



Bright Opportunities: A New Way of Getting LEDs Into the Commercial and Industrial Market

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Outline of Presentation

- Background on program
- Evaluation description
- Characterizing the participants and the projects
- Program satisfaction
- Conclusions and recommendations

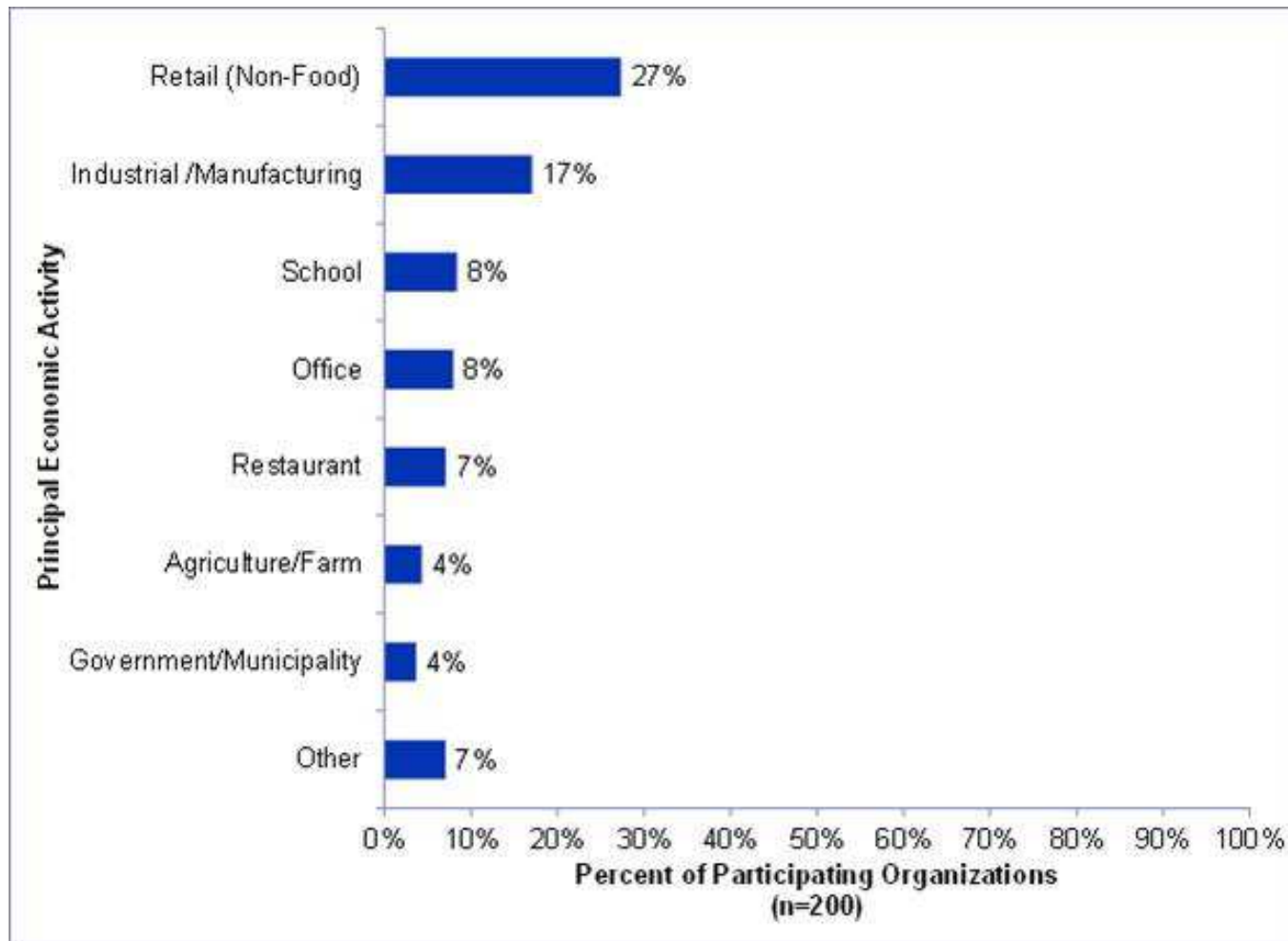
Bright Opportunities Program - Background

- Program works primarily with lighting distributors to buy down the cost of the lighting products purchased by C&I customers
- Started in September 2011 offering upstream incentives on low-wattage linear fluorescents (e.g., 25/28W T8s, 47-51W T5HO lamps)
- Began offering upstream incentives on LED lighting technologies in November 2011
 - From 11/11 to 2/12 offered rebates on just spotlight/floodlight bulbs (e.g., PAR20, PAR 30).
 - In 3/12 began offering rebates on BR30, BR40, GU10 bulbs.
 - In 4/12 began offering rebates on A-lamps, decorative bulbs
- For the evaluation period (2011-2012), LED bulbs accounted for > 80% of the program savings.
- LED buydown discounts were significant (~67%)
- Program required distributors to record customer name and installation location.

