

# PREMATURELY REDUCING PROGRAM SUPPORT MAY PRODUCE NEGATIVE MARKET EFFECTS

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2016 ACEEE SUMMER STUDY ON ENERGY  
EFFICIENCY IN BUILDINGS

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# PENNSYLVANIA'S REGULATORY FRAMEWORK

In 2008, the governor signed into law Act 129, which set energy efficiency savings targets for the electric utilities.



## Energy efficiency savings targets:

- 1% by May 31, 2011
- 3% by May 31, 2013

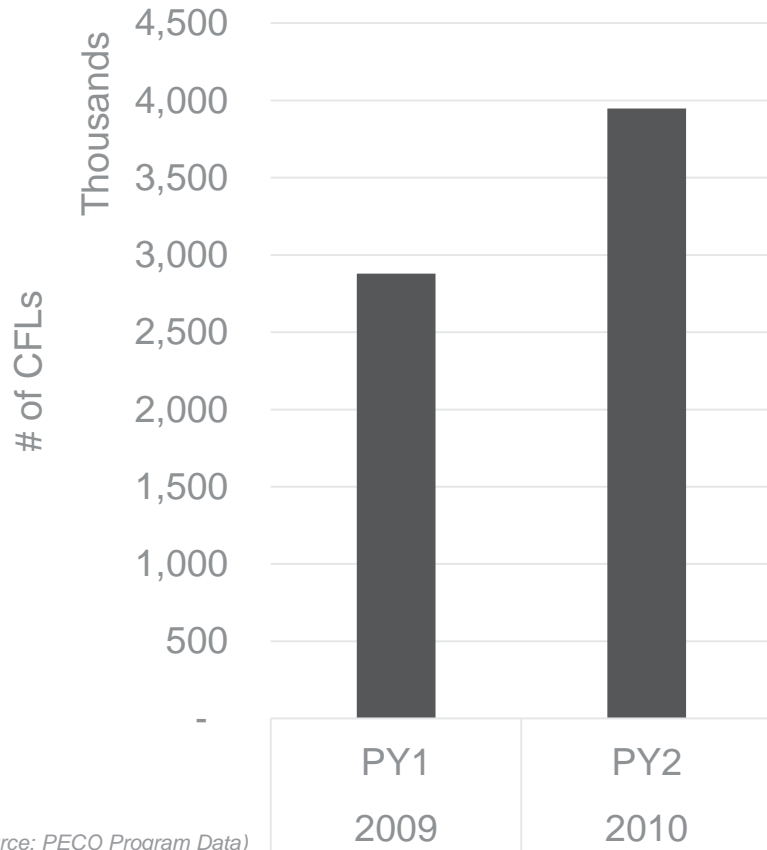


## Recoverable spending cap:

- Up to 2% of annual revenue

# PECO'S CFL PROGRAM EXCEEDED EXPECTATIONS

However, Pennsylvania's regulatory framework does not reward energy efficiency savings beyond targets.

