



Lighting Programs 101

February 5, 2014



Efficiency Vermont

BBD

BETTER BUILDINGS BY DESIGN

Conference theme:
NET ZERO by 2030





Business Card BINGO Instructions

1. Each person receives one BINGO card.
2. Print your name on top of the BINGO card.
3. Mingle around the room and collect names/places of business from **16 participants to fill your BINGO card.**
4. Keep your card with you! We will be calling names (just like the BINGO game) later on during this session

Lighting Programs 101 Agenda

- Business Card BINGO: 15 minutes
- Program Presentations: 30-40 minutes
 - Efficiency Vermont – Retail Lighting Products
 - Efficiency Vermont – Commercial Lighting
 - Burlington Electric – Commercial Lighting
- Questions & Answers: 20-30 minutes
- BINGO Drawing & Networking: 15 minutes

Today's Presenters

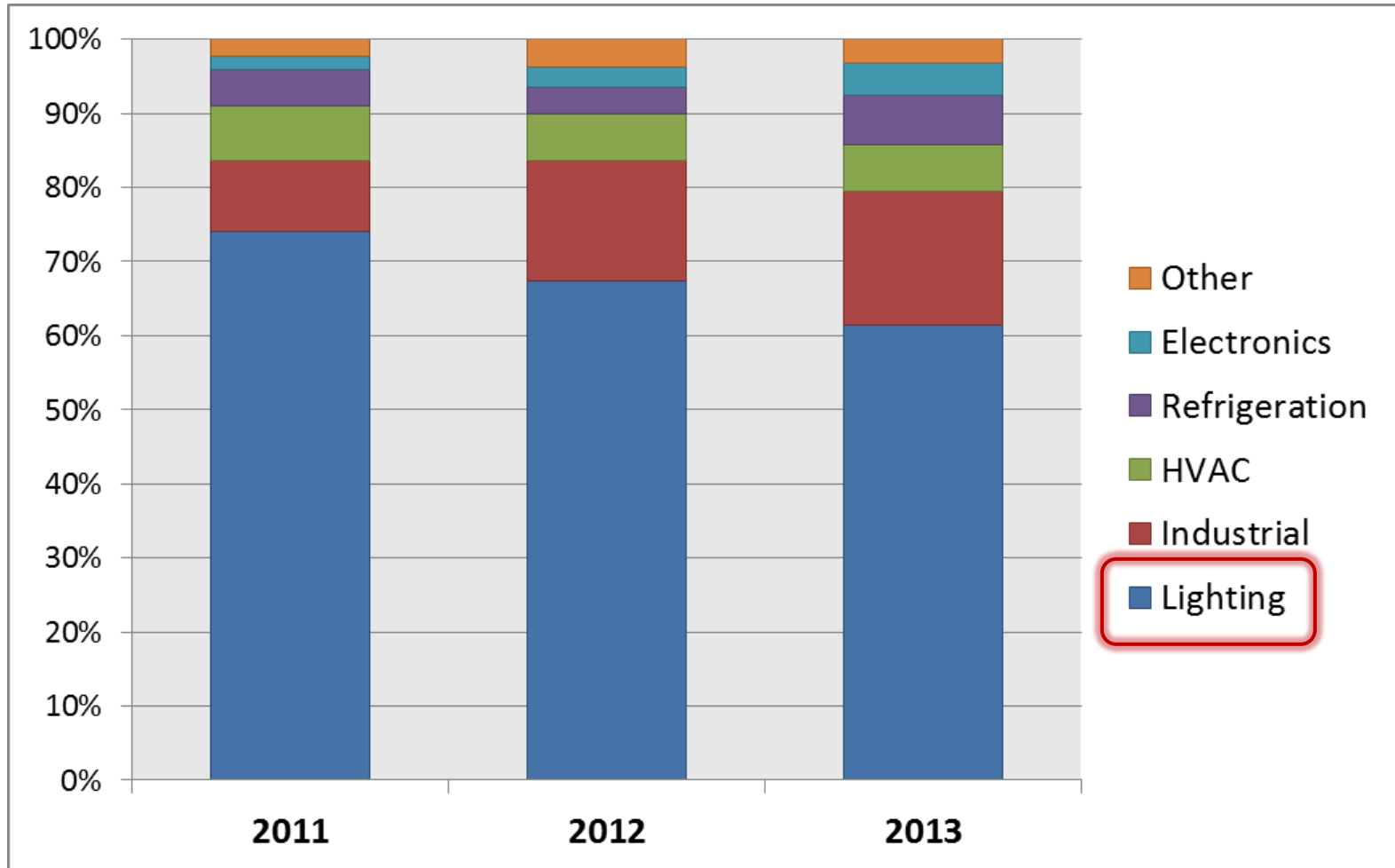
Lara Bonn	Retail Efficient Products Program Manager	 Efficiency Vermont
Sue Cook	Commercial Lighting Program Manager	 Efficiency Vermont
Ravi Parikh	Energy Services Specialist	
Dan Mellinger (moderator)	Lighting Strategy Manager	 Efficiency Vermont

Introduction

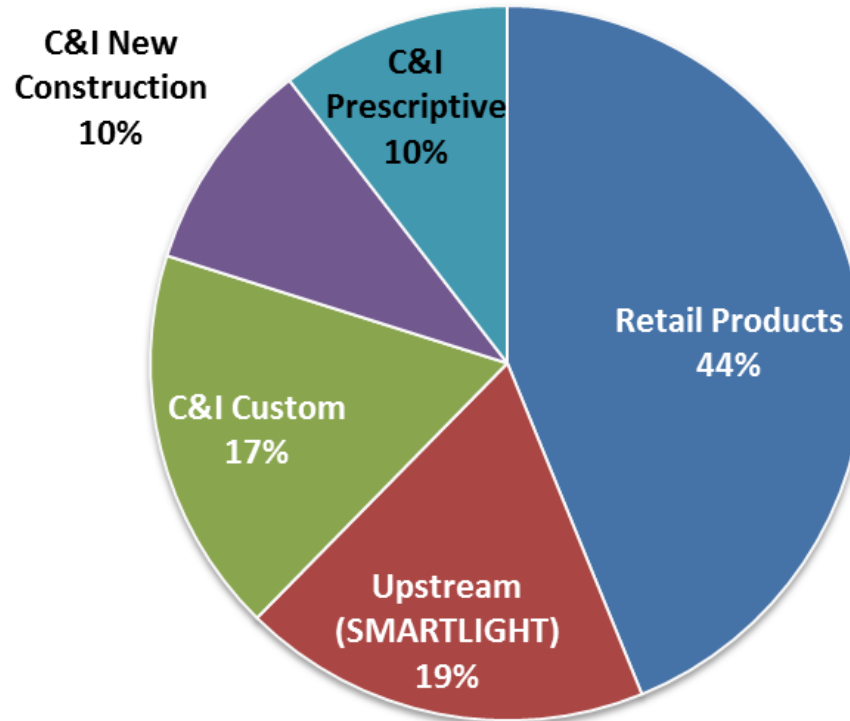
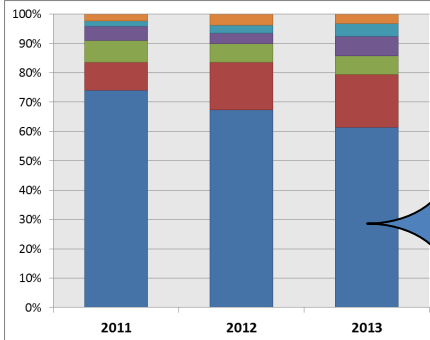
Efficiency Vermont serves residential and business customers through the state, excluding the City of Burlington.



