



# Why Wait? The time is now for LED Savings in C&I Lighting Portfolios

Gabe Arnold, Optimal Energy Dan Mellinger, VEIC / Efficiency Vermont

ACEEE Energy Efficiency as a Resource Conference September 27, 2011

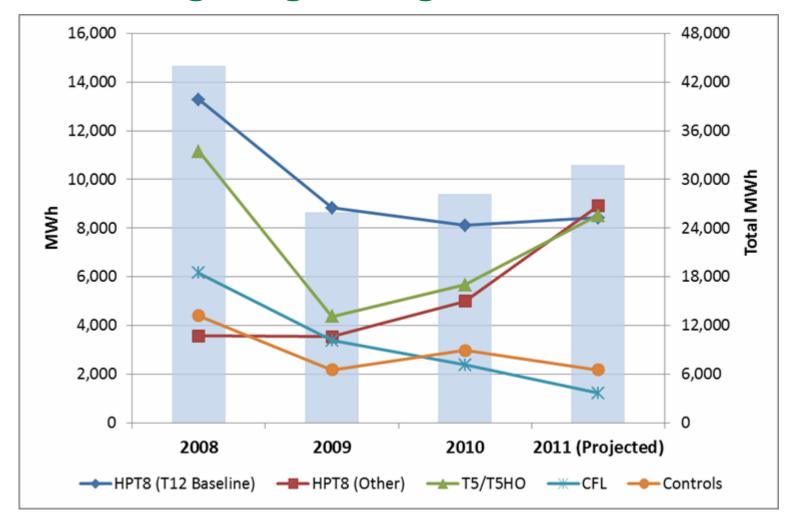
## **Efficiency Vermont Background**

Efficiency Vermont is a **state-wide energy efficiency utility** that encourages the adoption of energy efficient products and practices.

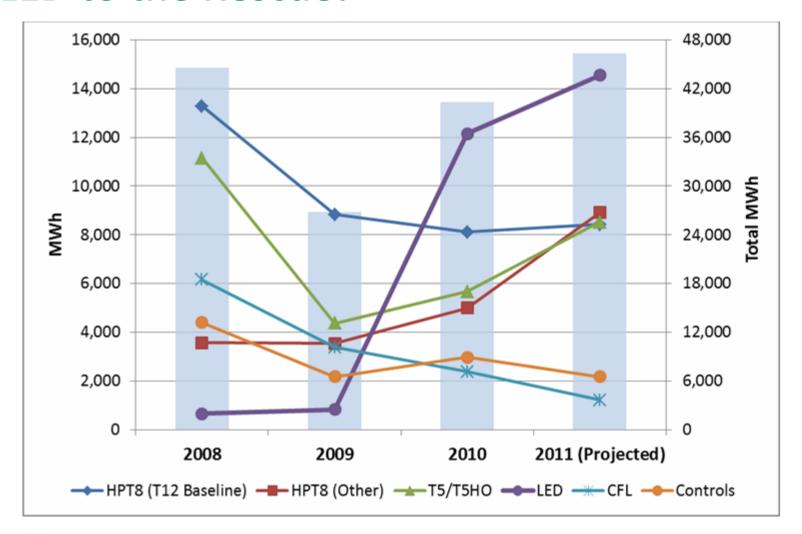
Investment Corporation (VEIC), an independent nonprofit energy services organization.

Current Efficiency Vermont budget totals \$35M annually.