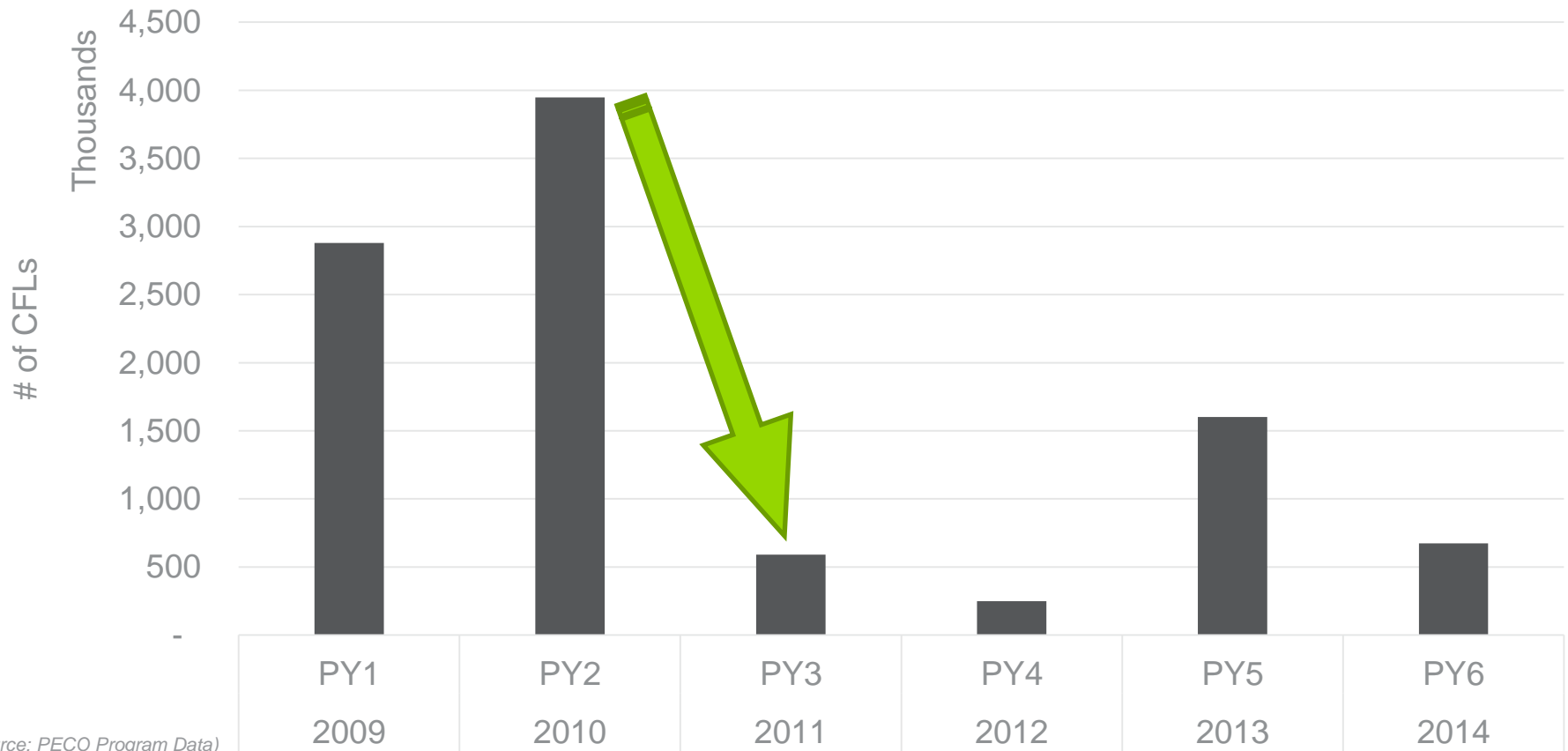


(Source: PECO Program Data)

PECO's CFL program was on track to blow their savings target out of the water!