Efficiency Vermont Savings Mix

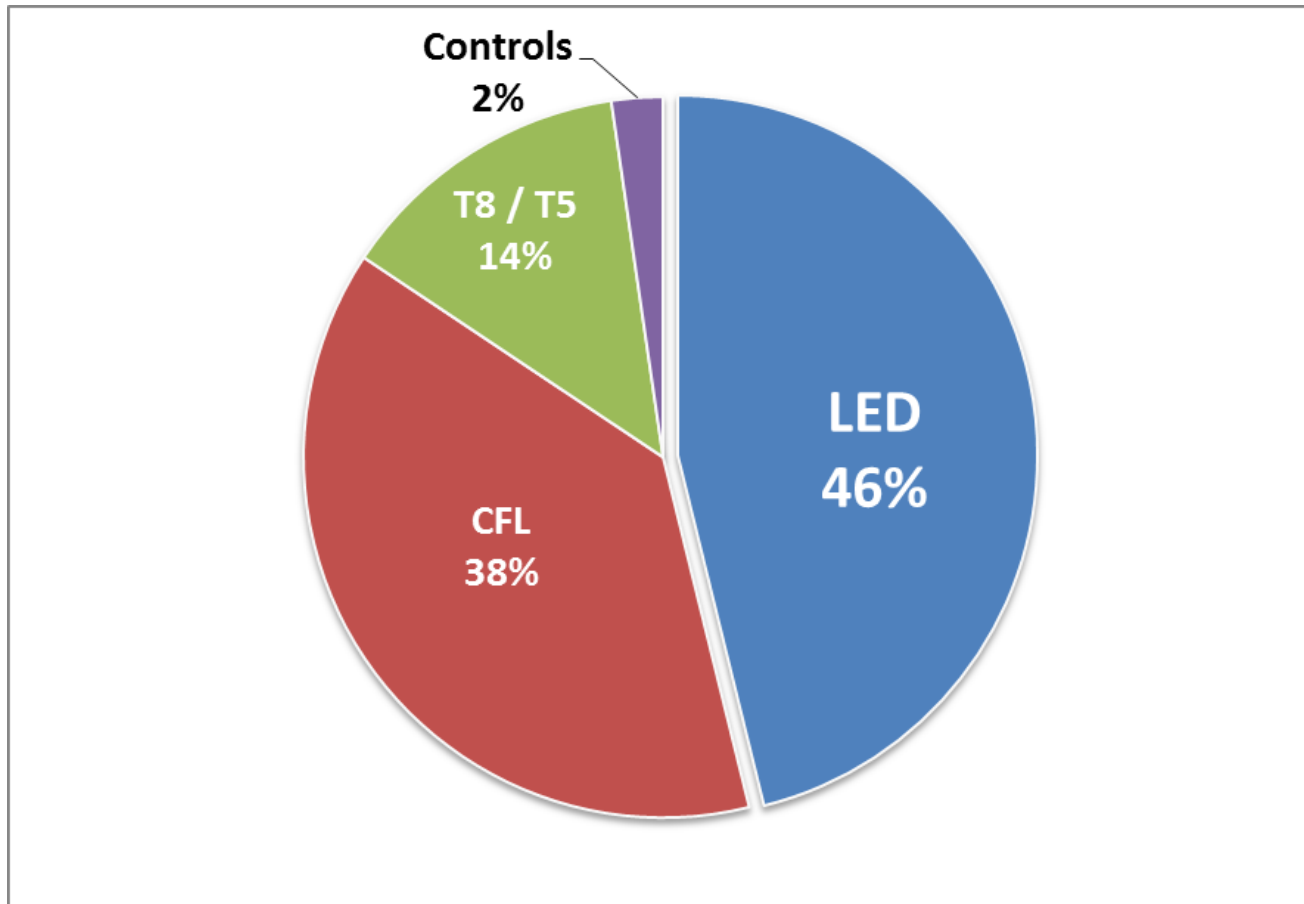


Efficiency Vermont Lighting Program Mix



C&I = Commercial & Industrial

Lighting Technology Distribution (2013) Efficiency Vermont-wide



Efficiency Vermont Retail Lighting Products



Lara Bonn

Retail Efficient Products Program Manager

Overview

How do we engage?

Who do we engage?

What are the current promotions?

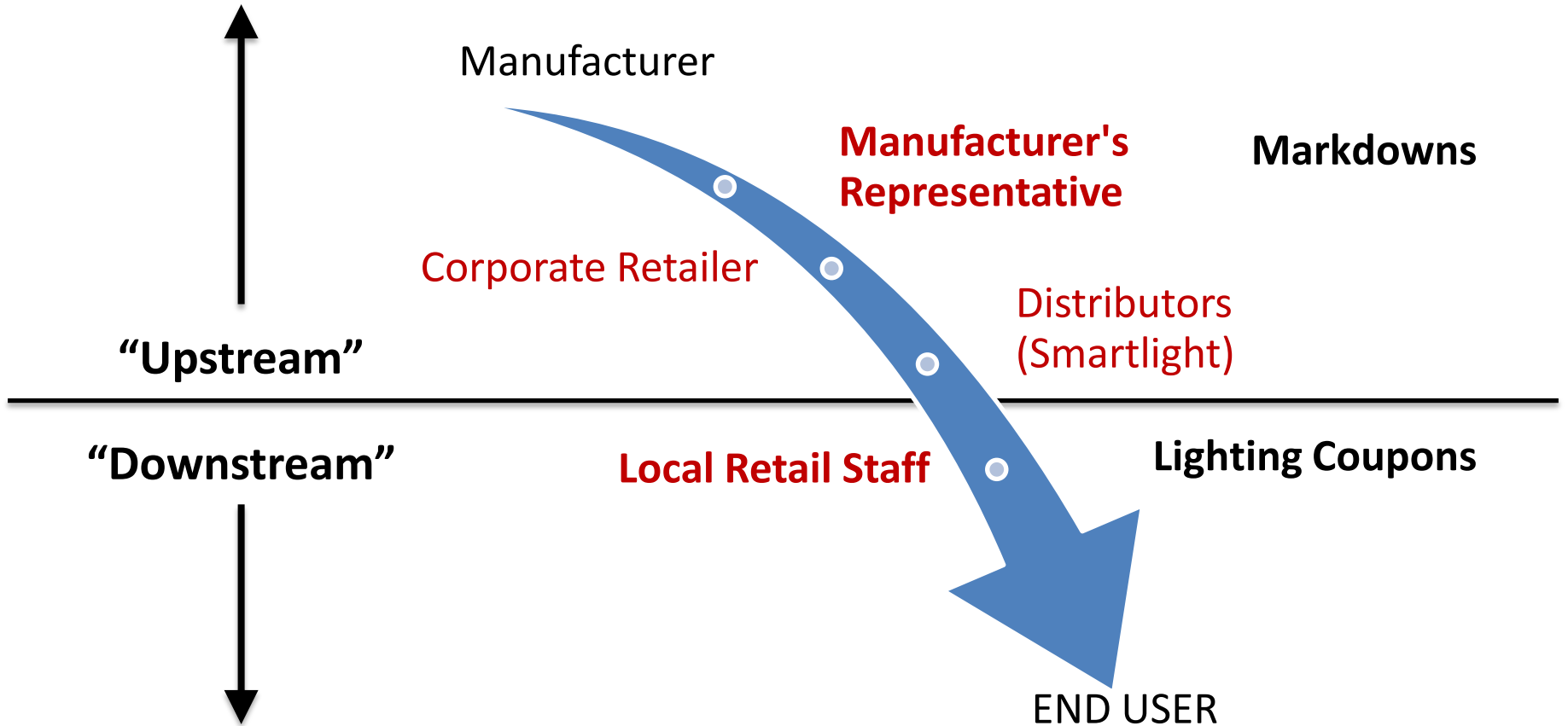
What is the impact?



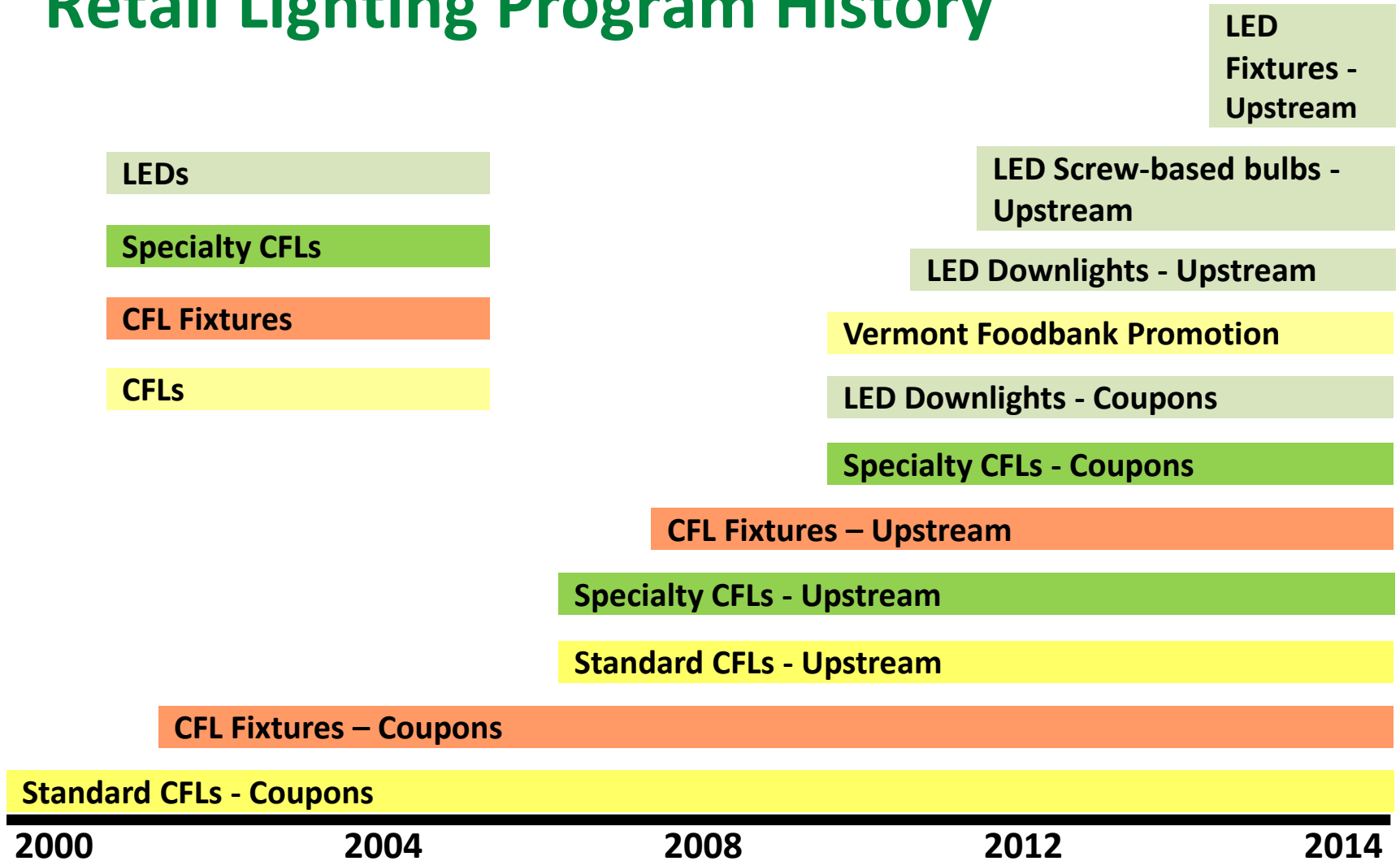
How - Types of Retail Promotions

- Upstream Model
 - Partner applies incentive without huge customer effort to receive discount
 - Lighting Markdowns through Memorandums of Understanding (MOUs)
- Downstream Model
 - Customers do the work to get incentives
 - Lighting Coupons on Retail shelves

