

Energizing Communities: Leveraging Non-Profit Organizations to Promote CFLs

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Abstract

Compact fluorescent lamps (CFLs) have been a mainstay within the energy efficiency community for more than a decade. However, many smaller cities and locations, especially those in rural areas, have not been the subject of targeted outreach campaigns that promote the purchase and/or installation of this energy efficient technology.

In the past, most 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 improvements.

Delta-Montrose Electric Association (DMEA) a 30,000-member Rural Electric Cooperative in Montrose, CO tried a more unique outreach strategy. In 2005, the utility developed and implemented a Light Bulb Fund Raiser program to encourage members to replace their most-used incandescent light bulbs with compact fluorescent lamps.

This paper compares the process and impact results from 2005 and 2006 and identifies the successful way in which program evaluation was built into the “DNA” of this program design. It also illustrates how energy organizations can promote energy efficiency improvements, such as CFLs, *without subsidies*, compared to the more traditional rebate and giveaway programs. This program demonstrates that customers value energy efficiency, especially when the savings can be tied directly to environmental and community benefits. The paper will also include examples of the program advertising and marketing materials, such as sales training, promotional materials, and evaluation strategies that have made this an award-winning and successful residential outreach campaign.

Introduction

Based on the findings from a 2004 study of Efficient Lighting (Johnson 2004), DMEA became convinced that installing CFLs in a home’s most-used lighting fixtures is among the best ways for its members to save money on monthly electricity bill. This also helps DMEA reduce the price it pays for wholesale power. By “test marketing” this fund raising campaign approach in 2005, DMEA hoped the campaign would encourage DMEA members to purchase a few bulbs from local community groups as a fund raiser, and then motivate DMEA members to buy a full range of high-quality CFL products from local retailers. The types of community organizations included youth groups, religious organizations, civic groups and social clubs. Participating groups included a local library, war veterans group, youth groups from churches and schools, and senior citizens.

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, on 7 out of 12 months a year, this utility's peak demand occurred during the early morning or evening hours, hence when residential lighting is most likely to be in use.

The study recommended that DMEA:

- 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 Fundraiser Program

DMEA contracted with its subsidiary, Intermountain Energy, to design, implement, and evaluate its 2005 Efficient Lighting Pilot Program to test the best market delivery mechanism identified in the 2004 study, and to prepare DMEA for a full program launch in 2006. A key driver of DMEA's Program Goals in 2005 was to develop and implement a successful pilot program with a 2006 "Go to Market" Plan that achieved the following:

- Demonstrate the identified "go to market" strategies for energy efficient lighting technologies
- Develop working relationships with a leading national lighting manufacturer, TCP (Technical Consumer Products, Inc.) , as a lighting product supplier and Intermountain Energy as a program implementation provider
- Create a sustainable way to facilitate/motivate DMEA members to help reduce DMEA's reduce peak demand power purchases while creating a program that is suitable for "export" to other cooperatives nationwide.

The goal of the pilot program was to encourage the sale and installation of energy efficient light bulbs. The key message of the program was to encourage DMEA members 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 Compact Fluorescent Lamps selected for use in the program 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. In 2006, strings of 50-bulb LED holiday lamps were added to the product mix.

All lamps have a 9-year manufacturer's warranty. The lamps were available packaged individually or in packs of four. The retail sales price established was \$4.50, \$5.00 and \$5.50 per lamp, if purchased

individually, or \$18.00, \$20.00, and \$22.00 for a package of 4 lamps. New to 2006, DMEA expanded the product offerings to include LEDs. 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. Groups received a larger incentive to sell holiday strings, since this was a higher priced item. The groups received \$6.00 per string sold.

DMEA aggressively promoted the value of replacing standard light bulbs with compact fluorescent bulbs (CFLs). DMEA ads appeared in several publications in September and October. Plus, DMEA 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 which 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

Intermountain Energy created a variety of promotional materials including 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. Intermountain Energy also coordinated with DMEA to include a bill stuffer message in the September electric bills mailed out to members.

Timeline and Sales Training

In order to be successful, the CFL Fund Raiser required coordination with the sponsoring organization, DMEA, the program implementation team, Intermountain Energy, and the participating community organizations. The following figure summarizes the major milestones in this process.