# PECO'S CFL PROGRAM PERFORMANCE

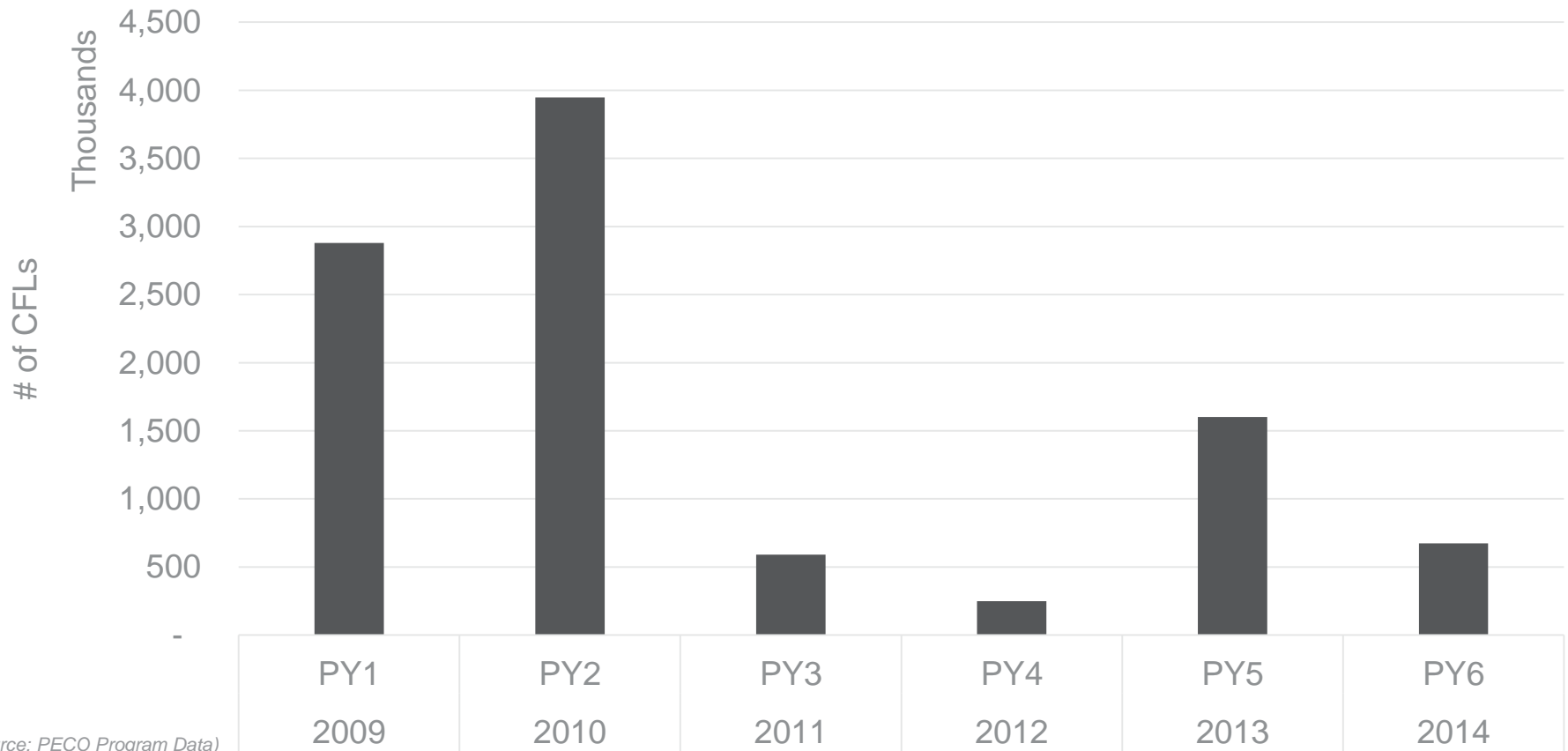
Overwhelming success in early years forced PECO to scale back in 2011 to avoid lost revenue.



(Source: PECO Program Data)