Retail Lighting Supply Chain



Efficiency Vermont Retail Lighting Program History



Upstream Markdown

Benefits:

- Seamless to the customer
- Easy to participate
- Simple for store staff

Challenges:

- Hard to track data and program impact
- Corporate buy-in and local disconnect
- Distance from customers



Upstream Program Engagement – Behind the Scenes

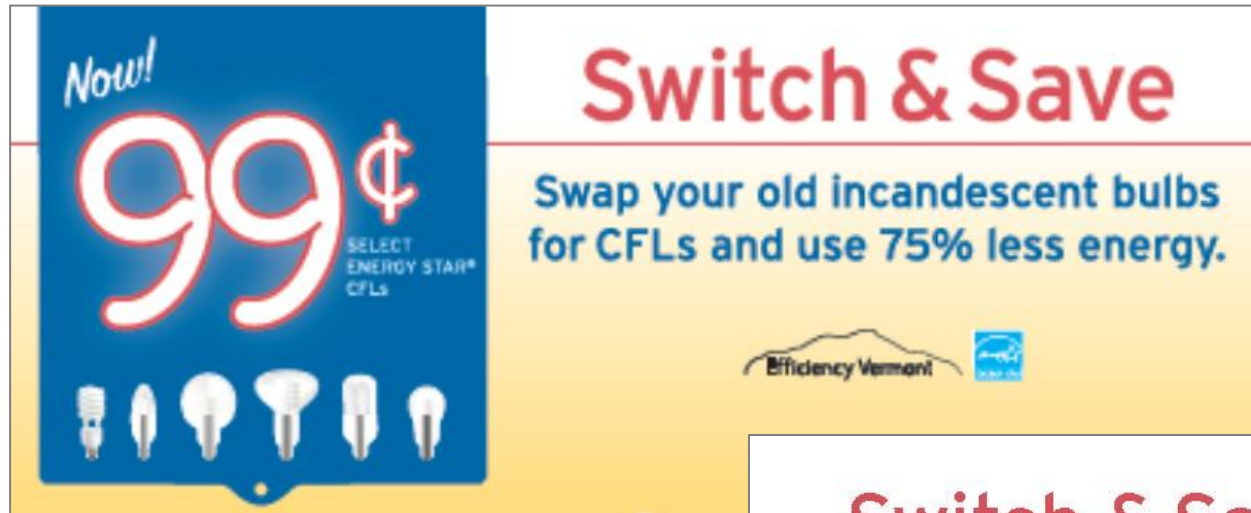
3 RFPs

66 MOUs

325 Retail
Locations

Upstream – Partner Engagement and Customer Facing


- Statewide Marketing Campaigns
 - Currently Switch and Save



Now!
99¢
SELECT ENERGY STAR® CFLs

Switch & Save

Swap your old incandescent bulbs for CFLs and use 75% less energy.

Efficiency Vermont 

This sign features a blue and yellow background. On the left, a blue vertical panel contains the text 'Now! 99¢ SELECT ENERGY STAR® CFLs' and a row of six incandescent light bulbs. The main white area contains the title 'Switch & Save' in red, followed by the promotional text 'Swap your old incandescent bulbs for CFLs and use 75% less energy.' in blue. At the bottom, it includes the 'Efficiency Vermont' logo and the Energy Star logo.



Switch & Save

with select
ENERGY STAR® LEDs

Limit 12/residential or 25/commercial.

Efficiency Vermont  MODEL #

This sign has a white and yellow background. It features the title 'Switch & Save' in red, followed by 'with select ENERGY STAR® LEDs' in blue. Below that, it states 'Limit 12/residential or 25/commercial.' At the bottom, it includes the 'Efficiency Vermont' logo, the Energy Star logo, and a 'MODEL #' field with a text input box.



Upstream – Partner Engagement and Customer Facing

Events

Retail Staff Training

Field staff Support

- 4 Account Managers covering the entire state
- Messaging and representing local retailers
- In-store support



Upstream – Partner Engagement and Customer Facing - In-store Support

- Product Placement
 - End caps and other display support
 - Adjustment of assortment to Incentivized product
- Additional Outreach
 - Store circulars and newspaper ads
 - Other engagement support
 - Co-branded signage



728185
Conservation Energy
LED G25
3PK

WAREHOUSE PRICE	\$	19.99
EVT Instant Rebate		-\$5.00

Your Price: \$ 14.99

Rebate Limit 12

Tax calculated on original price
No resale purchases



Current Lighting Promotions

Upstream Markdowns

- Incentives bring prices to \$0.99 Standard & Specialty CFLs
- LED incentives on MOUs:
 - \$5 decorative bulbs
 - \$5 A style
 - \$10-\$20 reflectors (depending on lumen output)
 - \$15 downlights

Downstream Coupons

- \$1 Standard CFLs
- \$3 Specialty CFLs
- \$5 CFL Fixture
- \$10 LED Downlight

VERMONT INSTANT COUPON

\$1 OFF

(per bulb)

up to ENERGY STAR® Qualified CFL Light Bulbs

REDEEMABLE IN STORE ONLY. Qualified CFLs include standard spiral bulbs. For purchases made 12/1/13 - 6/30/14. Not to exceed purchase price. This coupon can be used on multi-packs. Limit: up to 12 ENERGY STAR qualified light bulbs per Vermont residential electric utility customer per calendar year or up to 25 ENERGY STAR qualified light bulbs per Vermont business electric utility customer per calendar year. See back for details.

1. Fill out the required information completely.
 2. Redeem coupon at the register and save!

This coupon cannot be combined with any other Efficiency Vermont offer.

PRODUCTS TO BE INSTALLED IN MY: (Please check one) HOME BUSINESS

PLEASE PRINT CLEARLY

NAME ON CUSTOMER'S VERMONT ELECTRIC BILL _____

ADDRESS WHERE BULBS WILL BE INSTALLED (NO P.O. BOXES) _____ VT 05 _____

CITY/TOWN _____ ZIP CODE _____

DAYTIME PHONE - FOR VERIFICATION ONLY _____ DATE OF PURCHASE ____/____/____

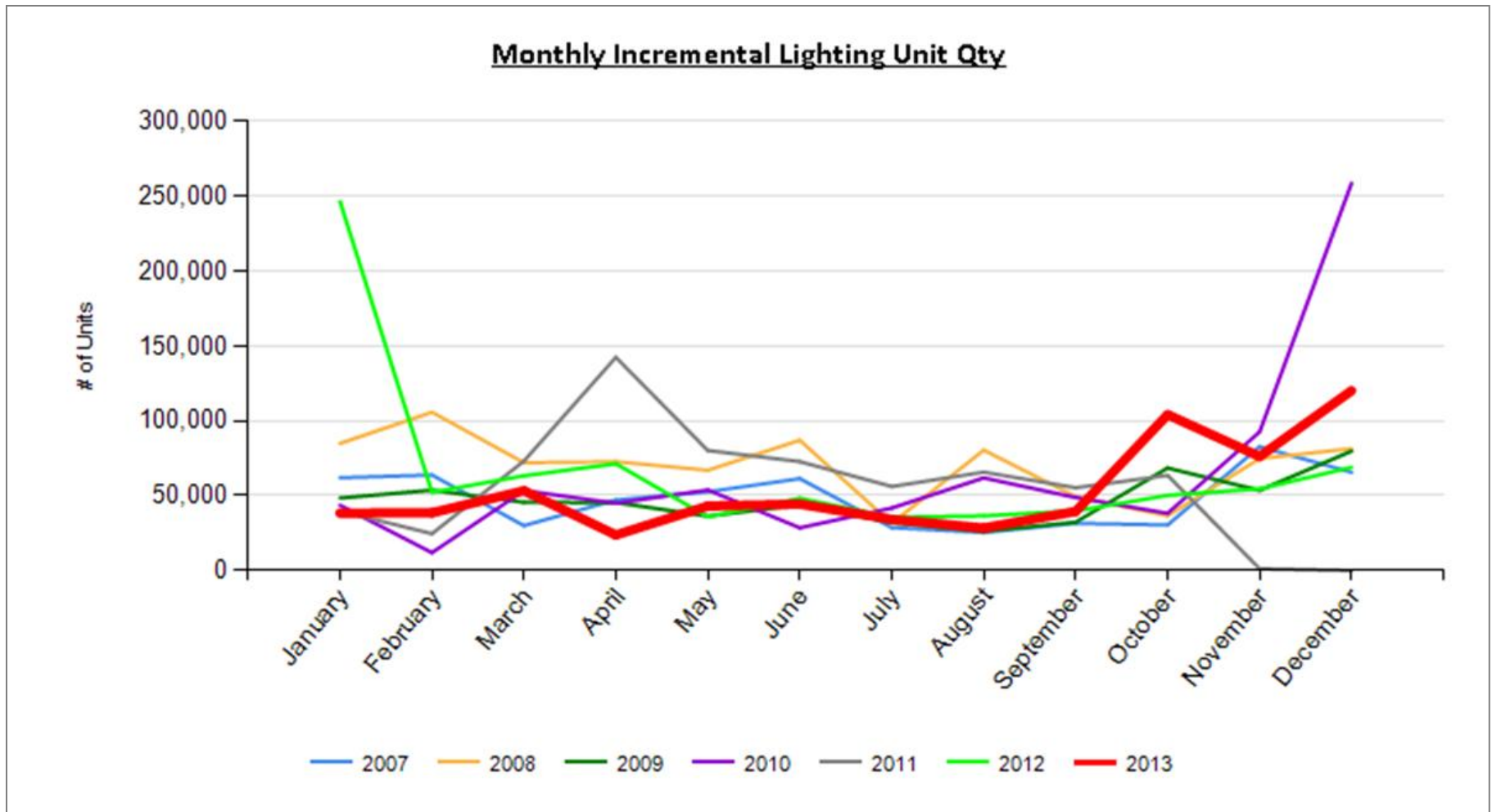
Manufacturer	Model #	Watts	Lumens	# of CFLs in Package	# of Packages	Individual Retail Price
						\$ _____
						\$ _____
						\$ _____

