



NORTHWEST
ENERGY EFFICIENCY
ALLIANCE

CFL Update

November 5, 2009

Market Update

- Lighting and ENERGY STAR Homes
 - Activities we have done this year include;
 - Builder, showroom, verifier/BPS, and utility trainings
 - Product development and design support for local manufacturers
 - Purchasing consulting for showrooms, retailers and builders
 - Lighting 101 trainings
 - Plan reviews
 - Display purchase and design coordination
 - One on one trainings with designers
 - Coordination with manufacturers
 - Monitoring new technologies
 - Assistance on understanding code changes
 - Marketing assistance for manufacturers and showrooms

Market update

- 2009 Sales Data – NW Widget Report
 - Q1 decrease of 28.13% from Q1 2008
 - Q2 decrease of 34.6% from 2008 and 41.47% decrease from Q1 2009. Typically the Q1 to Q2 decrease is 36%
 - Early reporting from Q3 indicates 49% decrease from 2008
- Appliances & Consumer Electronics
 - Consumer Electronics down ~8%
 - Appliances down ~13%
 - Retail overall ~9%

Market Update

- Major drivers in the decline – All retail
 - Collapsing channels
 - Lean Inventory
 - Lower Consumer Spending
- Major drivers in the decline – CFLs
 - Fact
 - Same as all retail
 - Imports down
 - Consumers purchasing based off first cost (Economy)
 - Opinion(s)
 - Most of the opinions I have heard and have personally relate more to corporate purchasing not consumer

Market Update

- 2009 Widget Report logistics
 - Who is reporting
 - Major retailers (except Lowe's and Wal-Mart)
 - Some small retailers
 - What has changed since 2008
 - Grocery has started reporting
 - We lost some small retailers
 - How can you help
 - Require data reporting for all products (not just incentivized)
 - Submit data to us early for all activities

Market Update

- National issues
 - Nexus Market Research Multi-State Modeling Report
 - Indicates a net to gross ratio ranging from .5 to 0 depending on the state
 - In other words programs have NO impact on purchasing of CFLs
 - **These are EARLY results and being heavily contested**
 - DOE push for intensifying program activities
 - In part a response to the
 - above study
 - a concern about inventory issues as we enter into Federal Standard changes
 - Pressure from various utilities
 - LEDs not being ready

Market Update

- National Issues continued
 - DOE CFL summit and essentially a task force
 - Goal is to spread the word about issues
 - Work collaboratively to collect sales data
 - Share ideas that work in moving CFLs into the market before the Federal standard changes
 - Get ahead of commissions making decisions to not allow CFLs to count towards the savings goals
 - DOE sales data collection
 - In order to report they need FIVE major retailers to report
 - They have FOUR