Process Evaluation – Background

- Evaluation sponsored by Massachusetts Energy Efficiency Advisory Council (EEAC) and Massachusetts Program Administrators (PAs)
- Research objectives
 - Determining whether the program was designed/delivered in an efficient/effective manner;
 - Estimating net-to-gross ratios and spillover energy savings;
 - Finding out what participating distributors were telling customers about the discounts;
 - Identifying which types of customers were purchasing the LED bulbs;
 - Finding out whether participants faced challenges implementing their lighting projects; and
 - Identifying which types of bulbs the LEDs were replacing.
- Data collection
 - CATI survey of 200 program participants (December 2012 – January 2013)
 - In-depth interviews (Q4 2012 - Q1 2013)
 - 25 participating lighting distributors;
 - 25 participating lighting contractors;
 - 8 nonparticipating lighting distributors; and
 - Program staff and implementation contractors.

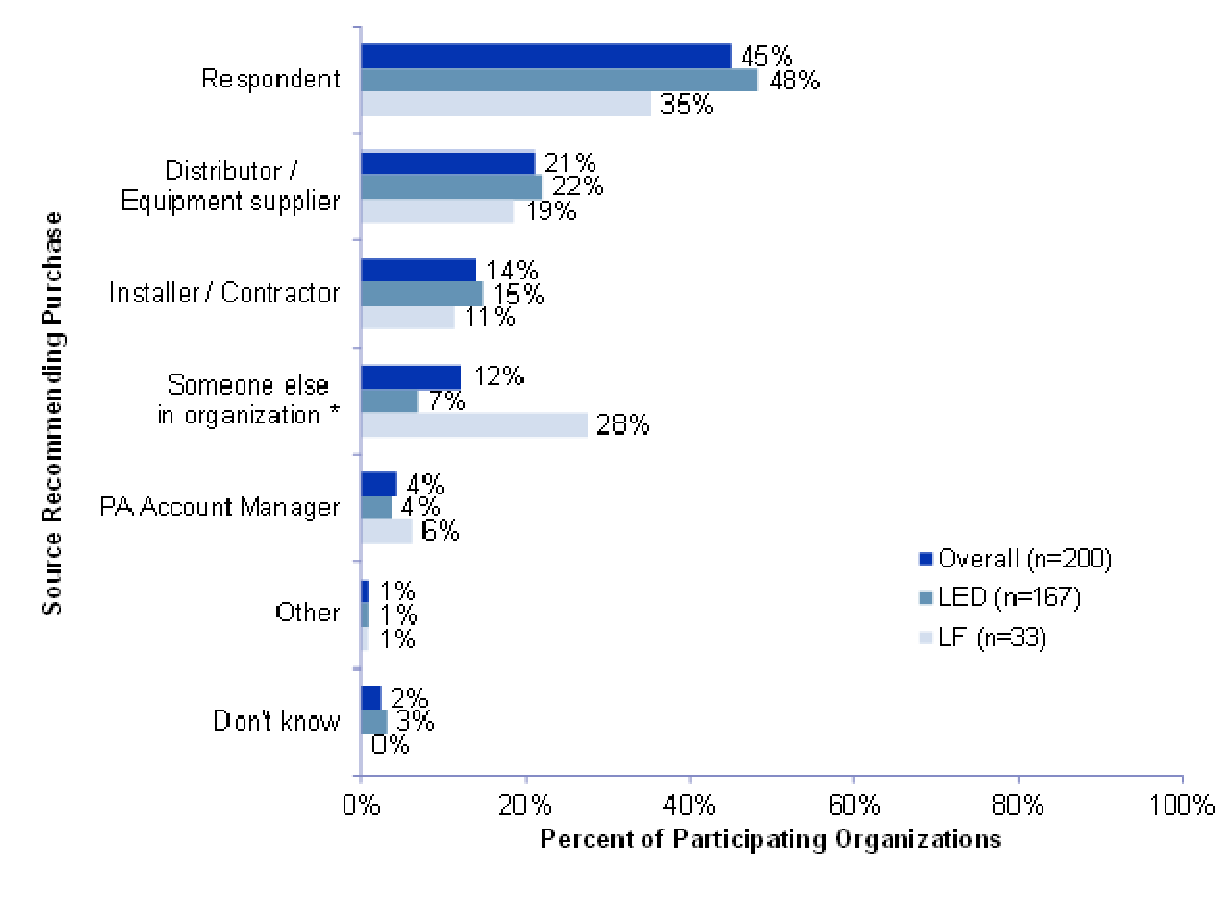
Characterizing the Participating End Users