# PECO'S CFL PROGRAM PERFORMANCE

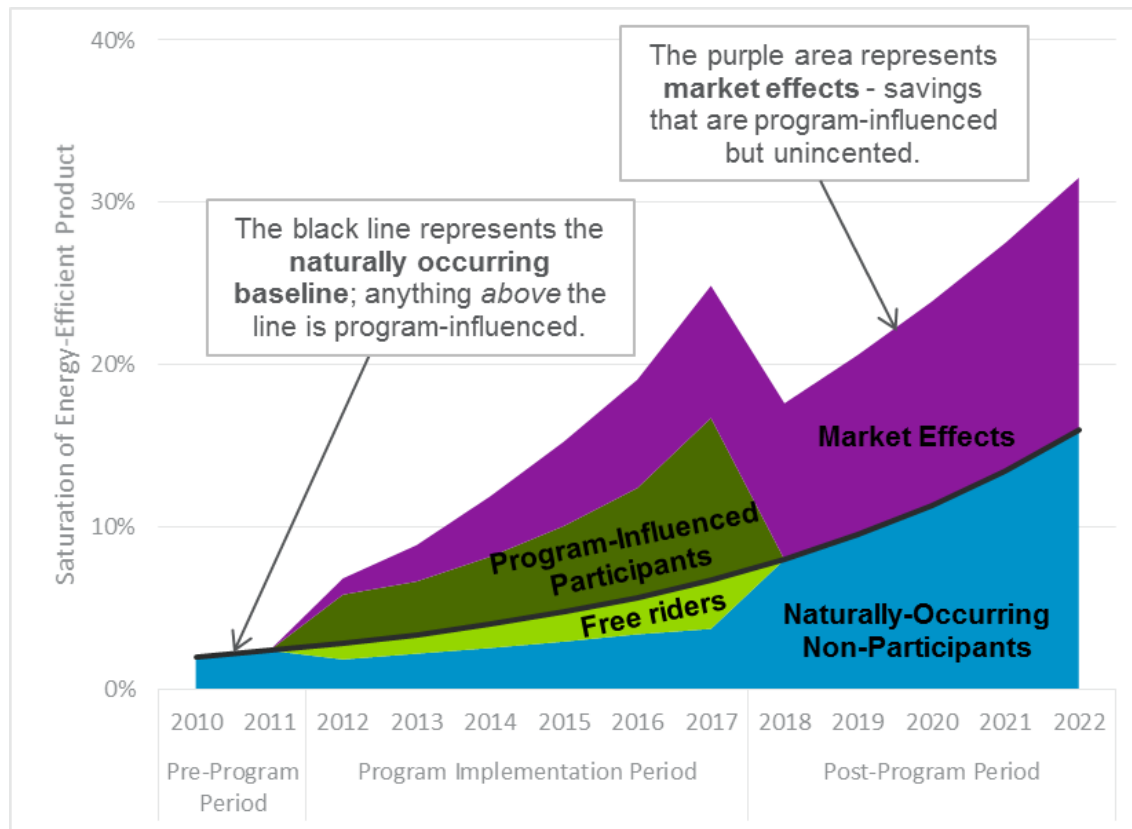
**Overwhelming success in early years forced PECO to scale back in 2011 to avoid lost revenue.**



(Source: PECO Program Data)

# MARKET TRANSFORMATION FRAMEWORK

This framework focuses on comparing actual market dynamics to the naturally occurring baseline.



(Source: Navigant analysis)



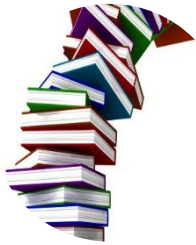
# WHY SATURATION?

## Saturation better reflects savings.



Saturation accounts for multi-year program influences.

- Traditional evaluations may over estimate free-ridership.



Saturation accounts for cumulative effects of program influence.

- Traditional evaluations may only consider first-year impact.