Market update

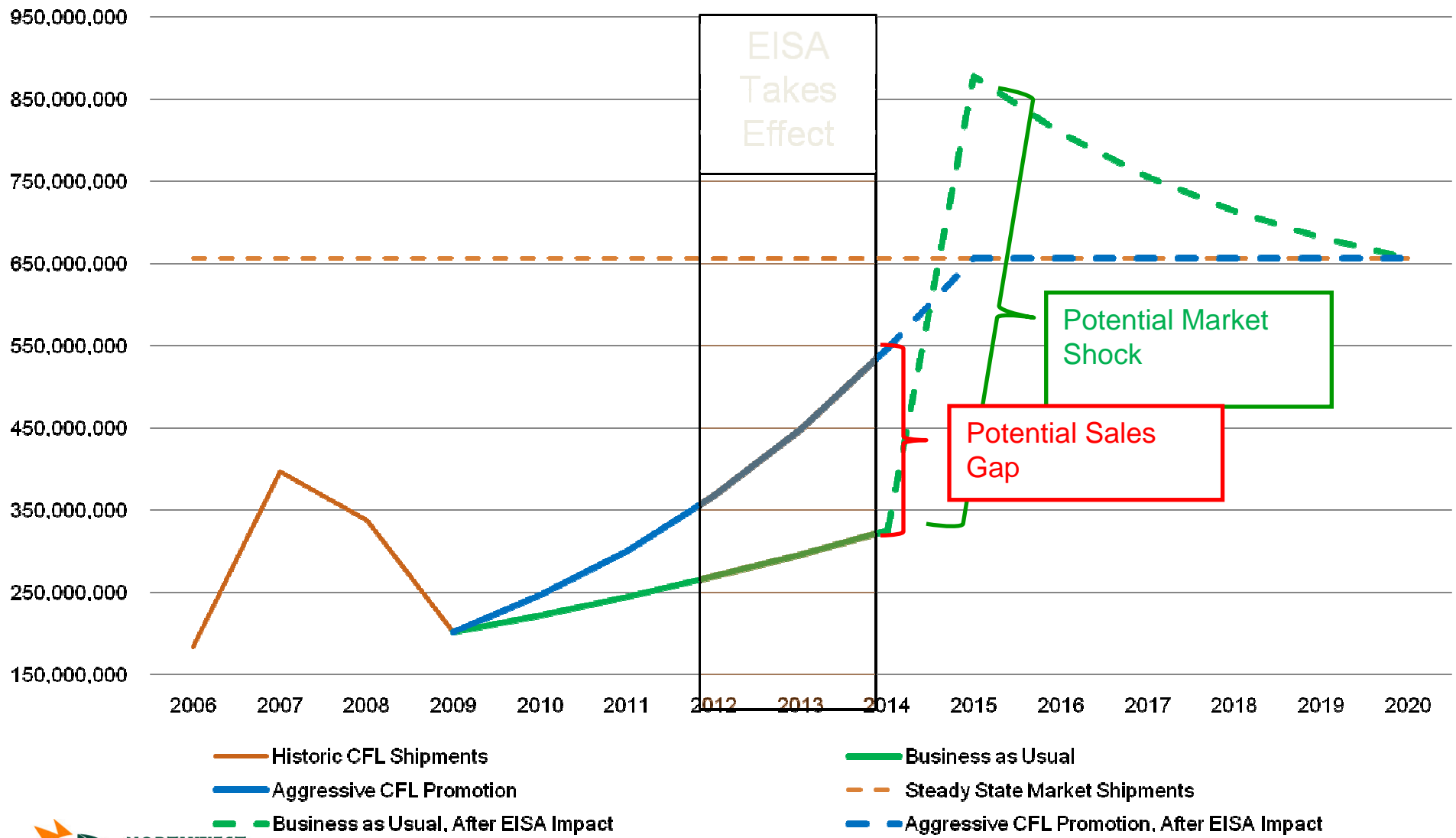
- 2007 Energy Independence and Security Act (EISA)

- Begins phasing in standards over a three year period beginning January 1, 2012 and this phased in approach applies to general illumination lighting.

Major Wattage Type	EISA Rated Lumen Ranges	Effective Date
100w and 150w	1490-2600 (~90w – 150w)	1/1/2012
75w	1050-1489 (~75w – 90w)	1/1/2013
60w	750-1049 (~60w – 75w)	1/1/2014
40w	310-749 (~30w – 60w)	1/1/2014

- Lamps Excluded by EISA
- 3-Way --Reflector --Globes>5" --decorative --candelabra
- Plus numerous small volume specialty bulbs (e.g. oven lamps, bug lights)
- Legislation allows DOE to institute standards for excluded lamps should their sales increase significantly.

Market Update – DOE Concern “Heading for a Crisis”



Sources: Historic Shipments from U.S. Department of Commerce. Projections from D&R International.

Market update

- DOE's biggest concern
 - European Union recent ban on 100 watt
 - Hoarding in Germany and Britain
 - Public outcry
 - Shortages on CFLs
 - Limited production capabilities
 - Only a few manufacturers use automated production
 - Most of those are generation 1 machines with limited output
 - The shortage in imports reduces the probability of upgrading to the new machines

Market Update

- CFL program approaches – ideas from other regions
 - Fund raisers
 - Door to door sales
 - Direct mail/door to door delivery
 - Giveaways
 - Flu clinics, Red Cross, etc.
 - Direct install programs
 - Online sales
 - Buy-downs, mark downs, and coupons
 - Corporate outreach programs
 - Rewards programs
 - Socket saturation studies

Market update

- LEDs

- Two basic technology approaches

- Screw based solution

- Primarily made by CFL and Incandescent manufacturers
 - Category with potential
 - Under-cabinet
 - Category immersing
 - Reflectors
 - Avoid other products

- SSL

- This group is setting the market up correctly, but it is going to take time
 - How much time?
 - 3-5 years for quality down lights
 - General illumination outside of down lights is a wild guess on a moving target
 - This slide is the opinion of Brian Simmons from Fluid Market Strategies and based of information in the marketplace and a few speculations. You are encouraged to weigh all information provided to you and make the decision best suited for your organization.