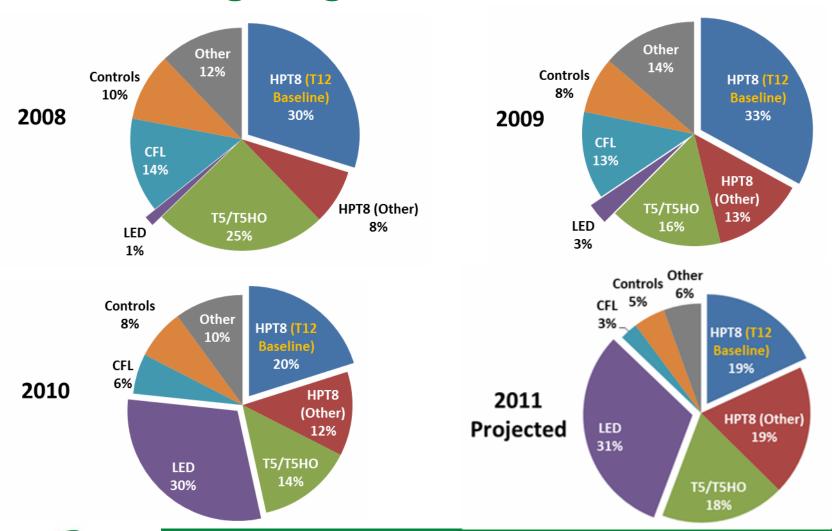
#### **EVT C&I Lighting Savings** (excluding LED)



#### LED to the Rescue!



## **EVT C&I Lighting Portfolio**



#### **EVT LED Key Program Components**

#### **Pilot Projects**

• Local case studies; visible projects stimulate interest

#### Rebate Program

- Covers 20 product categories and averages \$0.25/kWh
- Two-tier rebates based on ENERGY STAR, DLC, and Lighting Facts
- Aggressive LED Track and Spotlighting campaign (2010)

#### **Leveraged Partners**

- State-wide education targeted trade allies & design professionals
- Distributor sales incentives

#### **Expansive Targeted Marketing Outreach**

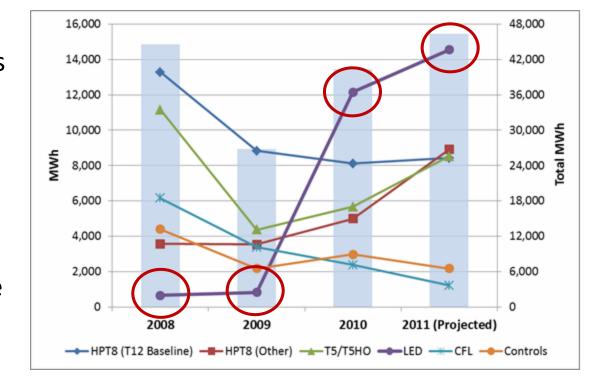
Target key customer markets (hospitality, retail, etc.)

### **LED Program Evolution**

**2008** – Pilot projects

2009 – Standard rebates announced; ENERGY STAR / DLC / custom; state-wide education

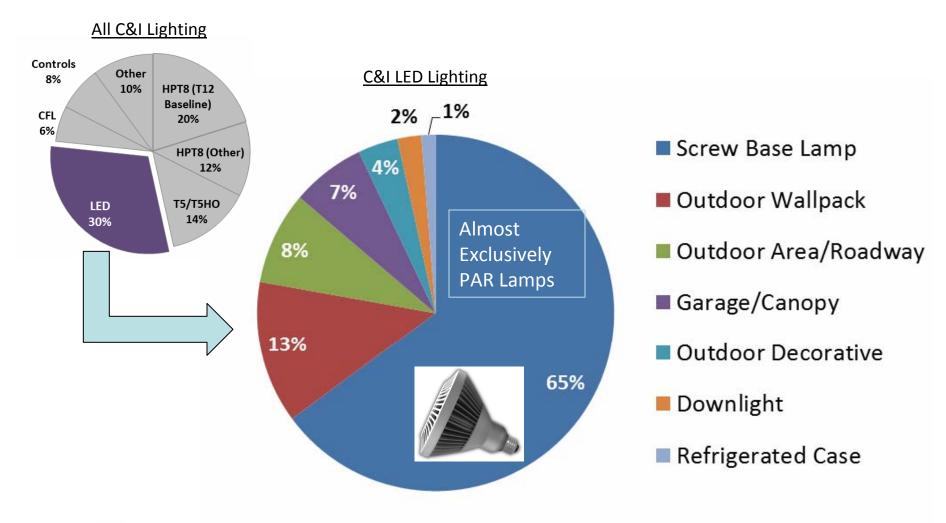
2010 – New categories; standard rebates increased; aggressive iLED campaign (Q4)



