

The Impact of Incentives on ENERGY STAR Lamp Sales: Looking Back and Looking Forward

**ENERGY STAR Partner Meeting
October 27, 2016**

Do Energy Efficiency Programs Make a Difference?

- How do we measure the past impact of lighting programs?
 - Examination of two case studies
- What will be the future impact?
 - Impact of the new ENERGY STAR spec
 - Impact of EISA

Measuring the Past: MA vs. NY

Year	New York*	Massachusetts
Pre-2011	Standard and specialty CFLs supported	Standard and specialty CFLs supported
2011	LED incentives introduced	Standard and specialty CFLs supported
2012	Standard CFL incentives dropped	Standard and specialty CFLs continues
2014-present	All upstream incentives ended	CFL incentive phase out started; LED incentives ramped up

*Excluding Long Island (LIPA)

Case Study #1: Massachusetts

- **Consumer Survey (2015)**

- Massachusetts (n=610)
- New York (n=132)

- **On-site Studies (2009-2015)**

- Massachusetts (n=1,435)
- New York (n=718)

Panel Study

- Started in 2013
 - 3 waves in MA
 - 1 wave in NY
- Revisit homes to observe changes



Case Study #1: Massachusetts

Study Sponsors

- The Massachusetts Energy Efficiency Advisory Council
- The Massachusetts Electric Program Administrators:
 - Cape Lighting Compact
 - Eversource Energy
 - National Grid
 - Unitil

Study Lead

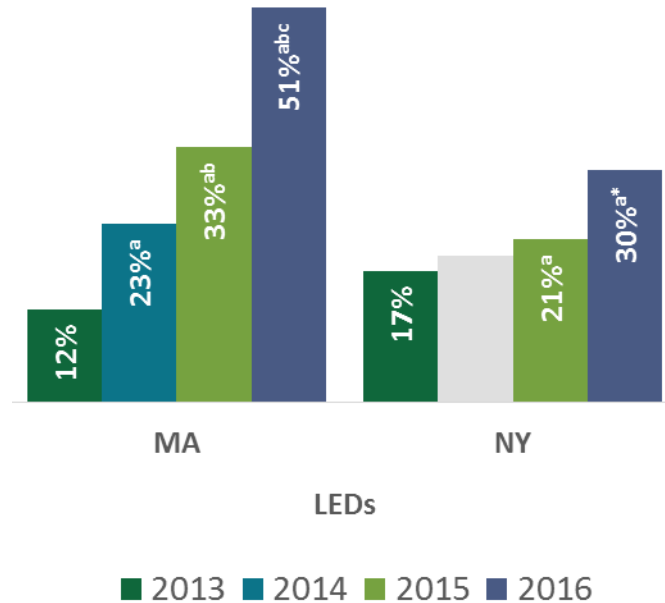


How Does Penetration Differ?

(% of Homes with at Least One LED)

Case Study #1: Massachusetts

- Comparing LED Penetration



^a Significantly different from 2013 at the 90% confidence level.