Market Update

- General Logistics
 - Widget report manager
 - Megan McCabe – mmccabe@fluidms.com (503) 808-9003
 - General information
 - Presentations and reports used to compile this update
 - www.fluidms.com/NEEACFL
 - ENERGY STAR Homes Lighting team
 - Cheryl Fretz – cfretz@fluidms.com
 - Nicole Cecchini – ncecchini@fluidms.com
 - Chris Boroughs – cboroughs@fluidms.com
 - Tim Clemens – tclemens@fluidms.com



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Behalf of the Northwest Energy Efficiency Alliance
(August, 2009)

November 5, 2009



Overview

- NEEA Lighting Project History
- Northwest Lighting Market Tracking Efforts
- Key Findings
 - Total CFL Sales and Promotional CFL Sales
 - Regional CFL Market Share
 - CFL Affordability
 - CFL Availability
 - CFL Diversity
- Conclusions
- Recommendations

NEEA Managed Lighting Project History

Year(s)	NEEA Lighting Project Activities
1997-1999	<ul style="list-style-type: none"> • Addressed market barriers such as high first cost; lack of product availability; poor aesthetics; lack of consumer awareness
2000-2003	<ul style="list-style-type: none"> • Provided retailer education; salesperson training; advertising/marketing support
2004	<ul style="list-style-type: none"> • Continued retailer focus (primarily big box stores) • Coordinated with national campaigns • Supported CFL quality research and new product development
2005	<ul style="list-style-type: none"> • Provided upstream incentives to CFL manufacturers • Covered broad geographic area (including rural communities) • Included big box and non- big box stores in promotion
2006-2007	<ul style="list-style-type: none"> • Continued to provide incentives to CFL manufacturers • Excluded large home improvement and some big box stores from promotion
2008	<ul style="list-style-type: none"> • Ceased active intervention in NW CFL market • Continued to monitor Northwest CFL market

Northwest Lighting Market Tracking Efforts

Activity	Frequency	Elements Tracked
Sales data reporting	Quarterly	<ul style="list-style-type: none"> Promotional and non-promotional CFL sales by retail chain and store type
Market share estimation	Annually	<ul style="list-style-type: none"> Northwest ES CFL market share of residential medium screw-base lamp sales
Retail store shelf inventories	2005, 2006, 2008	<ul style="list-style-type: none"> Presence/absence of CFLs; CFL price; number/diversity of models available; other elements by region, lamp style, store type
Interviews with CFL suppliers	2006, 2008	<ul style="list-style-type: none"> Perspectives on market activity; current and future market trends
Interviews with utility program mgrs, retail store mgrs, NEEA project staff	Subset of these on annual basis	<ul style="list-style-type: none"> Perspectives on market activity; current/ future market trends; program plans; CFL stocking patterns; satisfaction with NEEA promotions; other issues
Customer telephone surveys	2005, 2006, 2007	<ul style="list-style-type: none"> CFL awareness; purchase rate; installation behavior; satisfaction/perceptions of CFLs