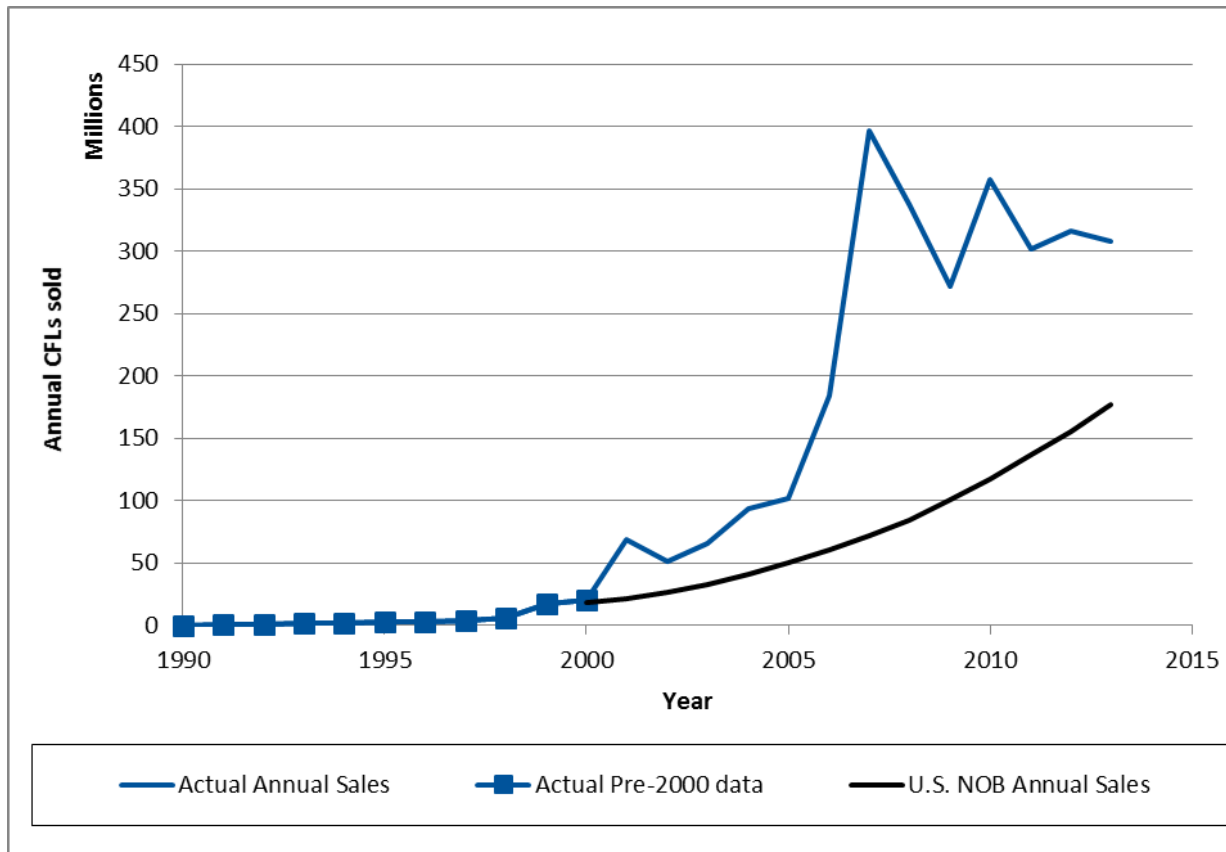


Saturation more accurately reflects timing of program influence.

- Traditional evaluations may not account for bulbs that first go into residential storage.

# HISTORIC NATIONAL CFL MARKET DATA

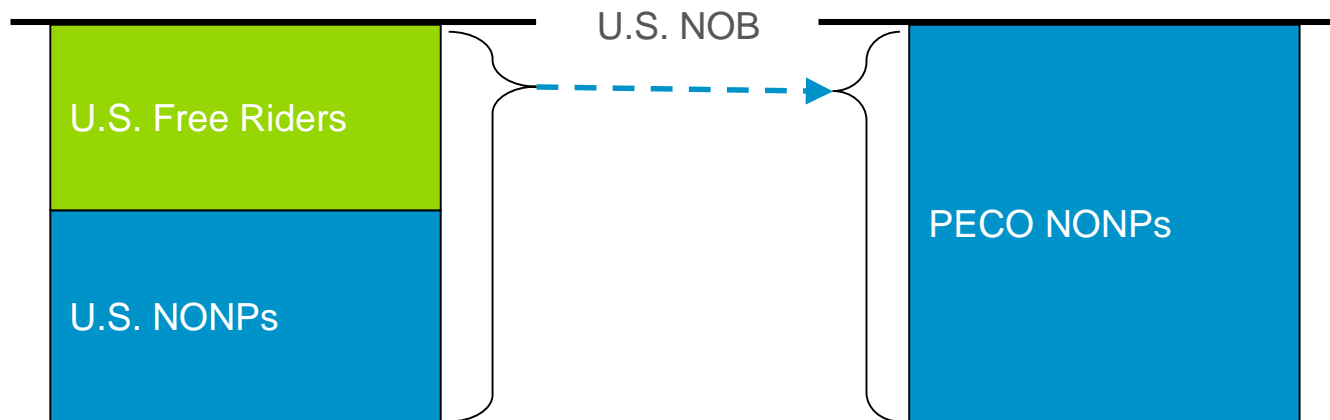
National market influences started with California in 2001, so the Bass diffusion curve is calibrated to market data before this tipping point.



(Source: Navigant analysis)

# USING AVAILABLE DATA

The model assumes PECO's territory has the same saturation as the national average before PECO starts its programs.

