Residential Lighting Research and Best Practices

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Sarah F. Moore, BPA Residential Sector Lead
Dulane Moran, Research Into Action

Thanks to:

Lauren Gage, BPA Evaluation and Market Research

Dulane Moran, Research Into Action

Fall River Electric Cooperative, Idaho County Light and Power,
Kittitas PUD, Lincoln Electric Cooperative,
Orcas Power and Light Cooperative,
Wells Rural Electric, Vera Water and Power

Overview

- Research goals and background
- Overview of utility experience with direct-mail
- Utilities' lessons learned
- Overview of research on direct-install models
- Benefits and limitations of direct-install
- Recommendations and best practices

Research Background

Goal

- Understand utility programs and customer acceptance of:
  - Direct mail efforts
  - Direct install efforts
  - Other distribution methods (events, utility office, or other)

Research

- Utility surveys – 28 completed (13 utilities with <5,000 customers, 15 with >5,000)
- Customer surveys – 202 surveys conducted in 7 utility territories
- Best Practices research
  - Direct mail – 8 national evaluations and 7 expert interviews
  - Direct install – 14 national evaluations

Direct Mail

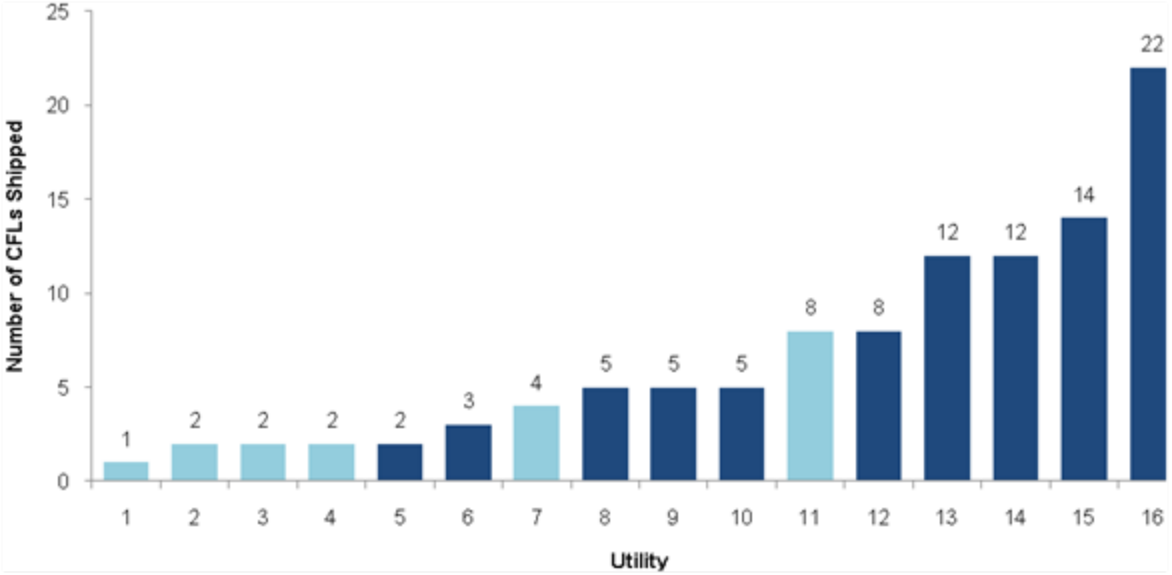
Background

- Research was based on the 2009 program year
- BPA utilities have been able to mail CFLs for years
- In 2009, utilities could contract with their choice of provider or contract with PECI through the Change-a-Light promotion (CAL)
- 16 interviewed utilities had completed a direct mail project (sample was not random, researchers focused on interviewing utilities with this activity)

Direct Mail

Utility Activities

- Utilities mailed 1 to 22 bulbs = an average of 6.7 bulbs (unweighted)
- Most utilities (12 /16) sent “unsolicited” bulbs (unrequested)
- 5 utilities included specialty bulbs
- 4 sent them as a conservation kit (including showerhead, etc)



Direct Mail

Why Direct Mail?