Table 1: Major Fundraiser Milestones

Mar	Draft Program Outline
Apr	Conduct Roundtable with Staff/Allies
May	Finalize Promotional Plans Identify Participating Groups Draft Promotional Materials
Jun	Recruit Prospective Groups
Jul	Prepare Promotional Materials
Aug	Distribute insert in area newspapers
Sep	Distribute Promotional Plan Outline Conduct Pre-Launch Sales Training Place flyers, and group listings Front page article in newsletter
Oct	Conduct Promotional Campaign Launch Sales Campaign Collect Bulb Orders from Group Coordinators
Nov	Distribute Bulbs to Group Coordinators Distribute Movie Incentive Passes Conduct Program Evaluation
Dec	Summary Report

The
recruited for this
represented the

organizations
fund raiser
cross-section of

community groups located throughout DMEA’s service territory.

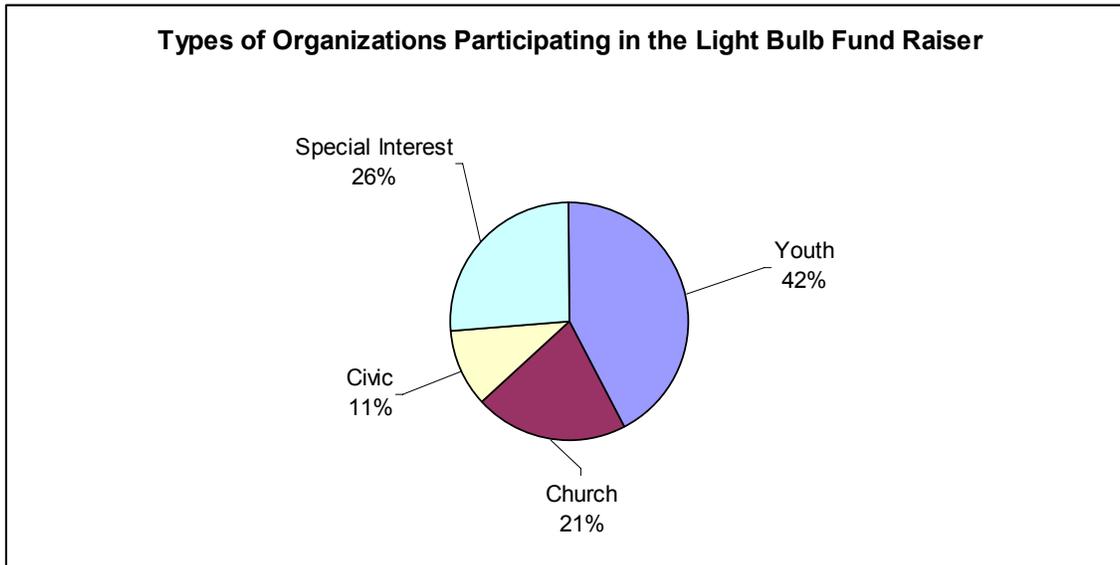


Figure 1: Types of Community Organizations Participating in the DMEA Light Bulb Fund Raiser

Since the community groups recruited for this program were not “energy experts,” it was critical to provide proper sales training and support. It was also necessary to provide these groups with the promotional materials necessary to support them in their fund raising activities. The following text box summarizes the types of promotional materials that were developed and delivered to participating community groups.

Table 2. Sample Briefing and Promotional Materials

- Media Advisory and Press Releases
- DMEA newsletter articles
- Trade press and general public media articles
- Sales/Education Flyers
- Sales/Education Posters
- Suggested Sales Script
- Suggested Group Coordinator Script
- Frequently Asked Questions and Answers
- Individual Order Form Envelope
- Group Coordinator Order Form
- Local lighting retailer outreach memo
- Group Coordinator correspondence and updates

Comparison of Program Results 2005 and 2006

Figure 2 compares the total funds generated during the two sales periods. As Figure 2 shows, this fund raiser has led to total product sales (2005 and 2006) of more than \$30,000 (or about 6,000 CFLs in 600 households) which also helped local community organizations raise more than \$12,000.