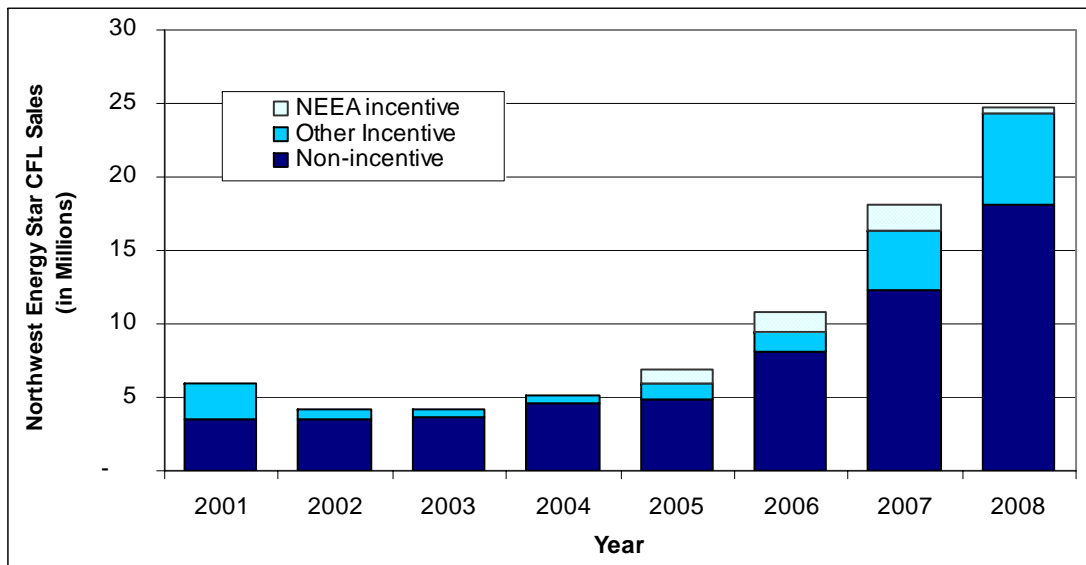
Data Sources

- Sales Data
 - Actual and estimated CFL sales data obtained from Northwest retailers
- Market Share Estimates
 - Estimated market share from a linear function based on relationship between national CFL and non-CFL MSBL sales
 - Derived two estimates based on two data sources (US DOE shipments; Itron RMST)
- Retail Store Shelf Surveys
 - Representative samples of retail stores selling residential lamps in the Northwest (by geography, store type)
 - Panel of stores visited in both 2006 and 2008

Findings: CFL Sales

- **Total 2008 sales reached 24.7 million ENERGY STAR CFLs**
 - Increase of 36% over 2007
- **Unit sales of promotional CFLs...**
 - Increased from 5.9M units in 2007 to 6.6M 2008
 - Decreased as a proportion of total CFL sales from 32% to 27%

Estimated Northwest Residential ENERGY STAR CFL Sales, 2001-2008

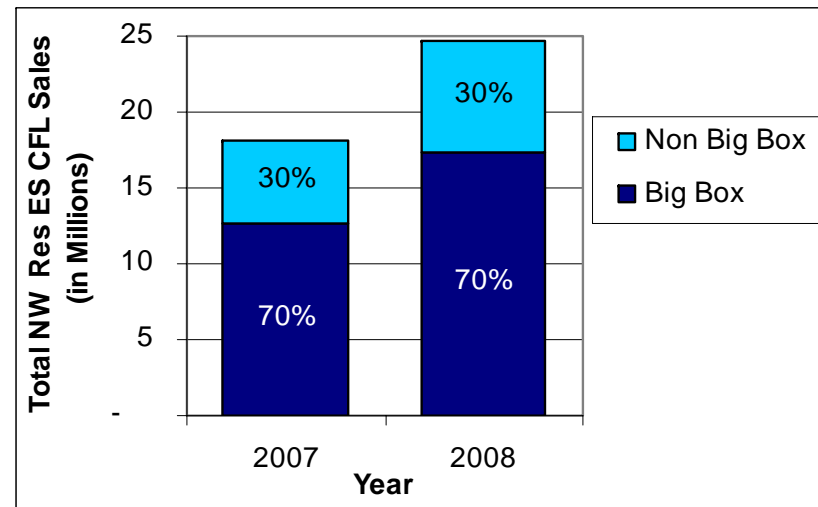
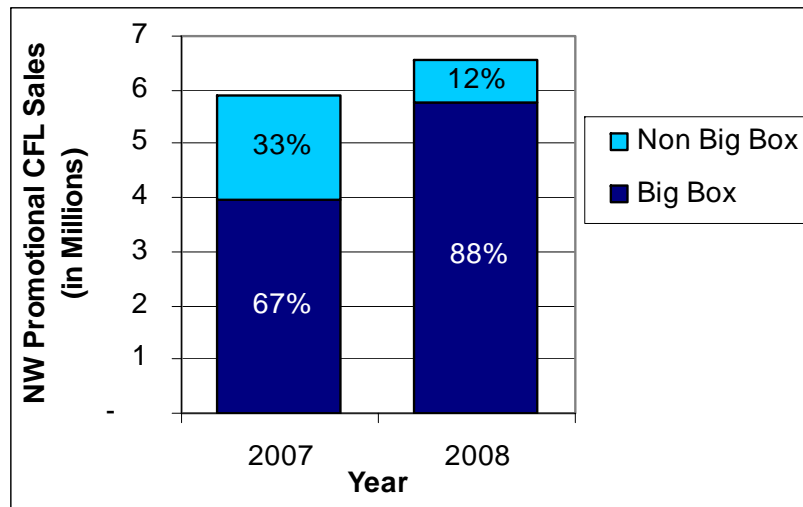


Sources: Fluid Market Strategies, 2009; PECL, 2006.