Offer valid for all residential and business electric utility customers in Vermont. See reverse side for details.

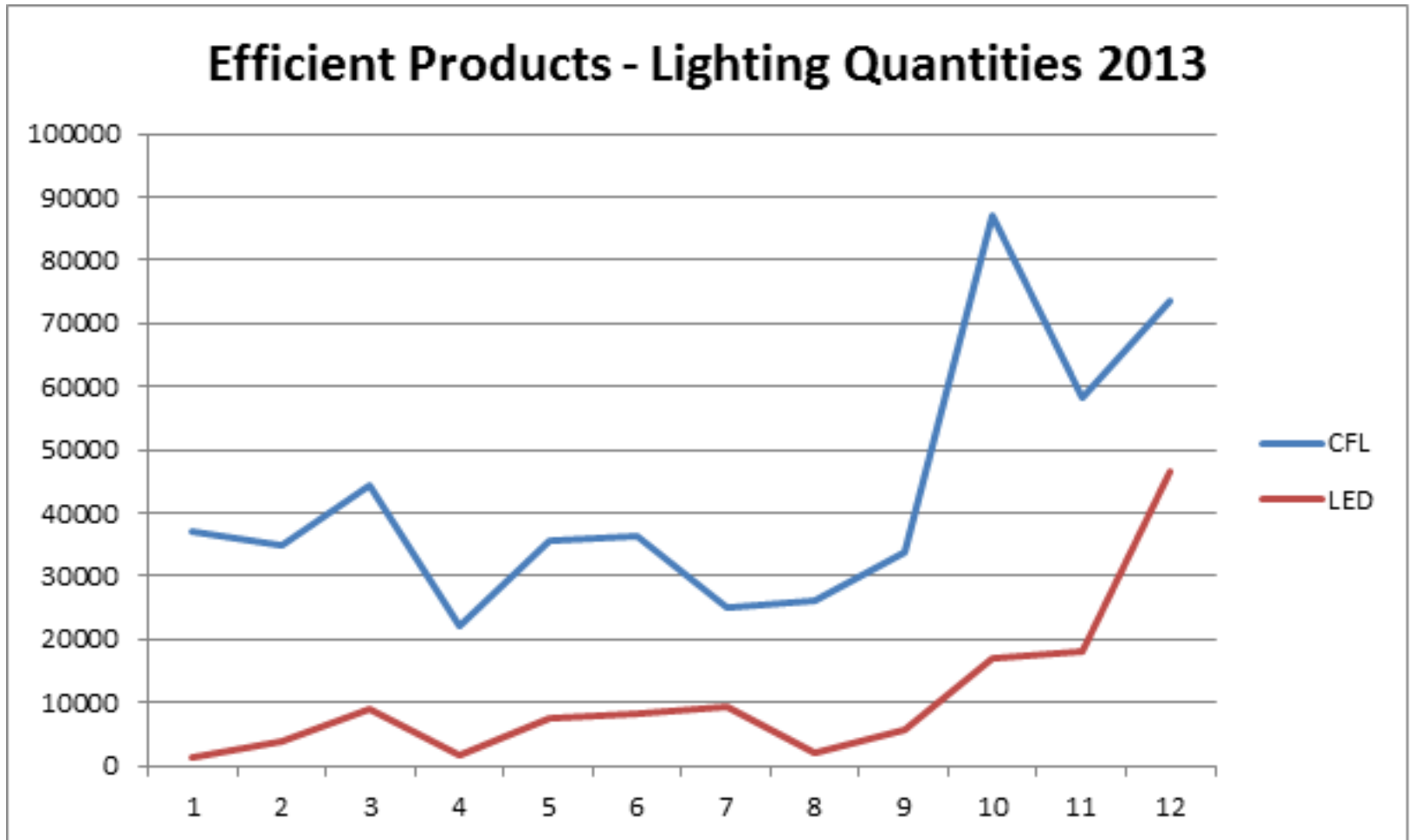
For Retailer Use Only: Total # of Light Bulbs _____ Total Value of Coupon \$ _____ (\$1.00 per Light Bulb)



Monthly Retail Lighting Trends



CFL vs. LED Lighting Quantities 2013



Efficiency Vermont Commercial Lighting



Sue Cook, PMP, SCPM

Lighting Program Manager

Efficiency Vermont Lighting Initiative Components (commercial)

Prescriptive Lighting

Custom Lighting

SMARTLIGHT

RELIGHT

Municipal Street Lighting

Efficiency Vermont

Lighting Initiative Team Members

Strategy & Planning

Dan Mellinger

Program Management

Sue Cook, Melynda Casscles

Engineering (Lighting
Focus)

Heather Smith, Jill O'Connor,
Andrew Ruschp

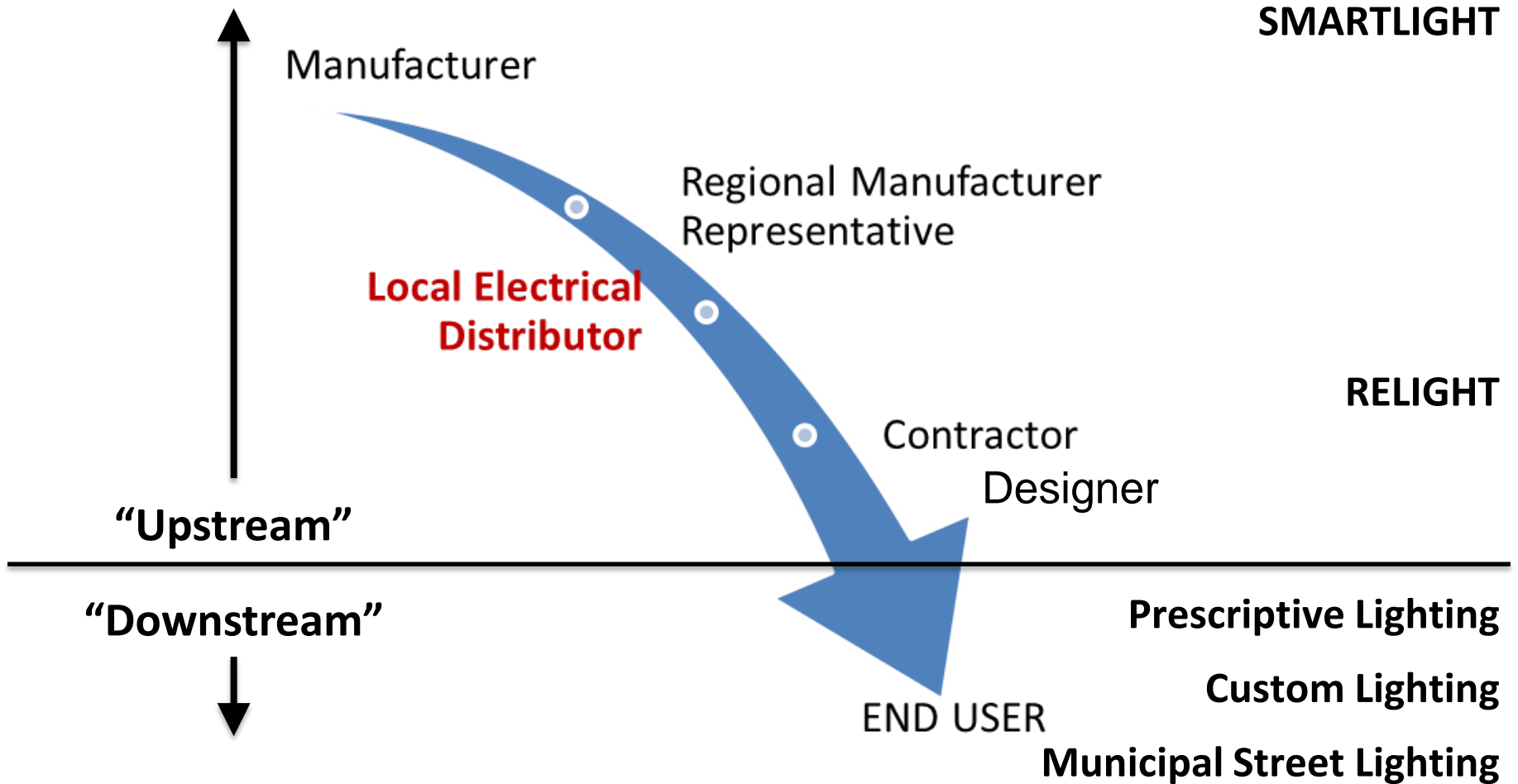
Efficient Products (retail)