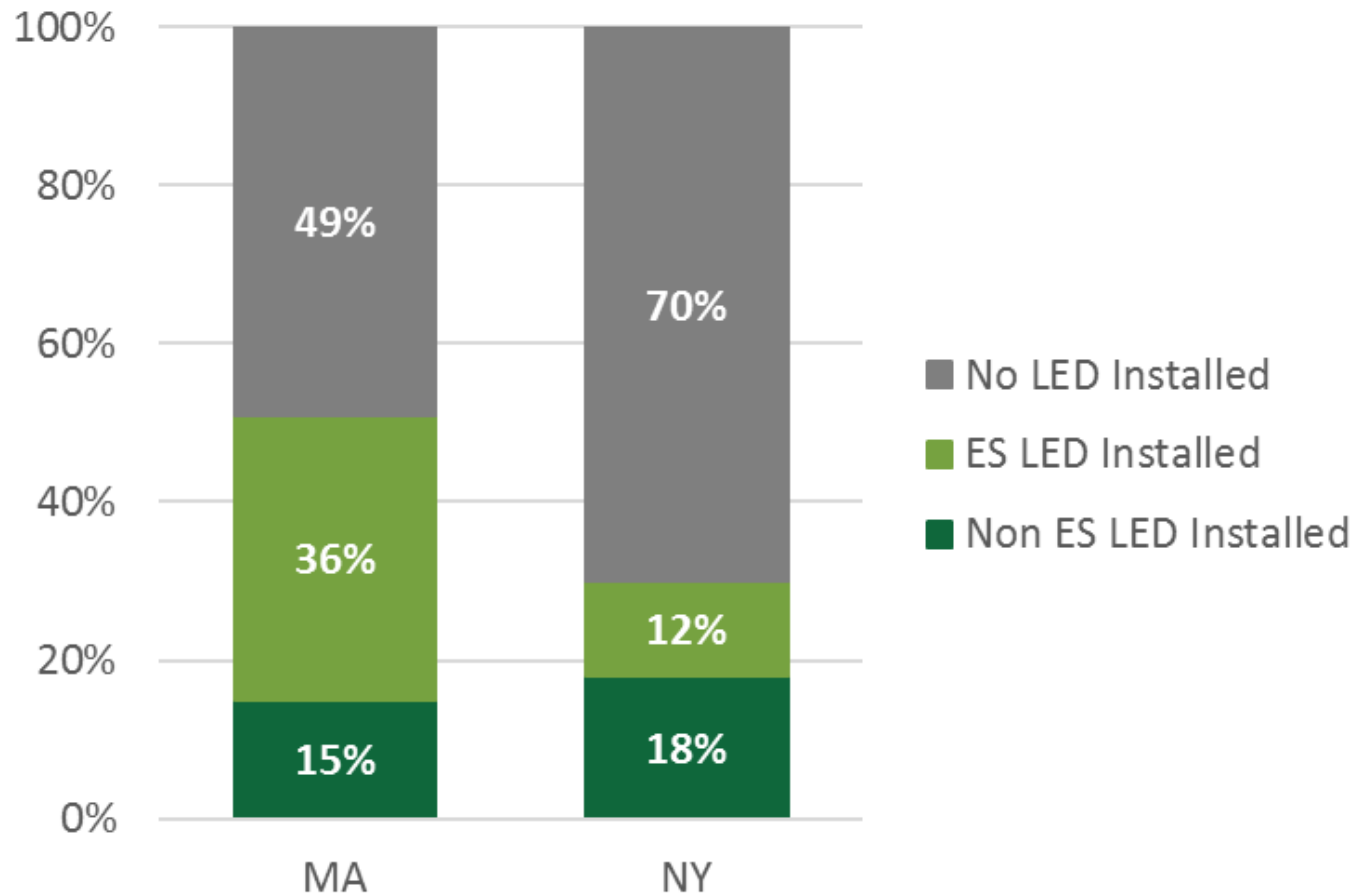
^b Significantly different from 2014 at the 90% confidence level.

^c Significantly different from 2015 at the 90% confidence level.