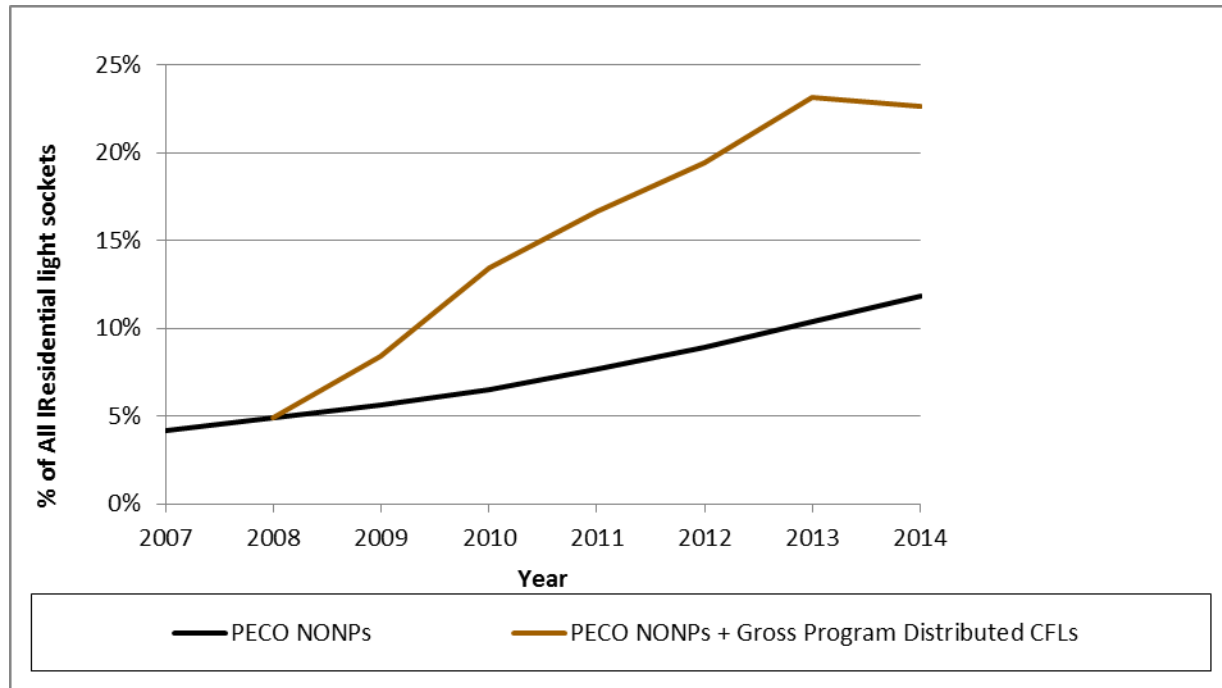


(Source: Navigant analysis)

# ANALYSIS WITH NO MARKET EFFECTS

We modeled naturally occurring non-participants + program participation.