Findings: NW Promotional CFL Sales

- Between 2007 and 2008, sales of promotional CFLs shifted toward big box stores
- Proportion of total regional CFL sales between big box and non big box stores held constant

Northwest Promotional and Total Residential ENERGY STAR CFL Sales by Store Type, 2007 and 2008

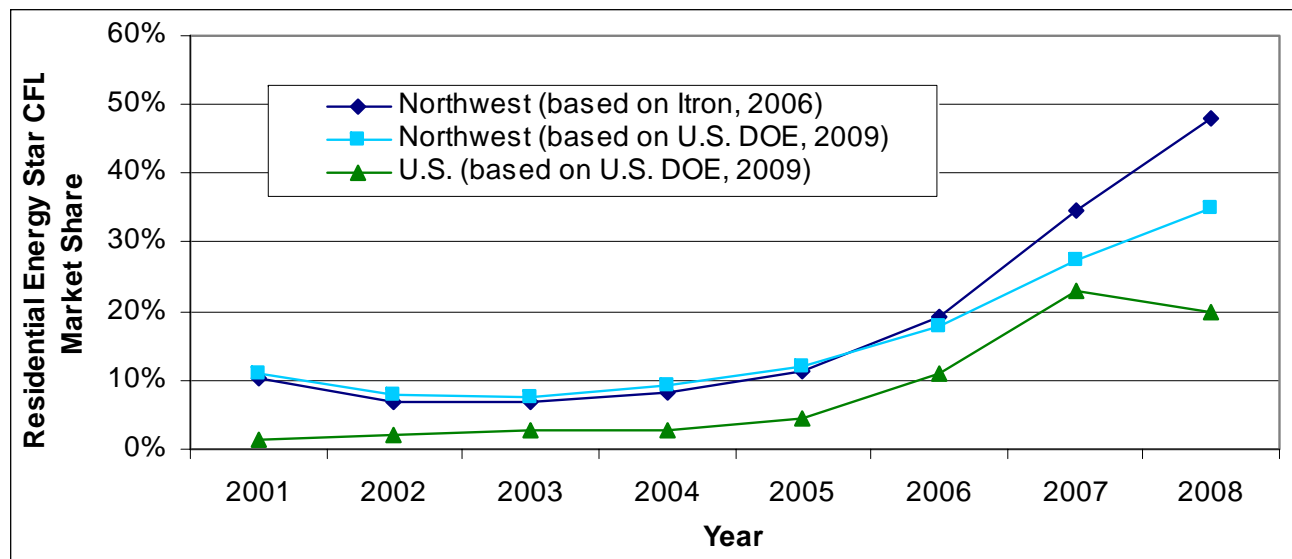


Source: KEMA, 2009.

Findings: CFL Market Share

- CFL market share in the Northwest consistently higher than in U.S. as a whole
- Northwest market share continued to increase in 2008 while declining at the national level

Estimated Residential ENERGY STAR CFL Market Share of Total Residential MSBL Sales, Northwest and US, 2001-2008

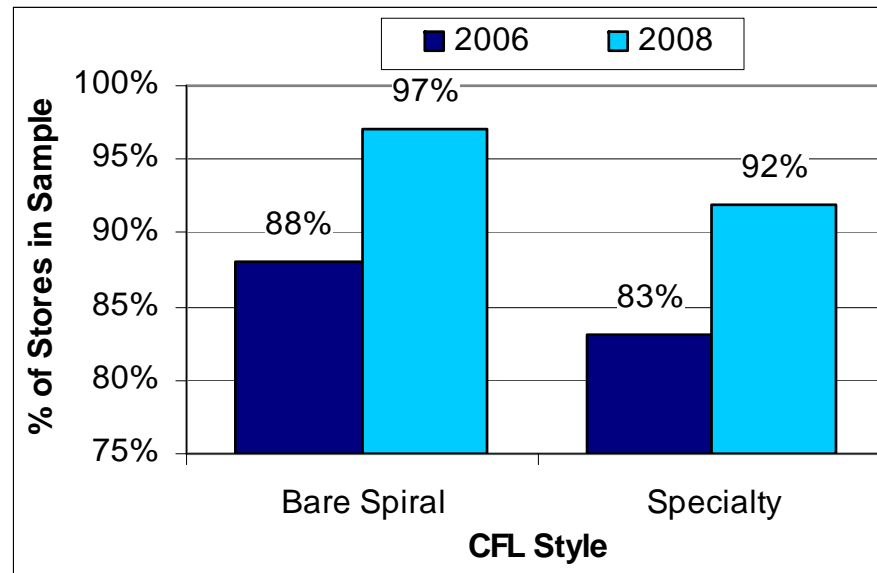


Source: KEMA, 2009..

