the importance of incorporating the following elements in order to be successful. OUC has already incorporated these recommendations in its 2008 full program launch.

1. **Allow sufficient program timing:** The DMEA fund raiser was successful because it allowed sufficient lead time from the initial announcement in March until the sales kick off in October. While this timing was the goal in OUC in 2007, the actual fund raiser did not officially begin until September 2007. In 2008, the time line was revised to allow a four-month group recruitment period that has already yielded a much larger number of participating groups. OUC's 2008 program reflected this longer time period, as shown in Table 1.

Table 1: Revised Light Bulb Fund Raiser Schedule

Timing	Major Fundraiser Milestones
Jan	Develop Promotional Plans Identify & Contact Participating Groups
Feb	Start Group Recruitment
March	Conduct Pre-Launch Sales Training
April 21- May 31	Launch Sales Campaign
June 2	Collect Bulb Orders from Group Coordinators
June 15	Distribute Bulbs to Group Distribute Incentives
July	Conduct Program Evaluation
Aug	Summary Report

2. **Provide a broader range of marketing and outreach activities:** DMEA's program was successful because of its aggressive marketing activities. OUC has followed suit in 2008 by including a broader suite of marketing messages with a special emphasis on reaching out to OUC employees.
3. **Recruit a variety of community organizations:** These fund raisers are most successful when they include diverse range of community groups. The fund raisers at both utilities were most successful when they targeted the grassroots organizations, such as local youth groups, religious organizations, and senior groups that are not involved in annual fund raising campaigns. However, these groups are more challenging to locate, and therefore require a longer recruitment timeline and a broader outreach.
4. **Expect group attrition:** Since the community groups are not financially "obligated" to participate in this program it is easy for them to agree to participate and even easier for them to drop out. OUC experienced an unexpectedly high attrition rate of 45% during the pilot program. Therefore, in 2008, the group recruitment goal was to recruit at least 40 groups, well above the number required to meet OUC's sales goals of 5,000 light bulbs.
5. **Reach out to the employees:** Utility employees are an untapped resource for this type of fund raiser program. These employees are already active members of the community and therefore are a natural ally in identifying and recruiting groups. DMEA had an employee sales period prior to the pilot launch in 2007. OUC increased its employee outreach which led to the identification and recruitment of 15 local community groups.

Overall, the fund raiser program is well-received by most participating community organizations and customers. The program concept and product were perceived as valuable and important. In 2008, OUC has developed a strategy to help increase light bulb sales by instituting a more aggressive sales campaign earlier in the year, extending the sales period from two to six weeks, and recruiting a larger cross-section of groups to participate. These recommendations will lead to increased sales and awareness of the benefits of purchasing and installing energy efficient light bulbs.

Conclusions

This paper illustrated a new approach on an old idea: how to encourage customers to install CFLs. Traditionally, U.S. utilities promote CFLs through "giveaway" programs or with rebate or "buy down" programs aimed at retailer point-of-purchase displays.

This fund raiser model was designed to create a delivery mechanism that leveraged non-profit community groups to explain the complex value proposition for CFLs in a direct (i.e. face-to-face) sales environment to support CFL sales of a premium quality product at its full retail price without utility customer cross-subsidies.

The fund raiser model allows the utility to demonstrate to its customers the value of paying for energy efficiency improvements, especially when it is framed in terms of helping local organizations raise money. This is the first step in helping customers learn to value energy efficiency improvements or in essence "learn to fish":

“If you give a man a fish, he eats for a day; if you teach a man to fish, he eats for a lifetime.”

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