* Significantly different from corresponding year in MA at the 90% confidence

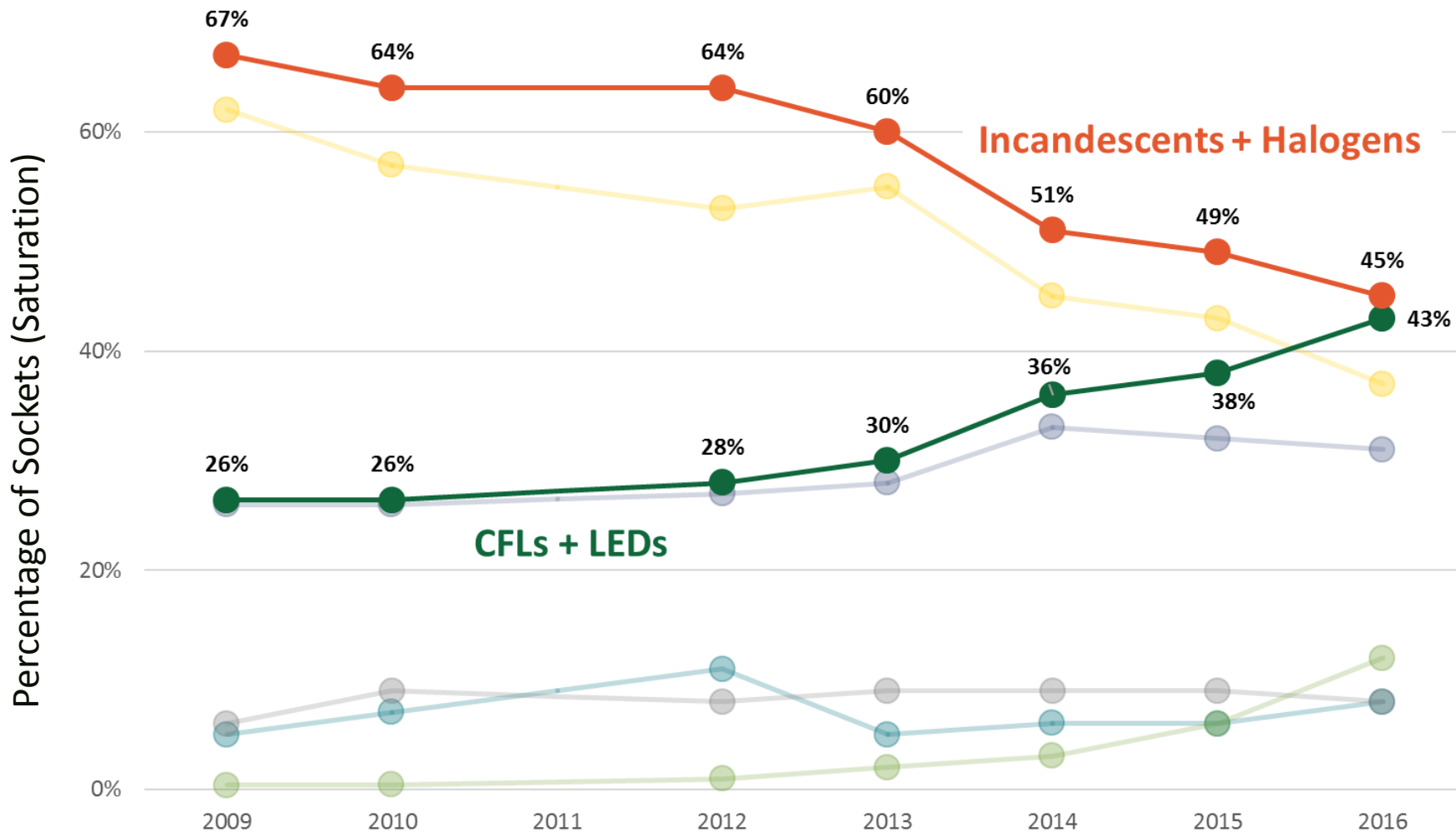
Case Study #1: Massachusetts