- Simplicity and availability of CRC funding
- Lack of retailers that carry CFLs
- Desire to provide benefits to end users

What Made Direct Mail Attractive?
(Multiple Responses Allowed)

REASON	TOTAL	LARGE/MEDIUM UTILITY (N=6)	SMALL UTILITY (N=10)
Simple	8	2	6
CRC Money to Spend	8	5	5
Provide Better Program Coverage, Broader Benefits to Customers	7	3	4
Lack of Retail Options	7	2	4
"Give Something" to Customers	4	—	4
Facilitate Connection with Utility (Promote New Website, Satisfaction Survey Incentive)	2	1	1
Control for Overlapping Utility Territories	2	1	1

Direct Mail

Reported installation rates

- 60% of direct-mailed CFLs were installed upon delivery (weighted average)
- 87% installed at least one bulb
- Most plan to install more – future projected rate of 89%

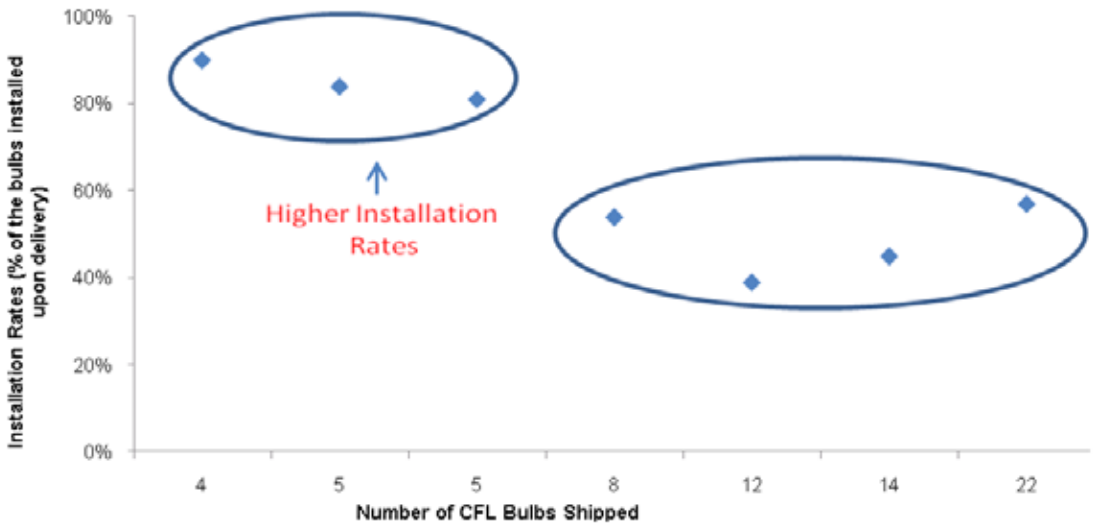
Installation Rates

UTILITY	CFLS SHIPPED	REPORTED INSTALLATION				INSTALLATION RATE	
		No Bulbs (Percent)	Some Bulbs (Percent)	All Bulbs (Percent)	Average Number	Current[1] (Percent)	Projected[2] (Percent)
A	4	4%	13%	79%	3.6	90%	100%
B	5	4%	25%	64%	4.0	81%	99%
C	5	3%	23%	70%	4.2	84%	97%
D	8	23%	53%	23%	4.3	54%	94%
E	12	23%	57%	17%	4.7	39%	83%
F	14	20%	60%	20%	6.3	45%	85%
G	22	10%	47%	37%	12.6	57%	82%
Weighted Average	**8.7**	**13.6%**	**43.5%**	**39.3%**	**5.3**	**60.3%**	**89%**

Direct Mail

Installation by package size

- Higher installation rates reported for customers who received ***fewer than 5*** *CFLs* per package



- No significant difference in installation rates by respondent's education, house size or fuel type.