Findings: CFL Availability

- Percentage of Northwest stores carrying bare spiral CFLs increased between 2006 and 2008
 - Significantly among non-metro and non big box stores
- Percentage of stores carrying specialty CFLs also increased
 - Significantly among non big box stores

Percentage of Stores in Sample Carrying CFLs by CFL Style, 2006 and 2008

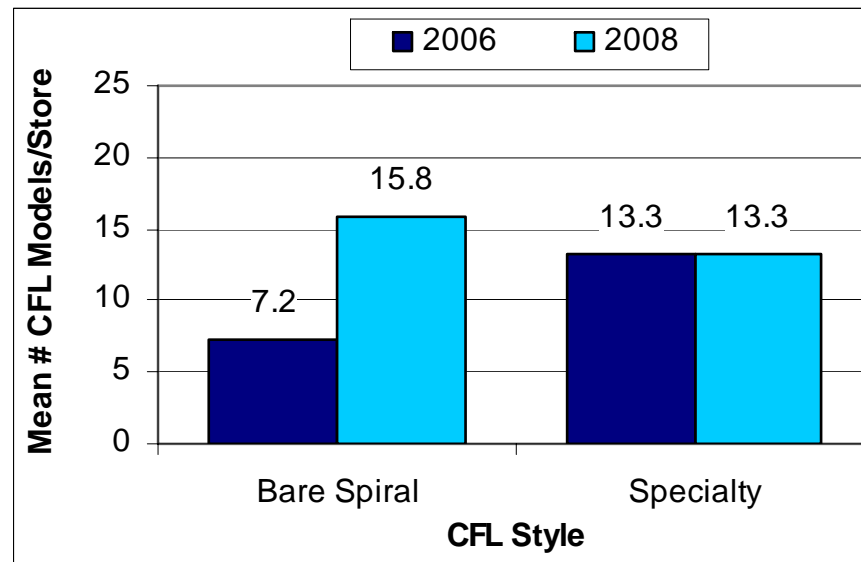


Source: KEMA, 2009.

Findings: CFL Diversity

- Average number of spiral (non-specialty) CFL models per store increased significantly between 2006 and 2008
 - Particularly among non-metro and non big box stores
- Average number of specialty CFL models per store remained constant

Average Number of CFL Models Per Store By CFL Style, 2006 and 2008

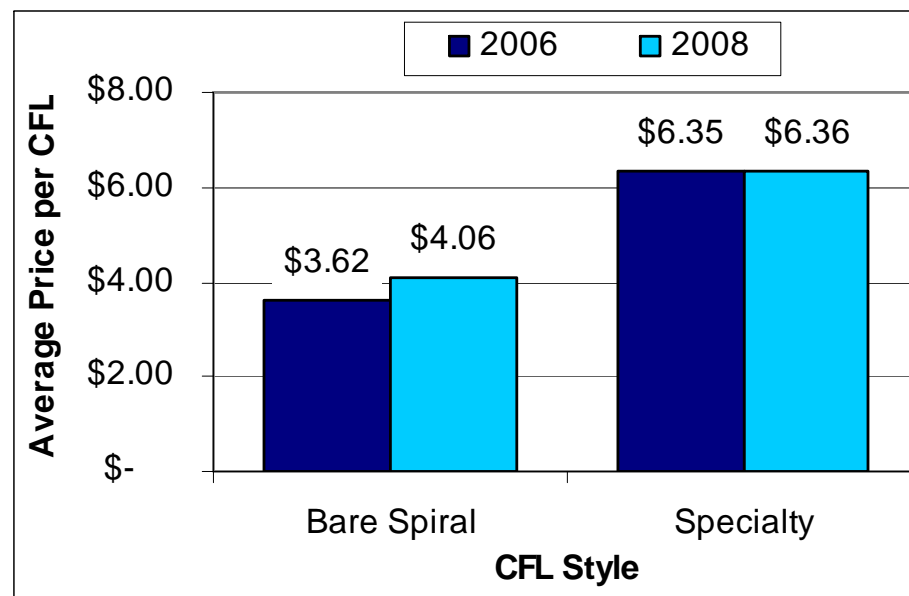


Source: KEMA, 2009.

Findings: CFL Affordability

- No significant change in average retail price for CFLs between 2006 and 2008
 - By style, store type, or region (metro vs. non-metro)

Average Price per Lamp by CFL Style, 2006 and 2008



Source: KEMA, 2009.