- MA & NY LED Bulb Penetration 2016 with ENERGY STAR LEDs



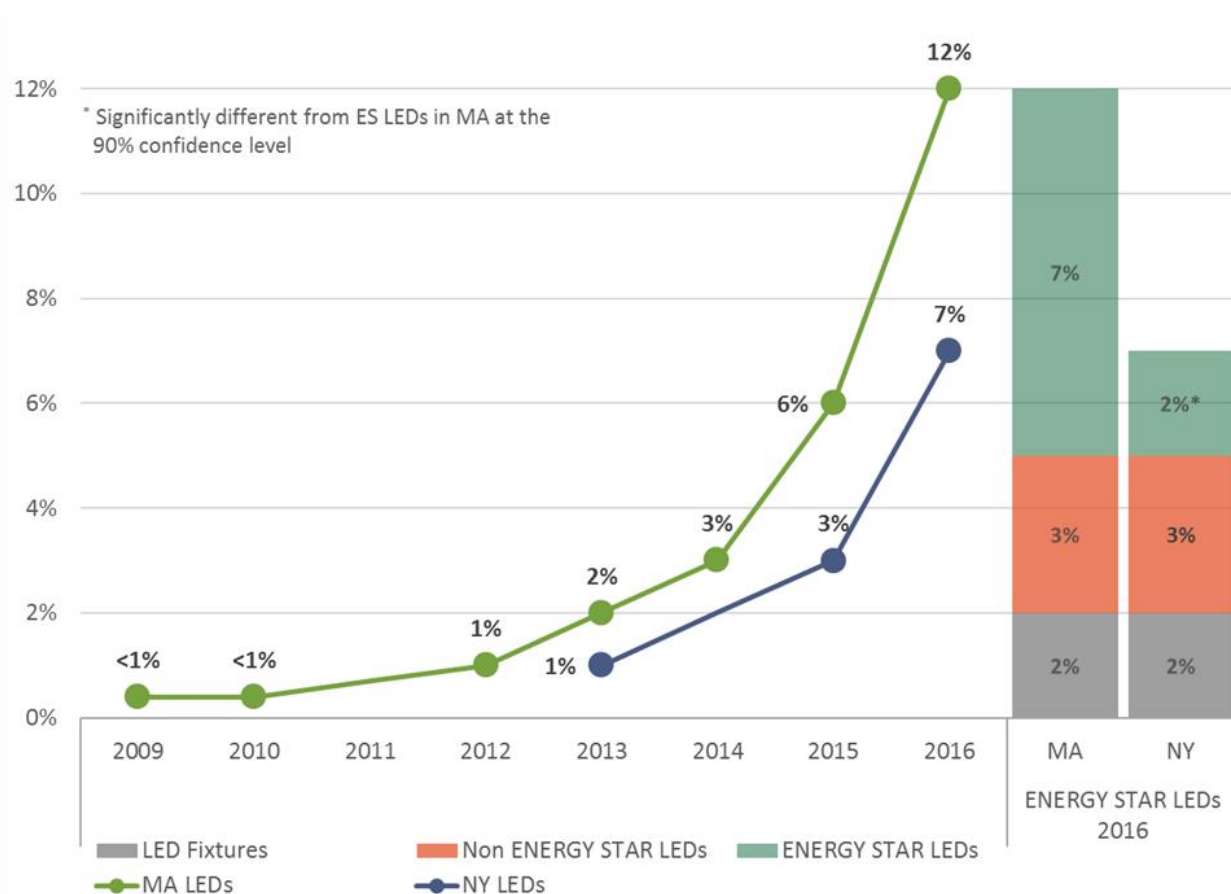
How Does Socket Saturation Differ?