Utility Lessons Learned

Feedback captured

- Most reported positive customer feedback (10 of 15)
- Some reported negative / confused customer feedback (4 utilities)
  - Concerns about mercury, Styrofoam packaging, getting billed for bulbs, or delivery errors

Lessons learned

- **Work closely with post office** – timing, box size, seasonal accounts
- Give **advance warning and education** to customers prior to mailing

Direct Mail

End user findings

- 66% had at least one CFL installed in their home (prior to direct mail)
  - Over half of these people had fewer than 5 bulbs installed
- 83% agree that energy efficient bulbs can be found in stores where they shop
- 69% said they intended to buy them in the future
- Only 33% agreed that such light bulbs were reasonably priced
- 24% reported that at least one bulb had burned out
- Majority (<60%) were satisfied with the brightness of the light, how well bulbs fit in fixtures and overall performance

Direct Mail – Best Practices

- Combine direct mail CFLs with educational information
  - Include links to other sources or how to order more
  - Include links to other energy efficiency offers
  - Provide information about mercury risk and safe disposal
- Make smart packing choices
  - Choose recyclable materials, avoid Styrofoam and non-recyclable plastic
  - Protect CFLs from breakage
- Limit shipments to fewer bulbs (if unsolicited)
  - 2-4 bulbs provides good introduction without competing with retail
- Coordinate with local post office
  - Know the storage limits and truck capacities of your carrier