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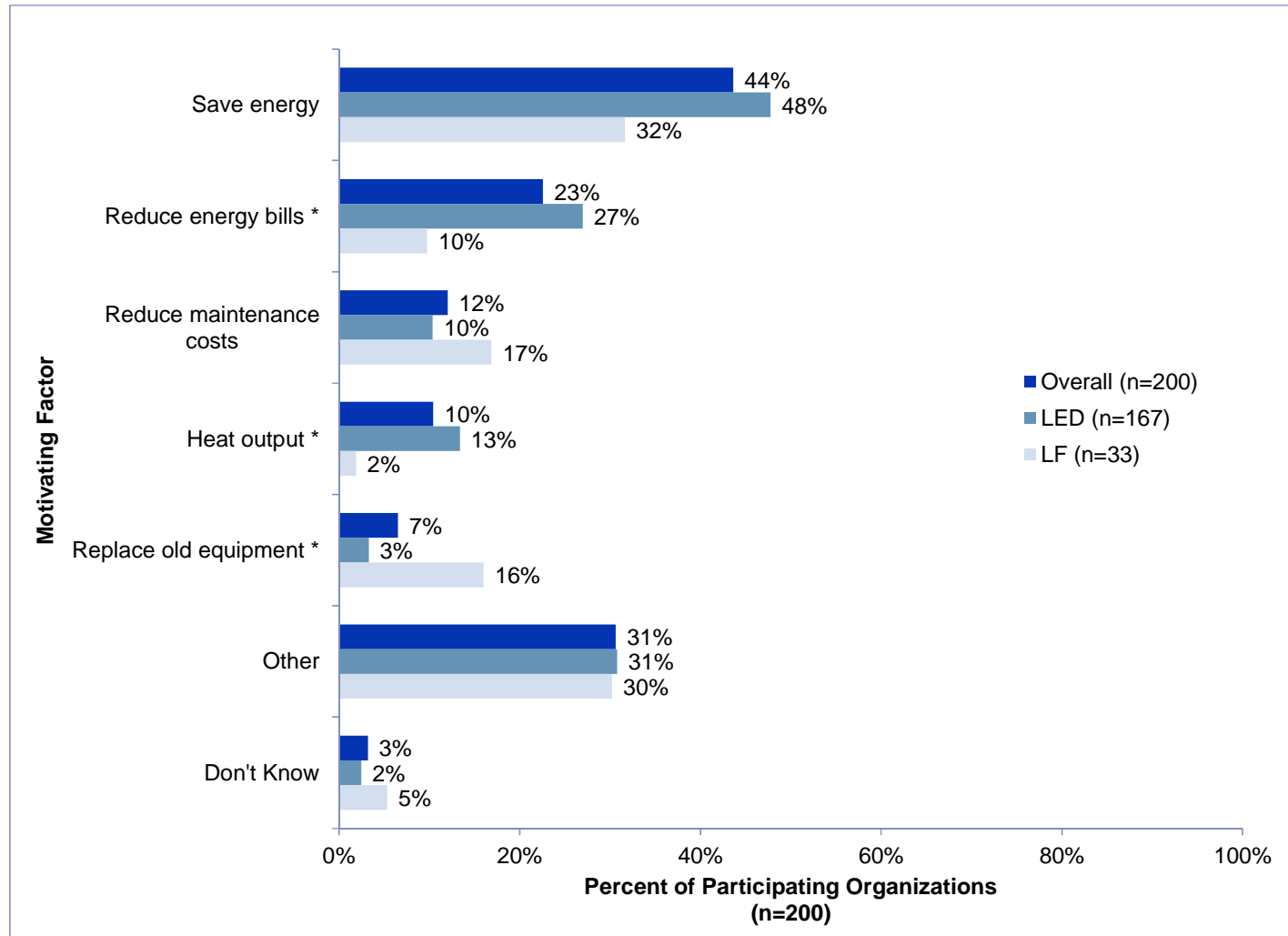
- Were the program's LED purchasers more EE than typical lighting purchasers?
 - Were limited in what we could use as a comparison group
 - Compared LED purchasers to program participants who bought low-wattage LF bulbs
 - No differences b/w LF and LED participants in frequency of:
 - Having energy managers on staff
 - Having company guidelines/requirements for energy-using equipment
 - But LF participants were much larger on average (74 employees vs. 45)
- Was the program making LED bulbs accessible to new types of customers?
 - 47% of lighting distributors said they were
 - They reported more lighting sales with individual businesses such as retail outlets or small commercial businesses instead of large contracts.
- Did participants report any difficulties/barriers in using the new LED technology?
 - Only 12% said they did
 - Of those reporting difficulties, 46% reported difficulties using LEDs in dimmer switches