Lara Bonn, Laura Drexel, Emily
Kingham

SMARTLIGHT
Account Management

Steve Casey, Meghan Chambers,
Steve Howard

Commercial Lighting Supply Chain



EVT Lighting Initiative Components

Prescriptive Lighting

Custom Lighting

SMARTLIGHT

RELIGHT

Municipal Street Lighting

www.encyvermont.com/LEDrebates

Rebate Form

Valid January 1 - June 30, 2014

Commercial
Lighting


Efficiency Vermont
888-921-5990 • www.encyvermont.com

EVT Lighting Initiative Components

Prescriptive Lighting

Custom Lighting

SMARTLIGHT

RELIGHT

Municipal Street Lighting

Available for large projects or technology not addressed by prescriptive/upstream programs

TERMS & CONDITIONS

REBATE is for new equipment purchased and installed between July 1, 2013 and December 31, 2013 by customers of Vermont electric utilities. Rebate forms must be post-marked or received via email or fax by January 31, 2014. Rebate offer is subject to change without notice and may not be combined with any other offer. **REBATE RESERVATIONS** are required to reserve rebates for all boiler, furnace, and agricultural projects. Reservation forms must include quotes or proposals and are not effective until confirmed by Efficiency Vermont. **PRE-APPROVAL:** Projects with more than 100 items, or rebate payment greater than \$5,000, or any new construction project greater than 10,000 sq. ft. must be pre-approved by Efficiency Vermont. All new construction projects within the City of Burlington must receive

EVT Lighting Initiative Components

Prescriptive Lighting

Custom Lighting

www.encyvermont.com/smartlight

SMARTLIGHT

SMARTLIGHT

Discounted High-Performance
Replacement Lamps

THE MOST EFFICIENT LAMPS ON THE MARKET, FOR THE PRICE OF CONVENTIONAL PRODUCTS

Brought to you by Efficiency Vermont and Burlington Electric Department.

Introducing SMARTLIGHT

- “SMARTLIGHT” was launched in 2009 as a way to **capture savings from replacement lamps**
- Offers **instant discounts** on energy efficient lighting products at participating electrical distributors

SMARTLIGHT

Discounted High-Performance Replacement Lamps

THE MOST EFFICIENT LAMPS ON THE MARKET, FOR THE PRICE OF CONVENTIONAL PRODUCTS
Brought to you by Efficiency Vermont and Burlington Electric Department.

How does it work?
Efficiency Vermont pays the higher cost of select, high-performance, energy-efficient lighting products directly to participating distributors. As contractors and lighting customers in Vermont, you get the most efficient premium replacement products, without having to pay more. Rebates may be available for purchases made from non-participating distributors.

What products are eligible?
The SMARTLIGHT program applies to select screw- and pin-based LEDs and reduced-wattage fluorescent and metal halide lamps. Ask your local lighting distributor for details or visit www.efficiencyvermont.com/smartlight.

Why high-performance?
These lamps save money three ways:

- Lower electric bills,
- fewer replacement products, and
- reduced maintenance costs.

Many reduced-wattage lamps also render colors better and hold their rated light output levels longer. So products, objects, and people appear more natural.

To learn more about the benefits of high-performance lighting products and for qualifying products and participating distributor lists, call us at 888-921-5990, or visit www.efficiencyvermont.com/smartlight.

Screw- and Pin-Based LEDs

Benefits:
50-80% energy savings, 10-20x longer lamp life, less heat generated resulting in greater comfort and lower AC costs.

Typical Applications:
Retail, restaurants, hotels, museums, galleries.

Important Technical Information:

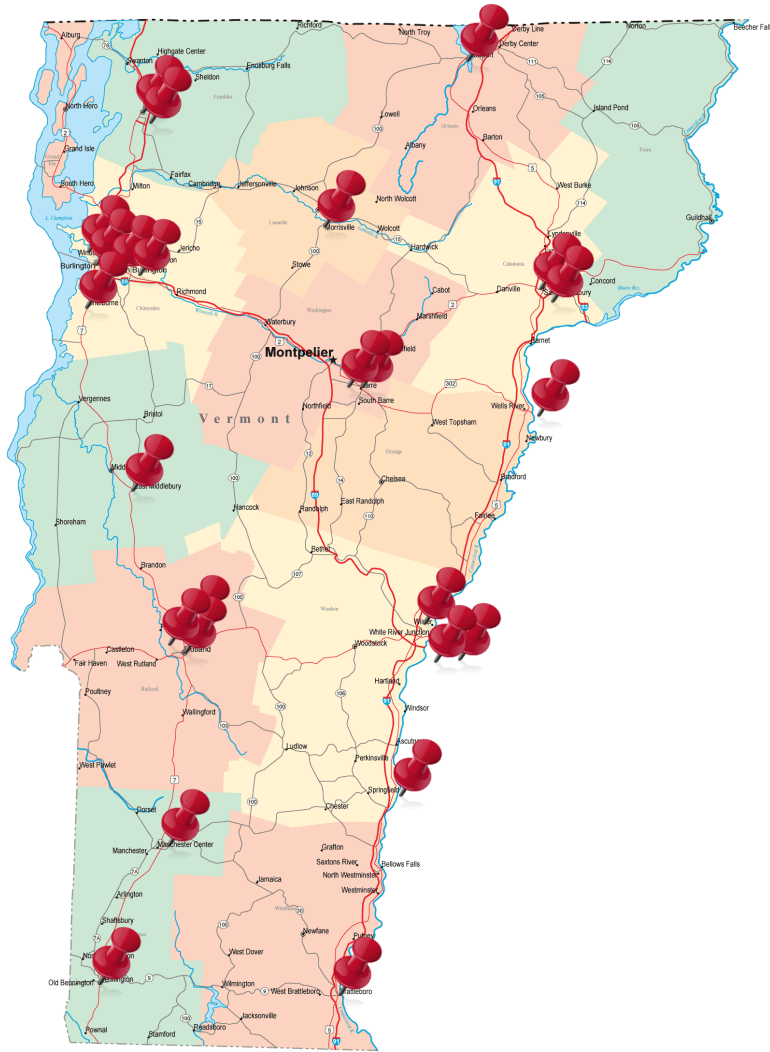
- Not all products are dimmable. For products that are designated as dimmable, compatibility with existing dimming equipment should be confirmed.

POTENTIAL COST SAVINGS			
Lamp Type	Typical Halogen/Incandescent Watts	Typical LED Watts	Annual Cost Savings ¹
PAR38	75	15	\$23
PAR30	60	12	\$19
PAR20	50	8	\$16
MR16	35	6	\$11
A-Lamp	60	12	\$19
Decorative	25	5	\$8

How Does SMARTLIGHT Work?

- Customers **purchase an eligible product** from a SMARTLIGHT participating distributor
- The distributor includes an Efficiency Vermont incentive in the transaction as an **instant-off rebate** (no customer paperwork)
- Distributors **collect customer information** (name, address, phone, customer type)
- Distributors **submit a monthly sales** history to Efficiency Vermont for all eligible products sold
- Efficiency Vermont **batch processes** all SMARTLIGHT transactions within a given month and **reimburses each distributor**

SMARTLIGHT Participating Distributors



32 distributors covering the full state plus border communities

Value proposition:

- Increased sales
- Visibility
- Co-op advertising

SMARTLIGHT Eligible Products

LED Products

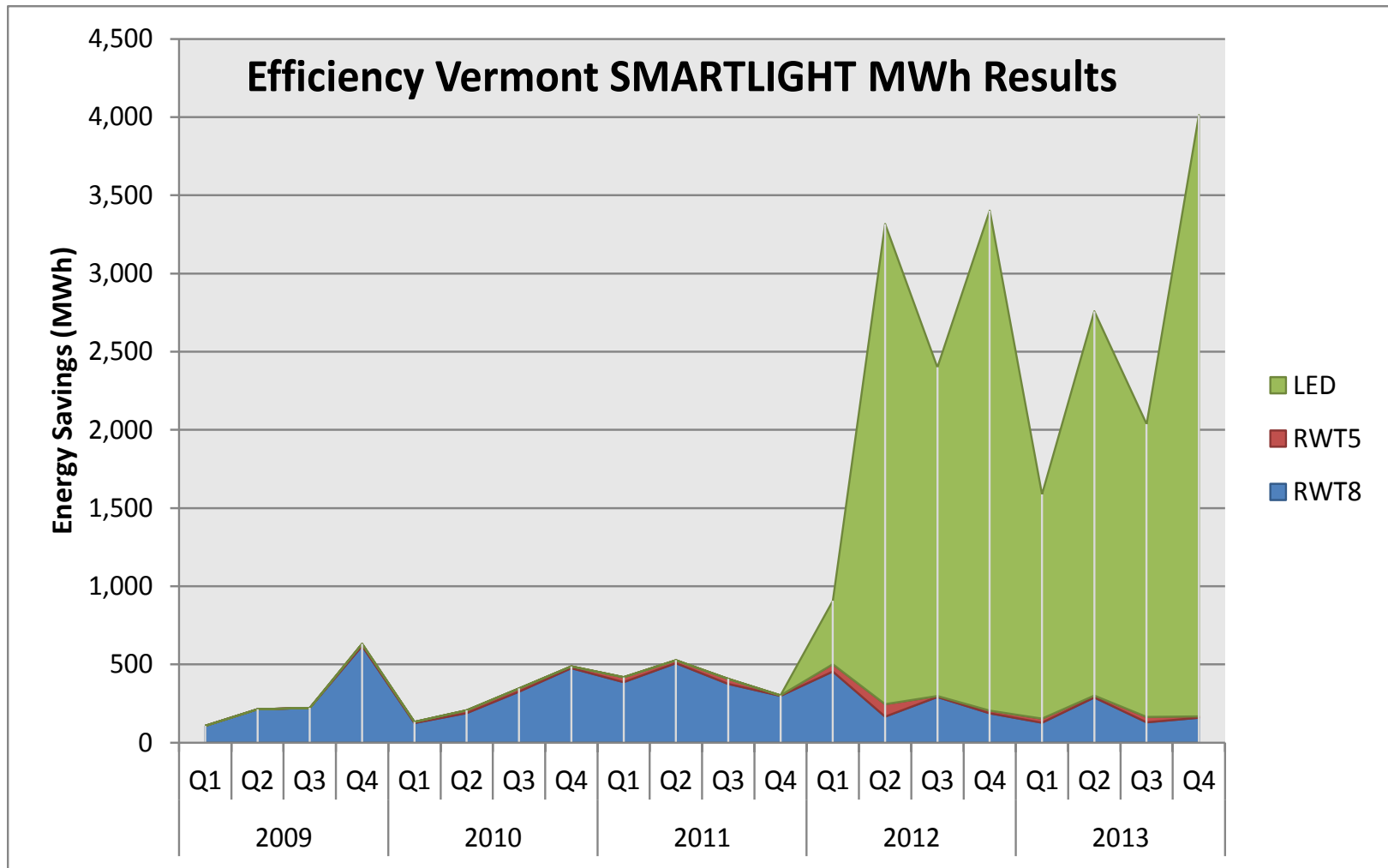
Product Type	PREMIUM		STANDARD	
	Incentive	Eligible Products	Incentive	Eligible Products
PAR 38	\$35.00	ENERGY STAR (excluding "non-standard" products)*	\$14.00	LED Lighting Facts EE Program
R/BR 40, PAR 30	\$25.00		\$10.00	
R/BR 30, R/PAR 20	\$20.00		\$8.00	
MR/PAR 16, A, Globe	\$15.00		\$6.00	
Candle / Decorative	\$10.00		\$4.00	

* Non-Standard Energy Star products qualify for Efficiency Vermont Standard Incentive levels

Fluorescent & Metal Halide Products

Product Type	Incentive	Eligible Products
Reduced Wattage T8 Lamp , ≤ 28W	\$2.00	CEE Efficiency Vermont Specified
Reduced Wattage T5 Lamp , ≤ 26W	\$2.00	
Reduced Wattage T5HO Lamp , ≤ 49W	\$3.00	
Reduced Wattage T5HO Lamp , 50-51W	\$2.00	
Reduced Wattage CFL Lamp	\$2.00	
Reduced Wattage Metal Halide Lamp , < 175W	\$10.00	
Reduced Wattage Metal Halide Lamp , 175 – 400W	\$15.00	
Reduced Wattage Metal Halide Lamp , > 400W	\$20.00	

Success with LEDs



EVT Lighting Initiative Components

Prescriptive Lighting

Custom Lighting

SMARTLIGHT

RELIGHT

Municipal Street Lighting

www.encyvermont.com/relight

rethink
reimagine
renew

relight

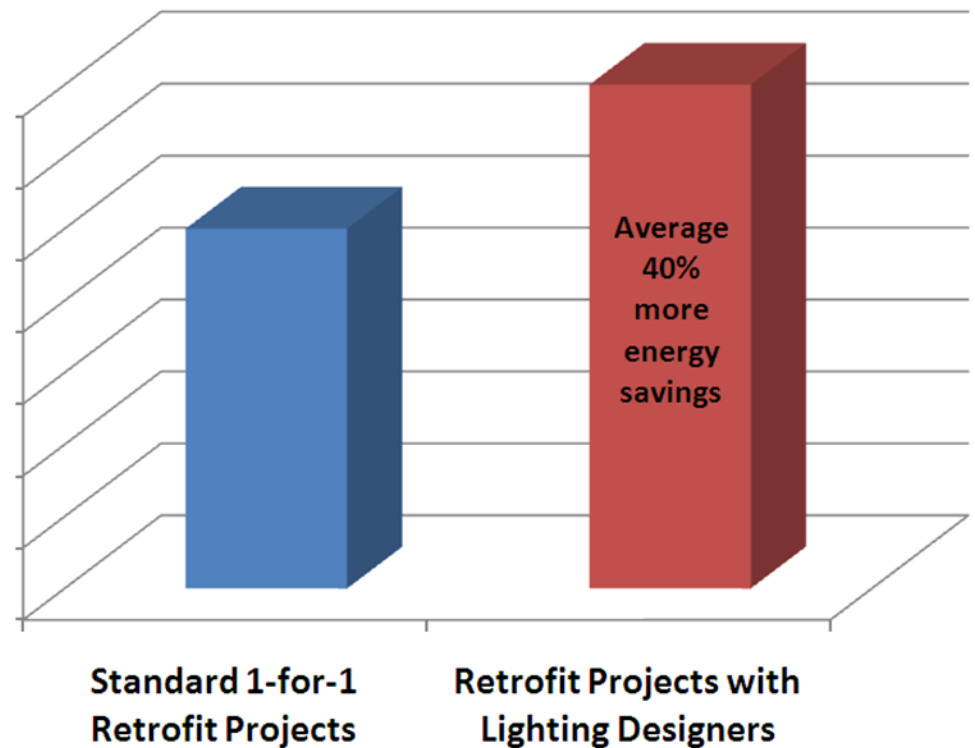
Efficiency Vermont

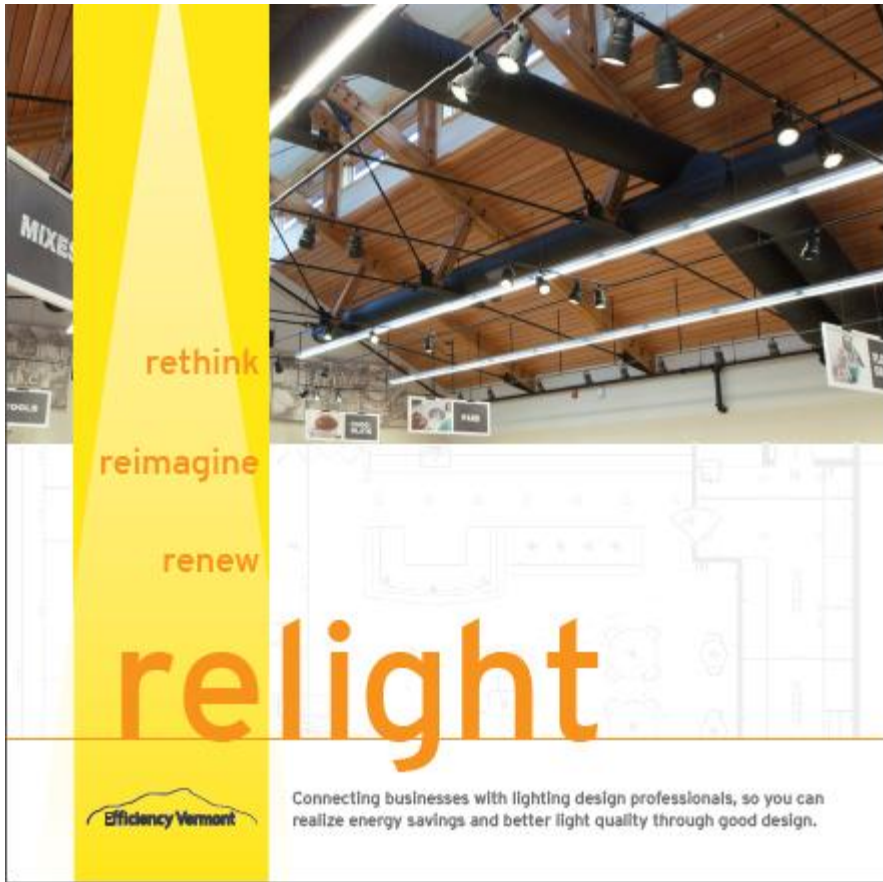
Connecting businesses with lighting design professionals, so you can realize energy savings and better light quality through good design.

Increased Energy Savings

Comprehensive lighting design can yield significantly more energy savings compared to a standard 1-for-1 retrofit


- Light levels
- Lighting layout
- Fixture type
- Controls integration





rethink
reimagine
renew

relight

 Connecting businesses with lighting design professionals, so you can realize energy savings and better light quality through good design.





Professional lighting redesign can save you 40% or more over one-for-one fixture replacement.

RELIGHT designers are Lighting Certified professionals or Vermont-licensed Professional Engineers. They provide expert guidance on lighting fixtures, controls, and the way various technologies will work together to maximize energy savings—helping you improve the quality of your work environment and strengthen your bottom line.