Case Study #1: Massachusetts



Case Study #1: Massachusetts

- MA & NY LED Bulb Saturation 2009-2016 with ENERGY STAR LEDs in 2016



Other Metrics

Case Study #1: Massachusetts

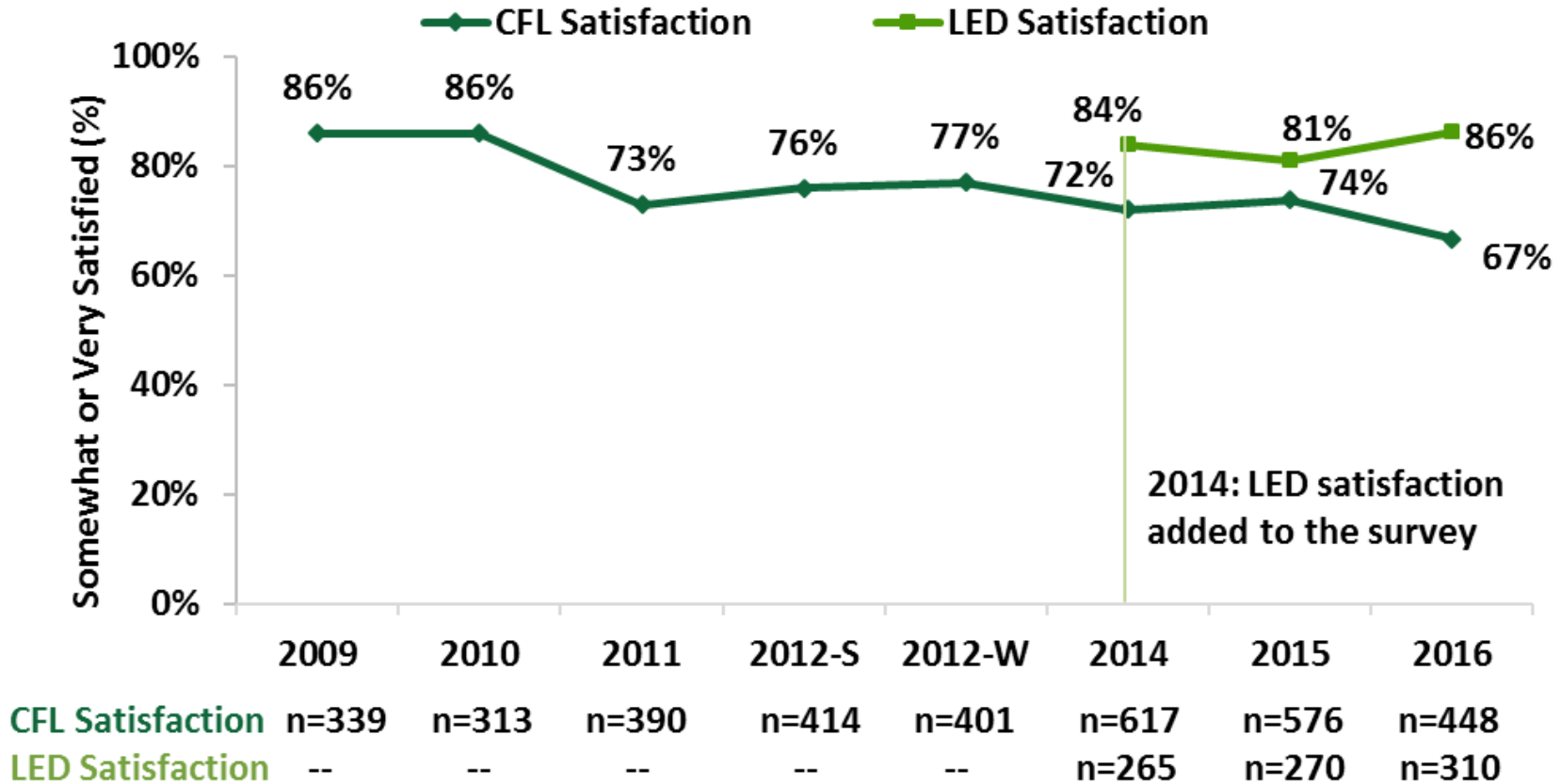
Understanding of ENERGY STAR Label

(Base: Respondents who reported that they were aware of the label)

Understanding of ES LEDs	MA	NY
<i>Sample size</i>	110	40
All LED screw-in bulbs are ENERGY STAR qualified	63%	58%
Some LED screw-in bulbs are ENERGY STAR qualified	36%	40%
No LED screw-in bulbs are ENERGY STAR qualified	1%	2%

Case Study #1: Massachusetts

- Satisfaction by Bulb Type



Case Study #2: Using Sales Data to Assess Program Impacts

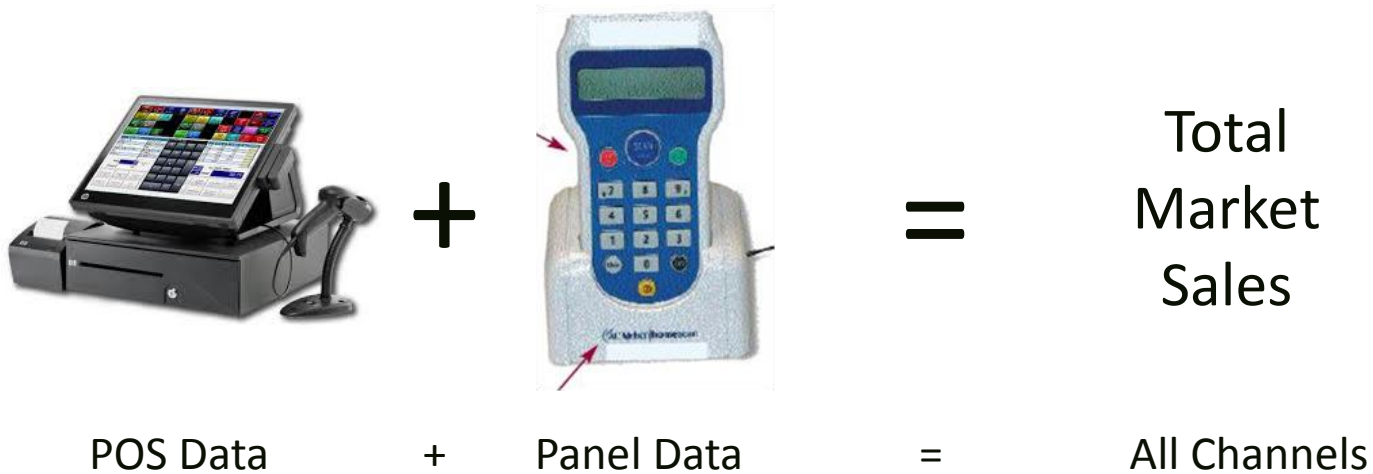
Case Study #2: LightTracker

The Challenge:

Access to Full Category Lighting
Sales Data from All Retail
Channels

Case Study #2: LightTracker

- LightTracker combines POS and Panel Data to provide the Best Available Picture of Lighting Sales