Most Responsible for Decision to Purchase EE Bulbs



* Difference between LED and linear fluorescent is statistically significant at 90% confidence level.

Motivations to Purchase Bulbs/Lamps

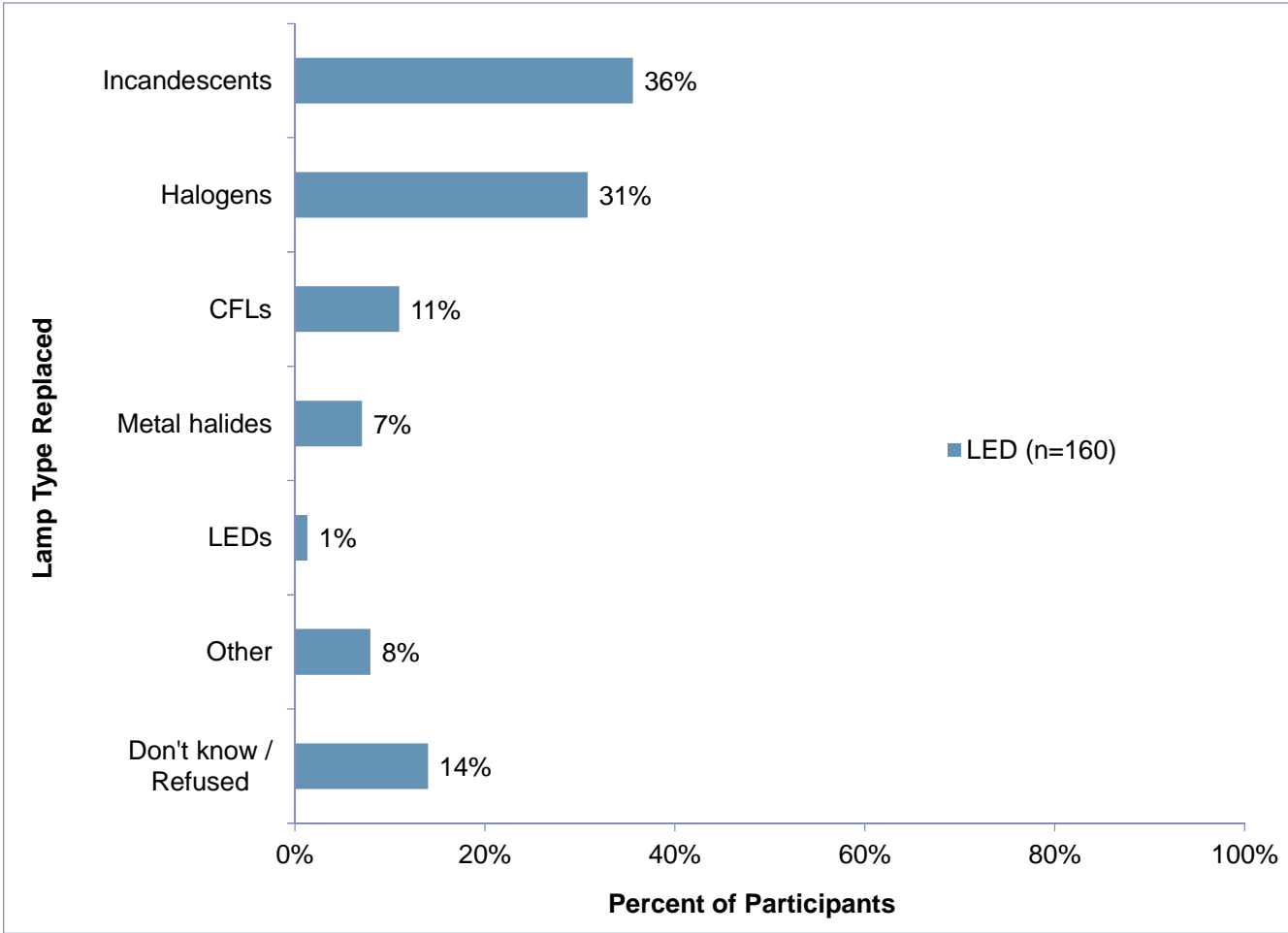


* Difference between LED and linear fluorescent is statistically significant at 90% confidence level.

Characterizing the Lighting Projects

- Were the LED bulbs purchased as part of a larger project?
 - Only 26% of participating end users said that they were
- Were the participating end users aware of the program buydown discounts?
 - 77% of LED purchasers and 73% of the LF purchasers said they were
 - 66% of LED purchasers and 52% of the LF purchasers said their lighting suppliers told them about the discounts
 - 72% of the lighting distributors said that they referenced the buydown discounts in marketing materials or sales pitches.
- Yet end user awareness of the source and size of the discounts was much lower
 - Only 14% of participating end users said their lighting supplier told them that the discount came from their electric provider, Mass Saves, or the state of MA.
 - 77% of LED purchasers and 91% of the LF purchasers said they did not know the \$ value of the discount.

Lamp Types Replaced by LED bulbs



Trade Ally Satisfaction with the Program

- Trade ally satisfaction with the reporting requirements
 - We thought this might be a concern because:
 - The program required that participating distributors collect the name, location, and contact information of each customer to whom they sold the discounted lighting products.
 - Lighting distributors are generally smaller and less sophisticated than the lighting manufacturers who participate in upstream lighting programs
 - We asked participating distributors/contractors if reporting requirements were reasonable
 - 77% of the distributors and, 74% of the contractors gave an unqualified “yes” to this question.
 - Only 5% of the distributors and 9% of the contractors said that the requirements were not reasonable
 - Remainder said “yes” but added a comment/complaint indicating they were not totally satisfied .
- Trade ally satisfaction with other program aspects
 - 100% of the distributors and 89% of contractors were satisfied with the program as a whole
 - 88% of the lighting distributors were satisfied with the incentive payment process
 - Yet only 60% of the distributors and 53% of the contractors were satisfied with the program’s marketing efforts.