Conclusions

- Withdrawal of NEEA's CFL incentives had no major impact on market
 - However, other sponsors continued to provide incentives
- Big box stores did not lose ground despite shift in CFL incentives toward specialty lamps
 - Maintained share of total regional CFL sales
 - Maintained availability, diversity, price
- Non big box stores did not lose ground despite shift in CFL incentives toward big box stores
 - Maintained share of total regional CFL sales
 - Increased availability and diversity of models stocked
 - Maintained price

Recommendations from KEMA

- Undertake rigorous market tracking efforts
 - CFL sales data (at highest possible resolution)
 - Consider participant ability/willingness to provide this data as a criterion for program eligibility
 - Consumer adoption rates
 - Household-level saturation rates
 - CFL prices
 - Non-CFL sales

Next Steps - 2010

Research Activity	Field Date	Objectives
Quantitative Consumer Survey	Q1 2010	<ul style="list-style-type: none">▪ Awareness▪ Perceptions▪ Purchase habits▪ Stocking patterns
Sales Data Review	Q1 2010	<ul style="list-style-type: none">▪ Sale data for 2009▪ Market share assessment
Store Shelf Survey	Q4	<ul style="list-style-type: none">▪ Availability▪ Price▪ Diversity
Socket Saturation from Residential Building Stock Assessment	Q2/Q3 2010	<ul style="list-style-type: none">▪ On site audit of sockets (how many and location)▪ On site usage survey



Corporate Planning

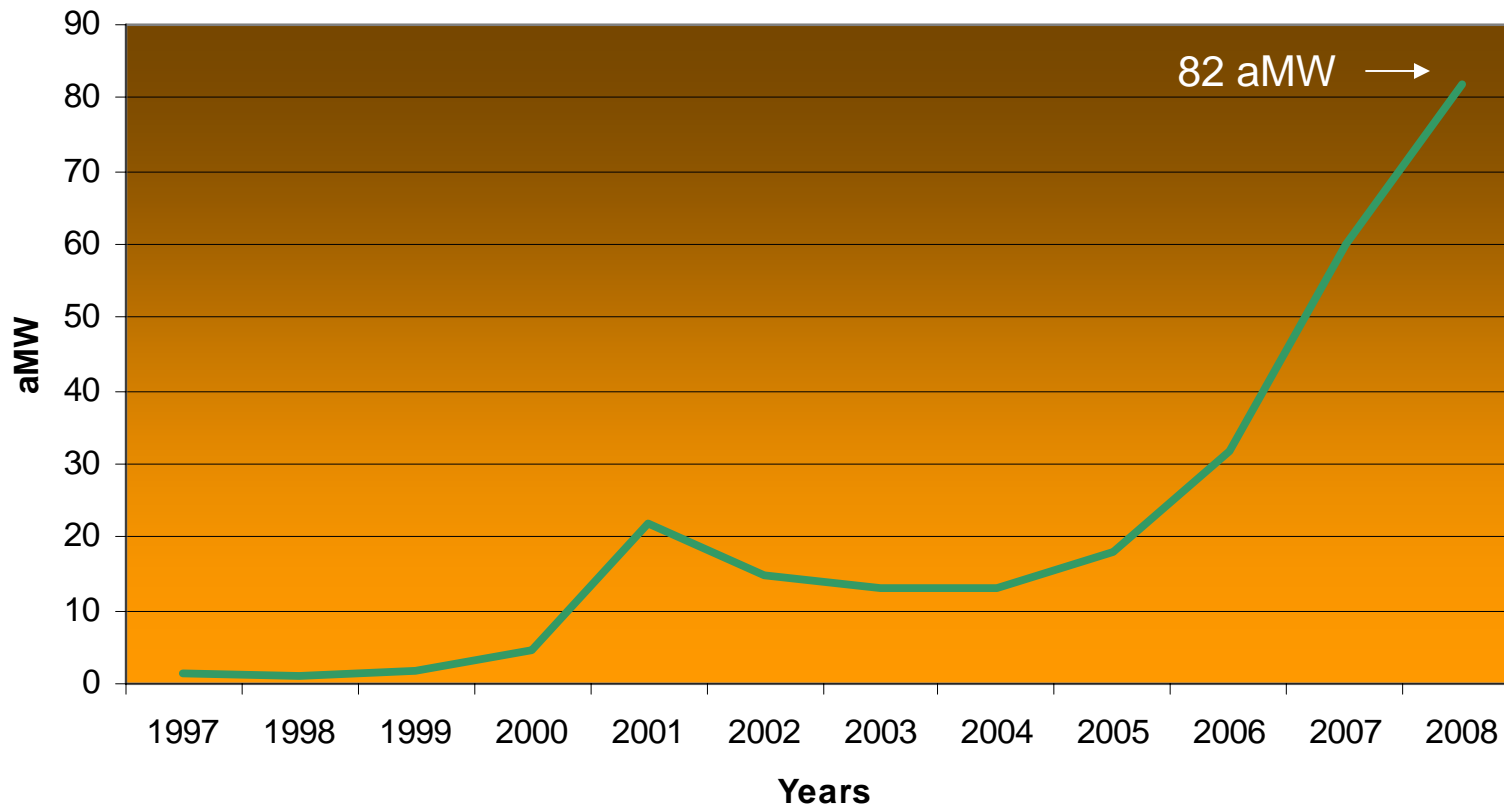
Historical Total Regional Savings

- Savings result from new conservation capacity produced by CFL sales in the region
 - Based on total regional bulb sales less the bulbs used for replacements
 - Retail sales of CFL bulbs
 - Total regional savings results from all market change efforts: utilities, NEEA, consumer behavior, etc.