Efficiency Vermont helps to offset the cost of RELIGHT designers, so your business can enjoy the benefits of good lighting design, like:

- Reduced energy costs;
- Optimal quantities and distribution of light;
- Improved quality and color;
- Ease of use and lower maintenance.

relight

Put your business in its best light
www.encyvermont.com/RELIGHT
 888-921-5990

Lighting Design Professionals

A RELIGHT participating lighting designer is someone who:

- Is **Lighting Certified (LC)** by the National Council on Qualifications for the Lighting Professions (NCQLP)

– or –

- Is a Vermont-licensed **Professional Engineer (PE)**



Education - Certification

Lighting Certification Exam

Efficiency Vermont is pleased to provide the following information on the [National Council on Qualifications for the Lighting Professions \(NCQLP\) Lighting Certification \(LC\) exam](#). In an effort to support the development of professional lighting professionals, Efficiency Vermont is offering financial incentives for those who pass the exam.

Efficiency Vermont Incentive Application Form NCQLP Lighting Certification (LC) Exam & Preparatory Course

SECTION 1. APPLICANT INFORMATION

Name:

Name:

State: Zip Code:

E-mail:



RELIGHT Rebates

Upfront incentive to cover cost of audit and design

- interior commercial lighting retrofit projects $\geq 5,000$ square feet

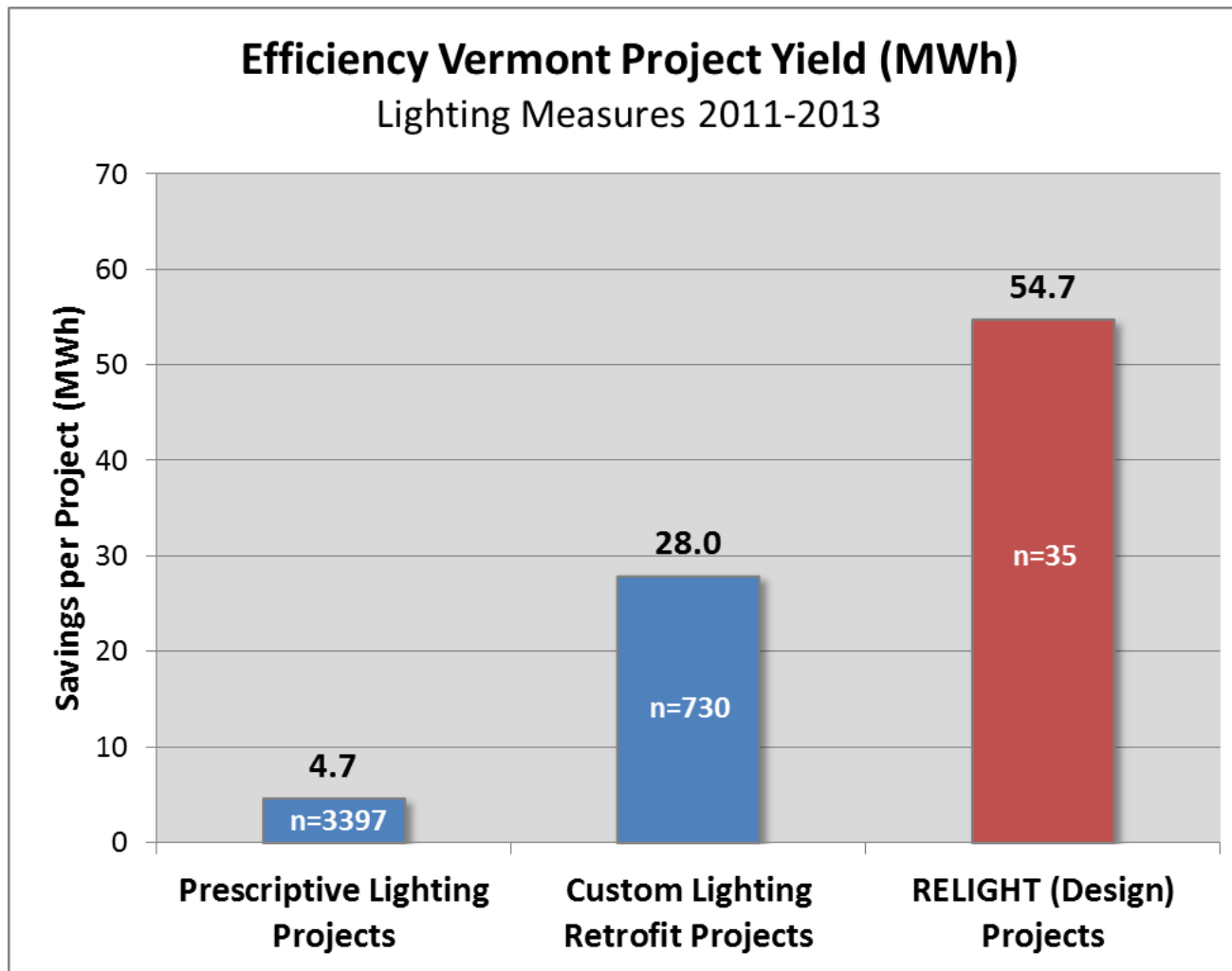
Building Type	Audit & Design Rebate Amount
K-12 schools	\$500 + 3 cents per ft ²
All other commercial buildings	\$500 + 2 cents per ft ²

Back-end incentive – *in addition to equipment incentives* – to reward high-performing projects. Target is a calculated baseline that represents a 1-for-1 retrofit.

Paid to Customer

Performance Rebate Amount	Energy Savings Threshold
\$500 + 1 cent per kWh	First 25% savings beyond RELIGHT target baseline
+ 2 cents per kWh	Savings 25-50% beyond RELIGHT target baseline
+ 3 cents per kWh	Savings 50-75% beyond RELIGHT target baseline
+ 4 cents per kWh	Savings 75%+ beyond RELIGHT target baseline