End User Satisfaction with the Program

- End user satisfaction with the bulbs/lamps
 - 90% percent of the LED purchasers and 99% of the LF purchasers were satisfied w/ bulbs
 - Yet only 72% of LED purchasers who used LEDs in dimmer switches were satisfied
 - Those dissatisfied with LED performance cited flickering and bulbs not working properly
 - Poor LED performance in dimmers had also been the top complaint of lighting trade allies.

- End user satisfaction with the lighting suppliers
 - 95% of participating end users were satisfied with their lighting supplier.
 - LED purchasers were more likely than LF participants to be “very satisfied” w/ their lighting suppliers

Conclusions

- Overall conclusion: the Bright Opportunities Program is a well-designed and well-run program
- Supporting evidence for this conclusion
 - Generally high program satisfaction levels from end users and participating trade allies;
 - A lack of barriers to program participation;
 - Generally high program net-to-gross ratios (76%-89% for LED bulbs depending on the methodology); and
 - The lack of significant complaints from program implementers.

Recommendations for Program Improvements

- Do more marketing of the program, especially to end users
 - Only a small majority of participating distributors/contractors were satisfied with the program's marketing efforts.
 - Dissatisfied distributors said that while they were receiving information and marketing, it was not reaching end users who ultimately drive sales
- Encourage participating trade allies to do more to educate their customers about the source and size of the buydown discounts
 - The % of end users who said they heard their lighting suppliers mention the program discounts ranged from 34%-62% depending if open ended or direct question.
 - Very few respondents knew the \$ value of the discounts they received or could provide reasonably accurate estimates of discount sizes in % terms.

Recommendations for Program Improvements

- Do more consumer education about the use of LED bulbs in dimmer switches.
 - Both the program and the trade allies should provide more education/resources on the performance of LEDs in dimmer switches.
 - Such information might include recommended dimmer lists and general information on the technical challenges of LEDs on dimmers, including minimum load ratings.

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