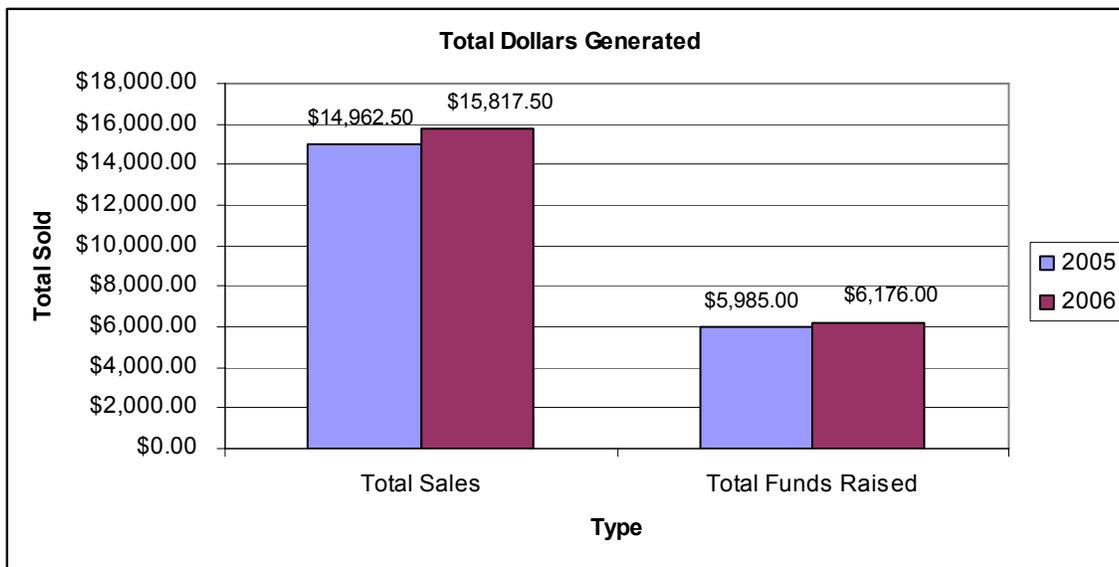


Figure 2: Comparison of Revenues and Funds Generated for 2005 and 2006

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

- Participation among the community groups increased in 2006 (19 vs. 15)
- There was a marked increase in the number of youth groups participating in 2006, compared to 2005.
- More than half of the community groups participating in 2006 were new to the fund raiser.
- The groups generated fewer product sales, however total revenues were higher.

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

Process and Impact Evaluation

Program evaluation was built into the DNA of 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 30 to 35 program participants and also interviewing five to six representatives from the community organizations.

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

- Number of energy efficient light bulbs that will be installed in DMEA's service territory as a result of the program
- Hours of use for these energy efficient light bulbs
- Number of energy efficient light bulbs already in place (i.e., the baseline) that will be replaced with comparable light bulbs in the future
- Free ridership rate, that is how many customers would have purchase energy efficient light bulbs in the absence of the program

- Free drivership rate, that is the number of light bulbs that will be installed outside of DMEA's service territory

The net revenue effects from the first year of the DMEA Light Bulb Fund Raiser were calculated using the DMEA Lighting Value Calculator- 5 Lamp Analysis Worksheet¹.

The program impact analysis also determined the free ridership and free drivership based on the results from the customer surveys. Table 2 summarizes those findings.

Table 2: Comparison of Free Ridership and Free Drivership Rates

	2005	2006
Free Ridership	22.92 % ²	13.38% ³
Free Drivership	1.40% ⁴	8.45% ⁵

After accounting for the effects from free ridership and free drivership, the light bulb fund raiser led to a substantial increase in installations of energy efficient light bulbs. For DMEA the incremental benefits for this program resulted in first year savings of more than \$4,000 in 2005 and nearly \$3,000 in 2006.

The estimated kilowatt and kilowatt hour savings achieved by this program are summarized in Table 3.

Table 3: Estimated Annual kW and kWh Savings - Incremental Benefits

Estimated Annual kW and kWh Savings --Incremental Benefits	2005	2006
Annual kWh Savings to members	171,410	123,199
Annual Tri-State Peak Period Member kW	1354.04	535

Summary of Results

The program evaluation revealed the following suggestions for program improvement. These suggestions were consistent during both years.

1. Review Program Timing

¹ The 5 Lamp Analysis Worksheet assumes that only the 5 most frequently used light bulbs used an average of 3.5 hours per day will be replaced in a typical DMEA household. Since the program encouraged members to purchase and replace their 5 top light bulbs, this is the appropriate way to estimate program impacts. However, program impacts may be even greater among those members who purchased and installed more than 5 light bulbs.

² Free ridership was calculated by dividing the number of energy efficient light bulbs currently installed by the total number of light bulbs sold= 83/362= 22.9%.

³ Free ridership was calculated by dividing the number of energy efficient light bulbs currently installed by the total number of light bulbs sold= 19/142= 13.38%.