RELIGHT Results – Energy Savings



EVT Lighting Initiative Components

Prescriptive Lighting

Custom Lighting

SMARTLIGHT

RELIGHT

Municipal Street Lighting

www.encyvermont.com/streetlighting

STEP-BY-STEP GUIDE

**Improving Efficiency
in Municipal Street and
Public Space Lighting**



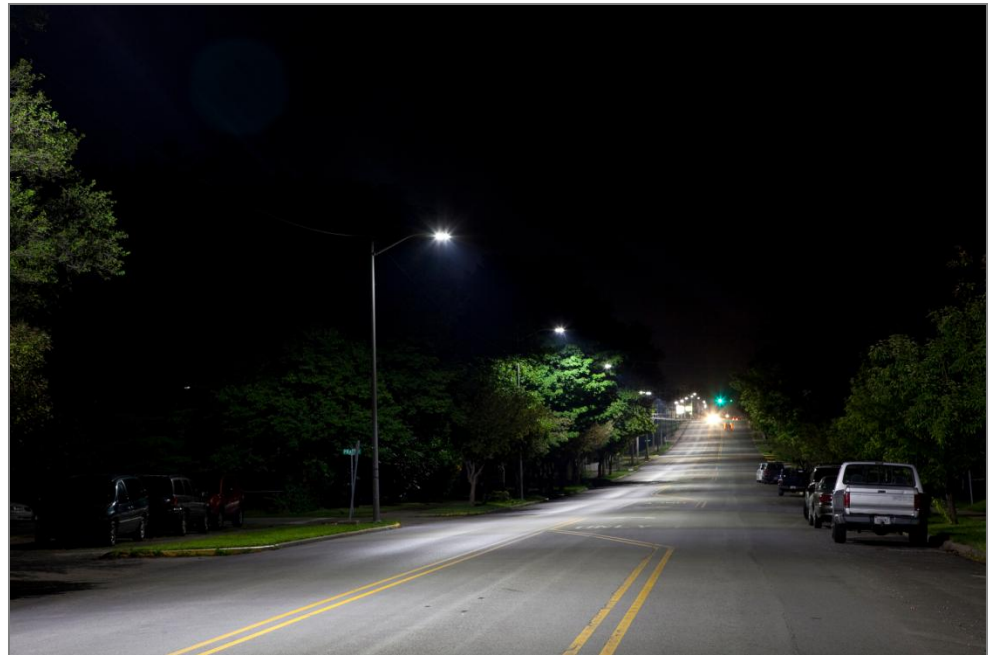
Efficiency Vermont

Municipal Street Lighting

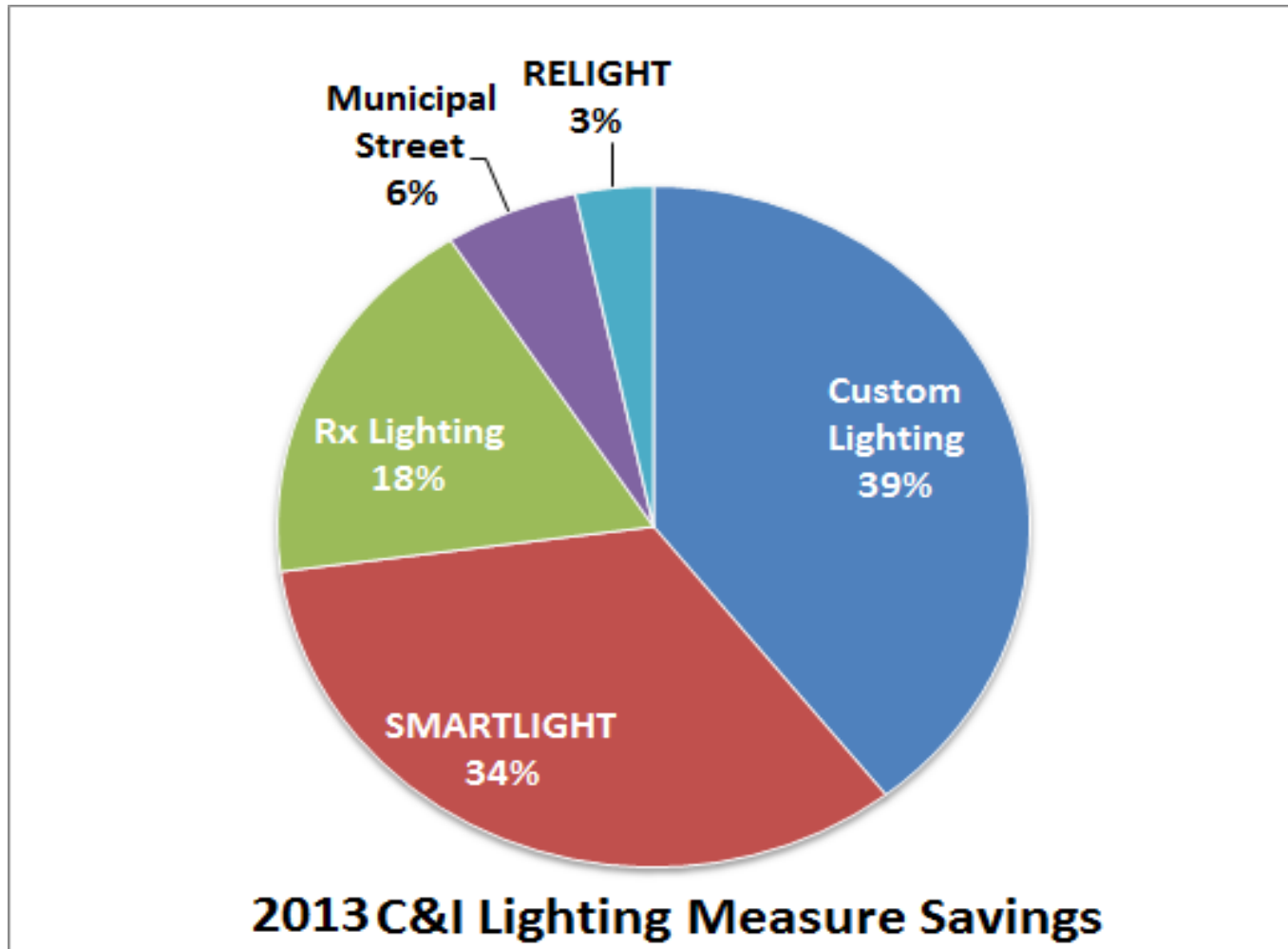
Program launched in
October 2010

Two-pronged strategy:

- Eliminating unnecessary street lighting
- Converting remaining lighting to energy saving LEDs



Contribution to Program Savings



Thank you

Prescriptive Lighting

Custom Lighting

SMARTLIGHT

RELIGHT

Municipal Street Lighting



Burlington Electric Commercial Lighting



Ravi Parikh

Energy Services Specialist

Lighting Efficiency Programs 101

- A Background to BED's Energy Services
- Lighting, Lighting, Lighting
- A Breadth of Programs
- Maximizing Rebates



BED's Energy Services

- **Our Story**

- Established in 1990
- Program administrator for city of Burlington, VT
- Funded by electric ratepayers
- Provide energy efficiency services for commercial/residential customers

- **The Team**

- Chris Burns, Director of Energy Services
- Jake Yanulavich, Lead Engineer – Commercial Energy Services
- J.C. McCann, Commercial Energy Specialist
- Ravi Parikh, Commercial Energy Specialist
- Michelle Keller, Commercial Energy Specialist - UVM
- John Lincoln, Residential Energy Specialist



BED's Energy Services

- **Since 1989...**

- Provided \$8.7 million in incentives
- Saved consumers almost \$10 million in retail electric costs
- Helped Burlington use 5.3% less electricity than in 1989

- **In 2013...**

- Provided over \$1 million in incentives
- Saved 6,227 mWh's
- Reduced CO₂ emissions by an estimated 41,930 tons
- Completed installation of AMI meters/Launched Energy Engage
- Launched On-Bill Financing & PACE Program



Lighting Program Portfolio

- **BED's Commercial Lighting Programs/Offerings**
 - Prescriptive
 - Smartlight
 - Custom/Calculated (includes New Construction)
 - RELIGHT
 - On-Bill Financing



Lighting the Way

	2010	2011	2012
# of Projects	84%	92%	87%
mWh Savings	82%	79%	64%



Less Paperwork, Less Headaches

- **The quest to go prescriptive (and upstream)**
 - Simple Rebate Form
 - Preset Rebate Amounts
 - Easy to Understand
 - Easy to Complete (distributor/contractor/customer)
 - Less of a Timesink
 - No Calculations Needed
 - Easy to Process (utility)
 - Quicker Rebate Checks



Prescriptive programs are easier, but are they better?

Rx Energy Savings: What You See...

Office Building (Any Town, VT); \$150/fixture

	Watts	Operating Hours	kWh
150W Metal Halide [Exterior Wallpack]	190	4296	816
30W LED Wallpack	30	4296	129
ENERGY SAVINGS	160	4296	687

Rx Energy Savings: What We See...

Office Building (Any Town, VT); \$150/fixture

	Watts	Operating Hours	kWh
150W Metal Halide [Exterior Wallpack]	182.9	4296	786
30W LED Wallpack	52.5	4296	226
ENERGY SAVINGS	130.4	4296	560

Rx vs. Custom: Choose Wisely

Office Building(Any Town, VT)

	Rx	Custom
Claimed kWh Savings	560	687
Rebate Amount	\$150/fixture	\$200/fixture

- **Going custom may be slower, but sometimes...**
 - Greater Claimed Savings
 - Higher Rebates
 - Easier Sell

Rethink, Reimagine, Renew...

- **Elementary School (Burlington, VT)**
 - Watts/Square Foot: 1.2 (CBES) → 0.6 (Existing) → 0.3 (Proposed)

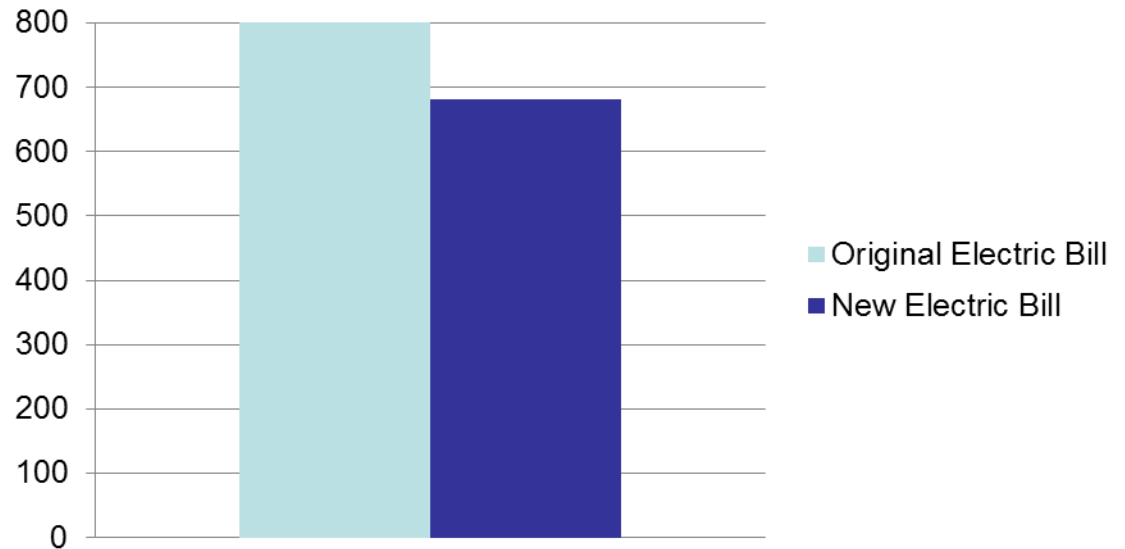


On-Bill Financing

The Energy Savings Pay You Back!

Lighting Upgrade: T12 → HPT8; Occ. Sensors, Exterior LED's

- Project Cost: \$2,976
- BED Incentive: \$822
- Energy Savings: \$119/month
- Loan Amount: \$117.19/month
- Loan Term: 19 months



Questions & Answers

Lara Bonn	Retail Efficient Products Program Manager	lbonn@veic.org 802-540-7853
Sue Cook	Commercial Lighting Program Manager	scook@veic.org 802-540-7736
Ravi Parikh	Energy Services Specialist	rparikh@burlington electric.com 802-865-7338
Dan Mellinger (moderator)	Lighting Strategy Manager	dmellinger@veic.org 802-540-7648

Business Card BINGO Instructions

During the BINGO game calling:

1. As you find names on your CARD that the caller has announced, put an X through that square.
2. The first person with a verified BINGO wins a door prize.
BINGO = 4 CROSSED OUT SQUARES IN A ROW UP/DOWN, ACROSS OR DIAGONALLY on the card.

Please consider keeping this card to add new contacts to your address book and/or LinkedIn account!