What we expect to happen with no market effects

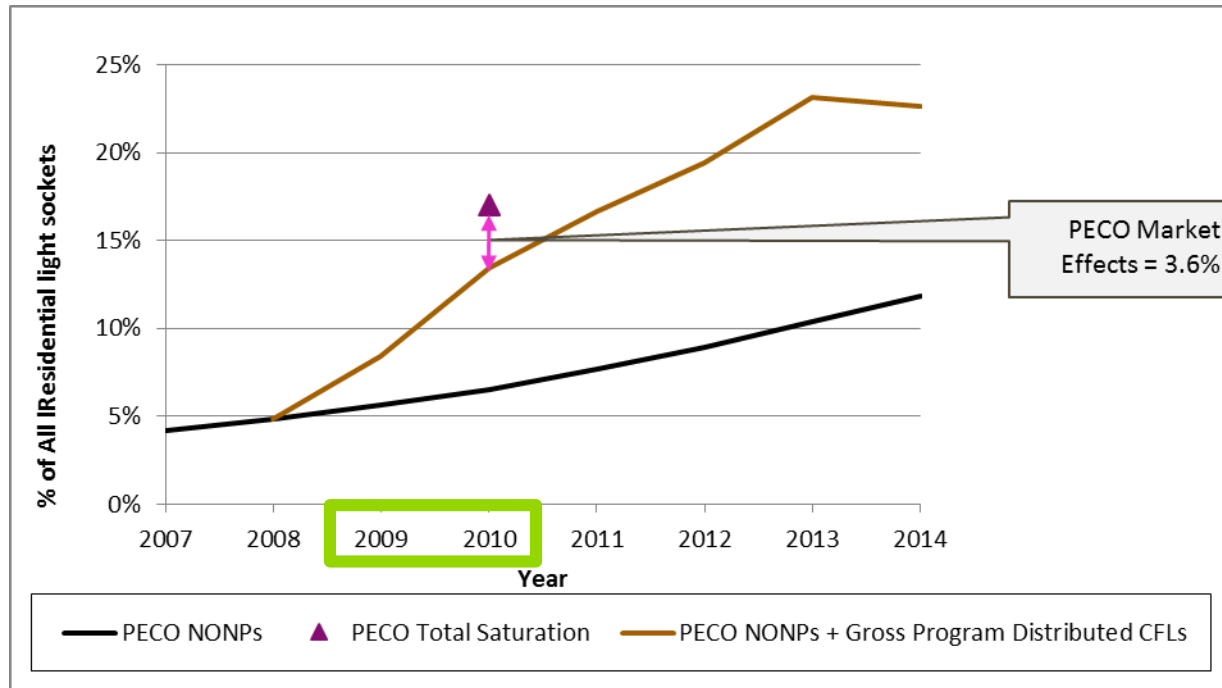


(Source: Navigant analysis)

# 2010 ANALYSIS SHOWS POSITIVE MARKET EFFECTS

Actual total market saturation was higher than the expected saturation in 2010.

Following strong program support

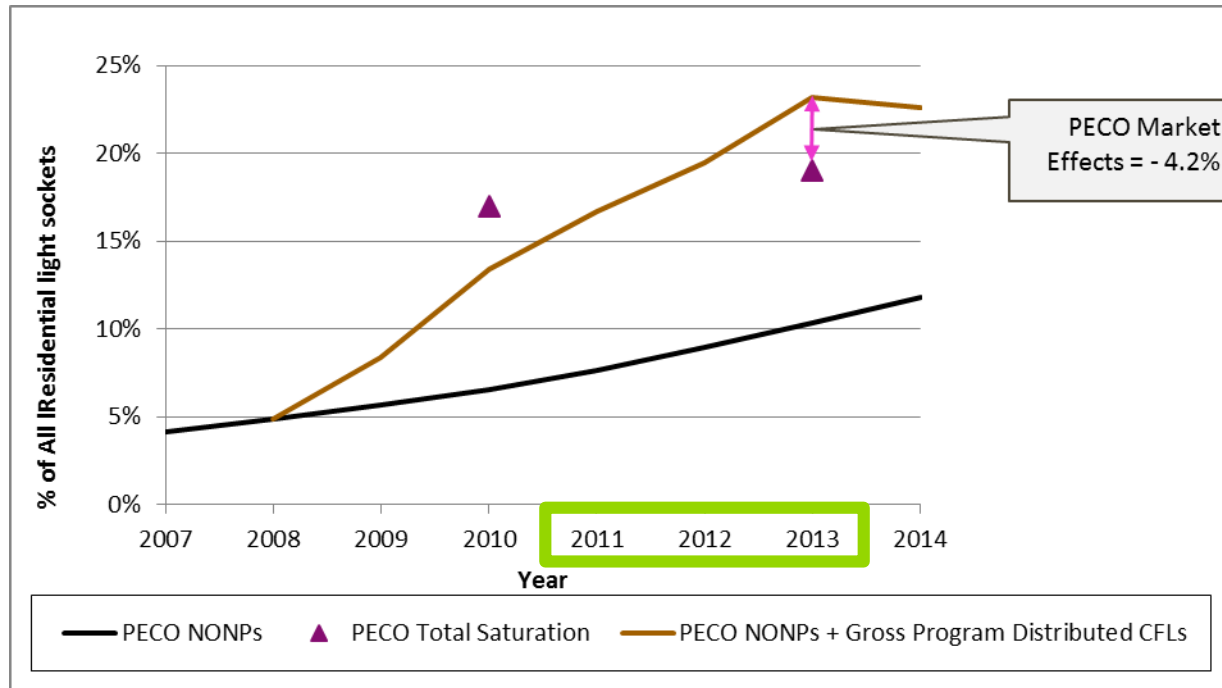


(Source: Navigant analysis)

# 2013 ANALYSIS SHOWS NEGATIVE MARKET EFFECTS

Actual total market saturation was lower than the expected saturation in 2013.