**2011** – Tiered rebates;

ENERGY STAR / DLC / Lighting Facts; iLED marketing outreach; Municipal Street Lighting Initiative

## **LED Measure Category Breakdown (2010)**



# New Opportunity: Retail Track and Spot Lighting

Efficiency Programs have had limited success in this application

Existing energy efficient technologies (CFL, Ceramic MH) lacked one or more required features to compete with Halogen

- High CRI
- Beam Control
- Dimmable
- Instant-On
- Cost-effective and easy retrofit



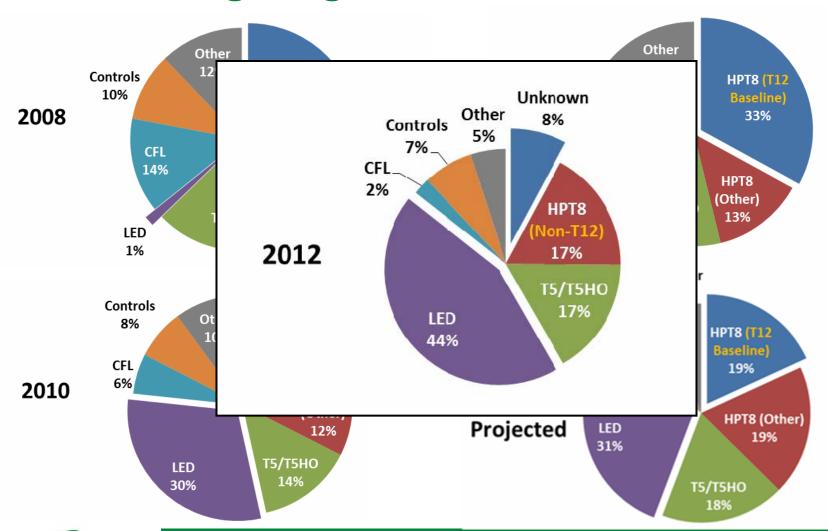
#### **New Opportunity: Exterior Lighting**

Efficiency Programs have largely ignored this opportunity before LED

- Existing HID Technologies already considered efficient
- "Design" opportunities not well understood or pursued



## **EVT C&I Lighting Portfolio - 2012**



## **Closer Look at Expected 2012 LED Savings**

**High Contribution of Savings** 

Screw-based Lamps

**Exterior Lighting** 

**Low Contribution of Savings** 

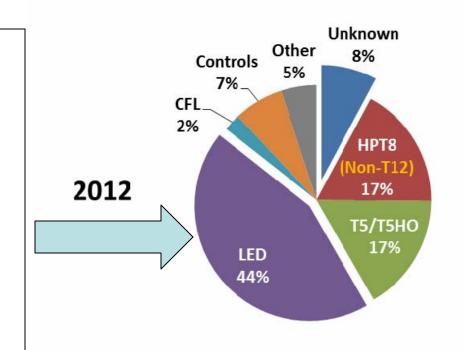
Downlights

Refrigerated Case

<u>Just Starting / Pilots</u>

LED linear and troffer replacements

LED High-Bay Lighting





#### **Conclusions**

- LED has already opened the door to new, large savings opportunities
  - Retail Track and Spot Lighting, Exterior Lighting
- Soon it will be time to retrofit the retrofits
  - High-bay lighting, linear fluorescent lighting

The opportunity is huge and we're just getting started

#### Thank You. Questions?



#### **Contact Information:**

Dan Mellinger, PE, LC

Lighting Planning Manager
Efficiency Vermont

dmellinger@veic.org

802-860-4095 x 1148

Gabe Arnold, PE, LC

Senior Consultant

**Optimal Energy** 

arnold@optenergy.com

802-453-5100 x 20