⁴ Free drivership was calculated by dividing the number of light bulbs that would be installed outside DMEA's service territory by the total number of light bulbs sold= 5/362=1.4%.

⁵ Free drivership was calculated by dividing the number of light bulbs that would be installed outside DMEA's service territory by the total number of light bulbs sold= 12/142=8.43%.

While early fall is an ideal time to promote energy efficient lighting technologies, this is also an especially busy time of year. DMEA could also mitigate this conflict by providing participating organizations with sufficient lead time to prepare for this fund raiser. Therefore, DMEA should consider establishing firm timing for next year's fund raiser and alerting all potential organizations earlier.

2. Improve Program Tracking

The community organizations did not always provide consistent information regarding member orders. This information is essential to accurately document the estimated number of households that have participated in the DMEA Light Bulb Fund Raiser. Moreover, it is important to have this information should members have any problems. Therefore, DMEA should emphasize more accurate and detailed reporting in future training sessions with community organizations.

3. Follow Up with the Participating Organizations

The member surveys provided a perfect opportunity for program follow up with an independent third-party not affiliated with either DMEA or Intermountain Energy. During the course of conducting these interviews, a minority of members had not yet received their light bulbs from the community organizations. Even though the light bulbs had been delivered to the appropriate representatives, several members contacted had not yet received their light bulbs from the individual sales person. However, they did not view this as a failing of the community organization, but rather a failing of DMEA for not following-through. These random interviews provide a mechanism to ensure quality control and member feedback in a consistent and objective manner, and are integral to monitoring program success and quantifying program results.

4. Expand Product Offerings

Both the community organizations and the individual members wanted a broader selection of energy efficient light bulbs. Specifically, there were several requests to include energy efficient light bulbs that worked in the following applications:

- Three-Way Bulbs
- Decorator Lights
- Outdoor Lights

Expanding the product line would also create an opportunity for this year's group of members to purchase additional energy efficient light bulbs. As demonstrated this year, the addition of the holiday strings provided the fund raising organizations with a perfect opportunity to go back and build "repeat business" from last year's members.

Since the membership of these organizations tends to be relatively small and close-knit, it will be important for DMEA to continue to refresh its product line every year as a way to attract new buyers and provide an opportunity for existing customers to continue to purchase energy efficient products. It is especially important to note that the participating organizations are *expecting* DMEA to continue to add new products to its fund raiser, and would really like to include three-way bulbs in the product mix.

5. Broaden Program Outreach

The educational activities were not as visible to the participants or the community organizations this year. Partially this was because there was a core of DMEA members who had already been “sold” on the benefits of energy efficient light bulbs. Word is also spreading throughout the community about the benefits of these energy efficient products.

However, it is important to continue the outreach, education, and training to the community group participants, especially as new community groups seek ways to become involved. Member education will continue to have a “snowball effect” within DMEA’s service territory, as it appears that once members purchase energy efficient light bulbs, they are very likely to continue doing so. Providing member education and outreach further reinforces the benefits of these light bulbs, which in turn, makes it easier for the community organizations to raise funds during the two-week sales period.

Table 4 summarizes the results from the impact evaluation for both years.

Table 4: Comparison of Fund Raiser Sales Results from 2005 to 2006

	Results in 2005	Results in 2006
Number of Participating Community Groups	15	19
Total Sales	3,044 light bulbs	2,158 light bulbs 310 holiday strings
Amount of Money Raised by Groups	\$6,000	\$6,100
“Lifetime” ⁶ Avoided Net Power Purchases	\$27,000	\$16,730
“Lifetime” kilowatt hours (kWh) saved	219,000	142,000
”Lifetime” kilowatts saved (kW)	11,000	3,080
Amount of Carbon Emissions Saved	695 tons	450 tons

Conclusions

This paper illustrated a new approach on an old idea: how to encourage customers to install energy efficient light bulbs. Traditionally, U.S. utilities promote CFL’s through “giveaway” programs or with rebate or “buy down” programs aimed at retailer point-of-purchase display.

⁶“Lifetime” equals to a 5 year savings, which was actually shorter than the expected 8-year lifetime of the CFLs.

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. This approach better supports customer's trial experience of the bulbs through initial purchases from the groups during a targeted 2-week sales campaign while allowing the local retailers to generate follow-on sales at their full retail price for the remaining 50 weeks of the year.

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