Following reduced program support



(Source: Navigant analysis)

# THE BOTTOM LINE

**By 2013, the market was adopting CFLs slower than if the program had not existed.**



- Sudden change in program support

- Mixed signals to the market

- Market confusion

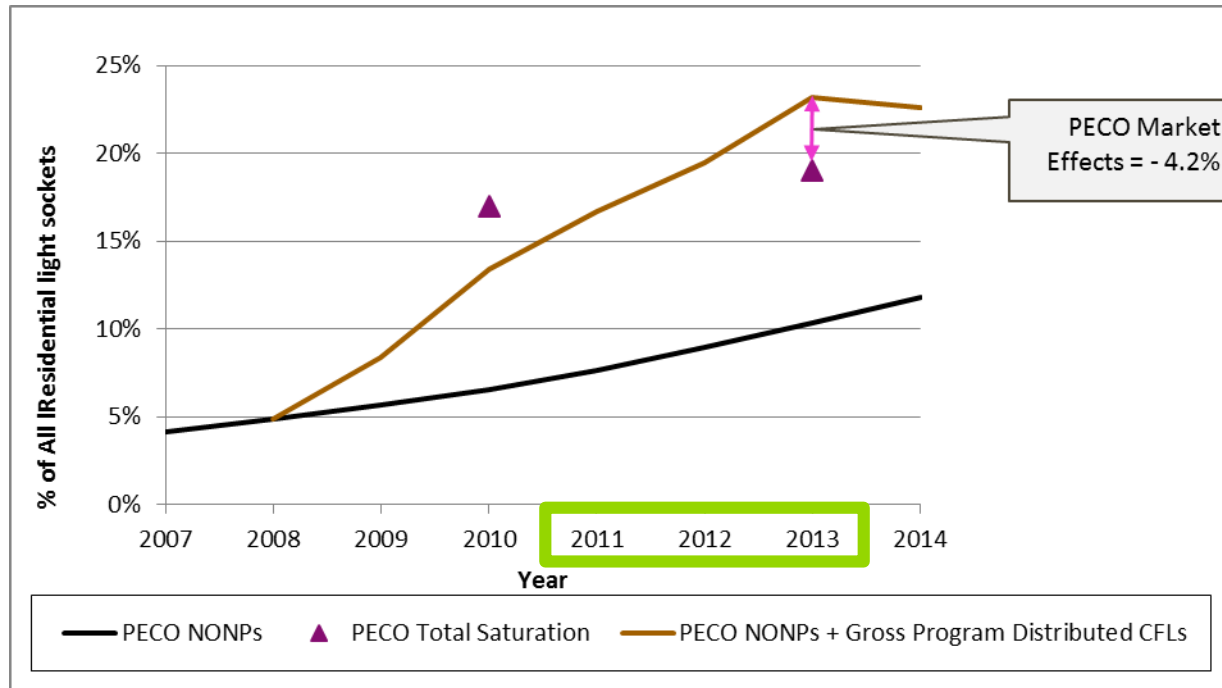
- Damaged market transformation progress

- Actual saturation grew slower than the naturally occurring baseline.

# 2013 ANALYSIS SHOWS NEGATIVE MARKET EFFECTS

Actual total market saturation was lower than the expected saturation in 2013.

Following reduced program support



(Source: Navigant analysis)



# RECOMMENDATIONS FOR PECO (CIRCA 2014)

As the lighting market continues to evolve, PECO still has opportunities to influence and transform the market.



**Continue to incentivize CFLs until CFL saturation reaches higher levels.**



**Focus lighting market transformation efforts going forward on LEDs.**

# RECOMMENDATIONS FOR PECO (CIRCA 2014)

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# RECOMMENDATIONS FOR OTHER UTILITIES

Any utility attempting to transform the market for energy efficient technologies can improve their chances of success by learning from PECO's experience.



**Maintain consistent programs to achieve market transformation.**



**Promote regulatory structures that reward savings beyond set targets.**



**Reform programs to a market transformation framework.**

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