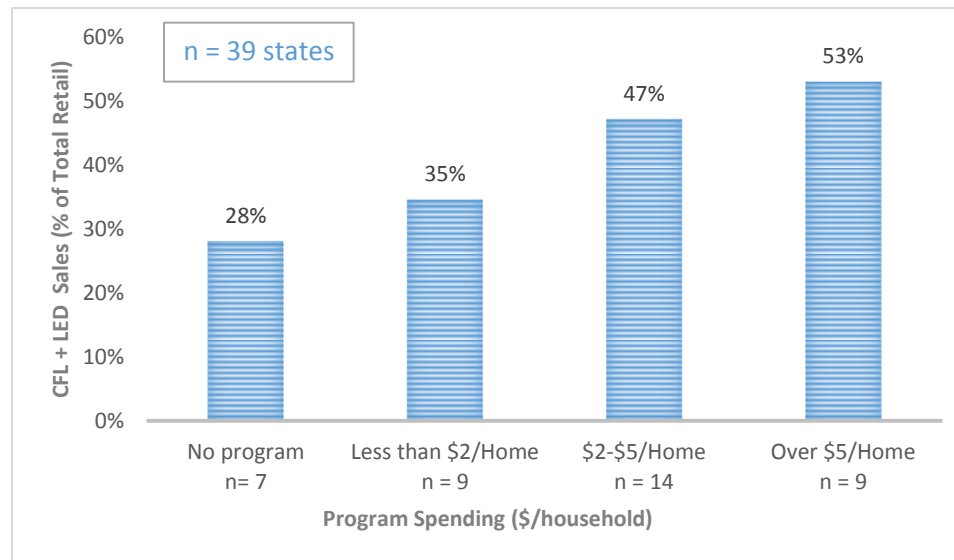
Case Study #2: LightTracker

The Sales Data Question:

Do States with Energy
Efficiency Programs Sell More
Efficient Lamps?

Case Study #2: LightTracker

- Percent of Efficient Lighting Sales Based on Program Spending



Case Study #2: LightTracker

- Also Developed a Regression to Control for Other Factors

EE Market Share_i

$$= \beta_0 + \beta_1 * \text{Program Spending per HH} + \beta_c * \sum_1^c \text{Channel Variables} \\ + \beta_d * \sum_1^d \text{Demographic Variables}$$

Case Study #2: LightTracker

Factor	Direction of Influence	Significant?*
Program Spending	↑	Yes
Square Footage of DIY/Club Stores	↑	Yes
Blue (democratic) state	↑	Yes
Median Income	↑	Yes

*At 90% Confidence Level

Case Study #2: LightTracker

Data used for:

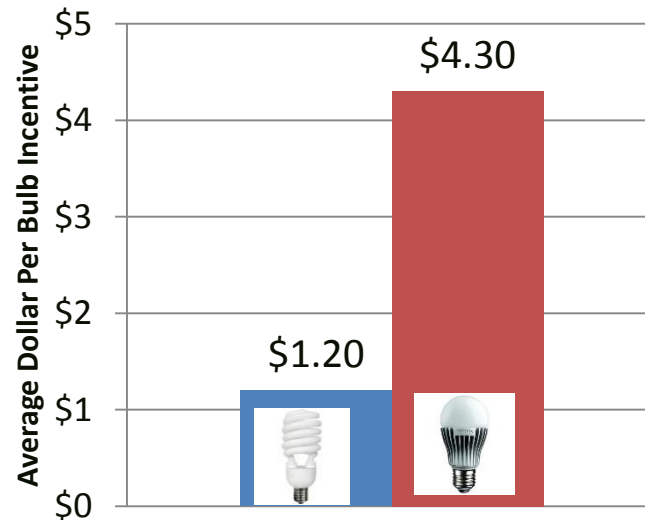
- Net-to-gross
- Incremental cost
- When to exit the market

For 2016: Will break out ENERGY
STAR LEDs

What Will the Future Bring?

The New ENERGY STAR Specification

- Most programs around the country only supporting ENERGY STAR
- Challenge has been the incremental cost
- EISA 2009...?



Conclusions

- Program dollars have an impact!
- Increase in dollars leads to increase in sales
 - By focusing on ENERGY STAR can increase market share
 - Ensure higher quality/satisfaction
 - New ES specification/technology can hopefully lower the incremental cost



Questions?

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