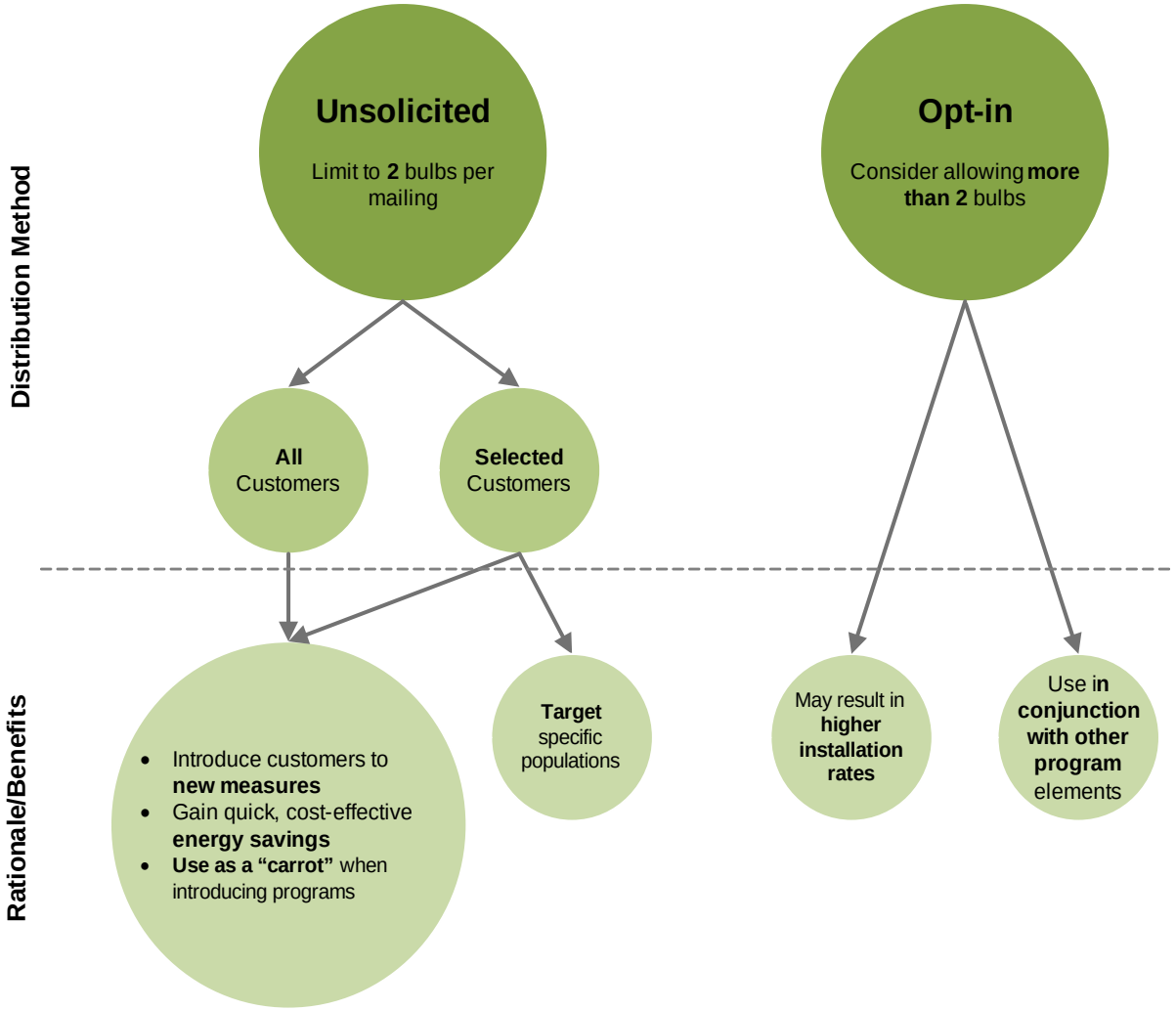
Direct Mail – Best Practices

Unsolicited mailings:

- Effective to introduce a new opportunity
- Demonstrate improvement to an existing measure
- Provide exposure for specialty applications
- Limit number of bulbs

Opt-in mailings:

- Likely to have higher installation rates, particularly if customer gets to choose



Thank you utility partners!

- Seven BPA utilities provided customer contacts for this research (202 surveys completed)

Population and Sample

UTILITY	APPROXIMATE NUMBER RECEIVING CFLs	CONTACT NAMES PROVIDED	ACTUAL SAMPLE*
Fall River Electric Cooperative	6,100	150	30
Idaho County Light and Power	3,400	100	28
Kittitas PUD	3,400	172	30
Lincoln Electric Cooperative	3,200	150	30
Orcas Power and Light Cooperative	7,000	135	30
Wells Rural Electric	4,000	150	30
Vera Water and Power	8,200	123	24
TOTAL	***35,300***	**980**	**202**

Direct Installation

Background

- Not much activity at time of research
  - 3 out of 28 utilities reported direct install activities
  - 11 BPA utilities reported DI activities in the PTR in 2009
- 2 utilities partnered with low income weatherization program
- 1 utility was pursuing a multifamily project

Direct Install – National Research

Benefits

- Higher rates for CFL installation and retention
  - 2 studies found that DI = longer measure life (over direct mail, workshops or coupons)
- More effective for reaching customers than education or rebates alone
  - 1 study found that DI increased uptake of measures
- High customer satisfaction
  - Reported by several evaluation studies

Direct Install – National Research

Limitations

- Recipients remove DI measures for variety of reasons
  - Don’t like them, can’t use them, or because they fail
- Recipients refuse/decline to participate
  - Feel current equipment is fine, dislike certain features, or are suspicious of program contact
- Program structure creates barriers
  - May include income qualification or other requirements
- Utility with large territories may avoid DI model
  - Cite costs associated with travel time

Direct Install – Best Practices

- Include an educational component
  - Increases retention of measures
  - Consider printed materials, face-to-face, or workshops
- Utilize a variety of bulb and fixture options
  - Some customer choice may increase retention
- Track site information carefully
  - Avoids duplicate visits, aids in verification and evaluation
- Institute good training and quality control
  - Insures appropriate use of technology, quality installations
- Provide visible utility sponsorship
  - Provides legitimacy, particularly if participant is suspicious of “free” offer

Recommendations

- Prioritize quality
  - Providing high quality product is important
- Include educational materials and/or instructions
  - Multiple types of bulbs may require information for success
- Distribute best practices to utilities
  - Provide tip sheet for direct mail
- Limit the number of bulbs per Direct Mail package
  - 5 or fewer
- Continue to allow promotions that use “coupon” approach
  - Several utilities voiced positive support to continue this model
- Provide an interactive platform for end users
  - A website shopping tool that helps customers match type of bulb to their immediate needs may have value

Contact Information

Sarah Fielding Moore, BPA Residential Lead

sfmoore@bpa.gov

503.230.4157

Lauren Gage, BPA Evaluation and Market Research

lsmgage@bpa.gov

503.230.4961

Dulane Moran, Research Into Action

DulaneM@researchintoaction.com

Report Available:
http://www.bpa.gov/energy/n/reports/evaluation/residential/