Year	Gross Total Regional Bulb Sales (Millions of CFLs)
2005	6.8
2006	10.7
2007	18.9
2008	25.2

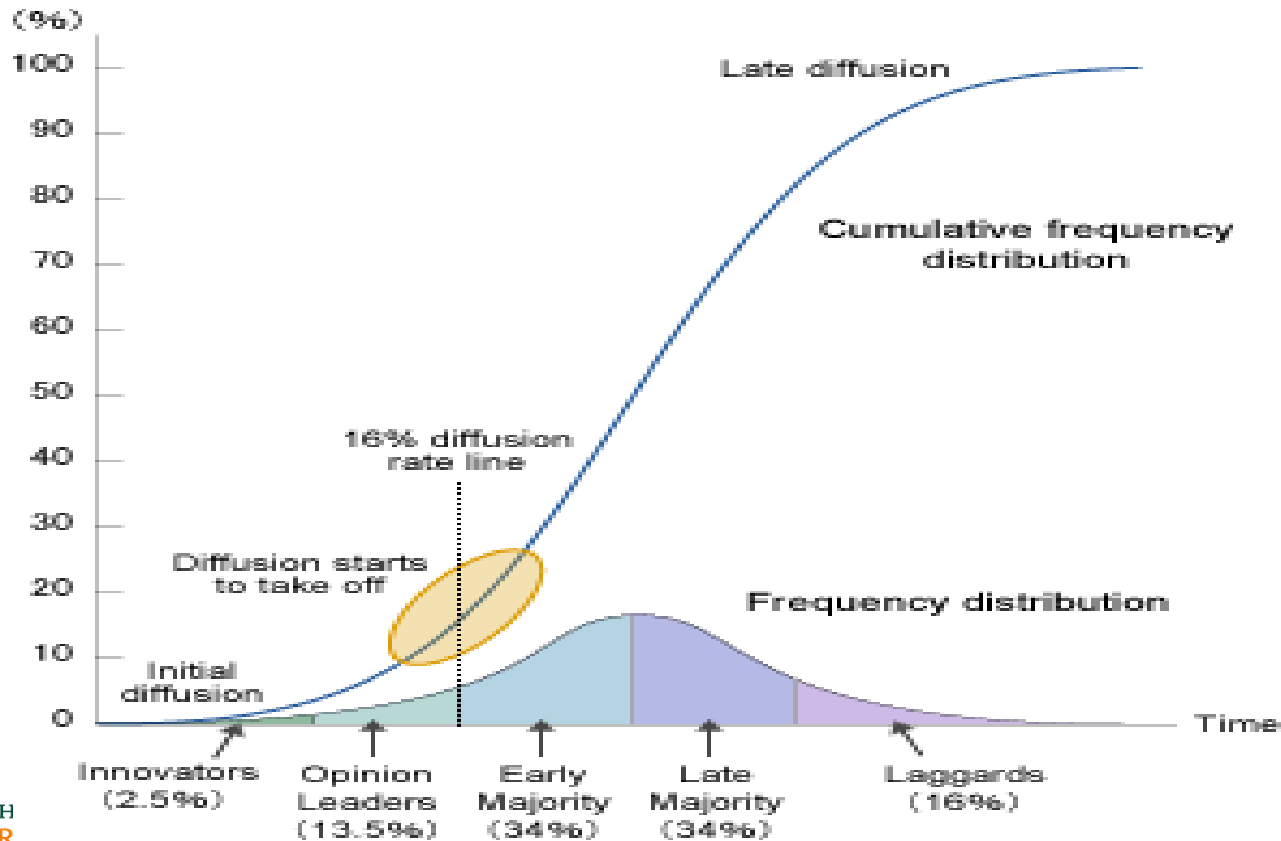
Historic Total Regional aMW Savings, Con't.

Total Regional Savings



2009 Savings Forecast

- Forecasts are based on Roger's *Diffusion of Innovation Theory*

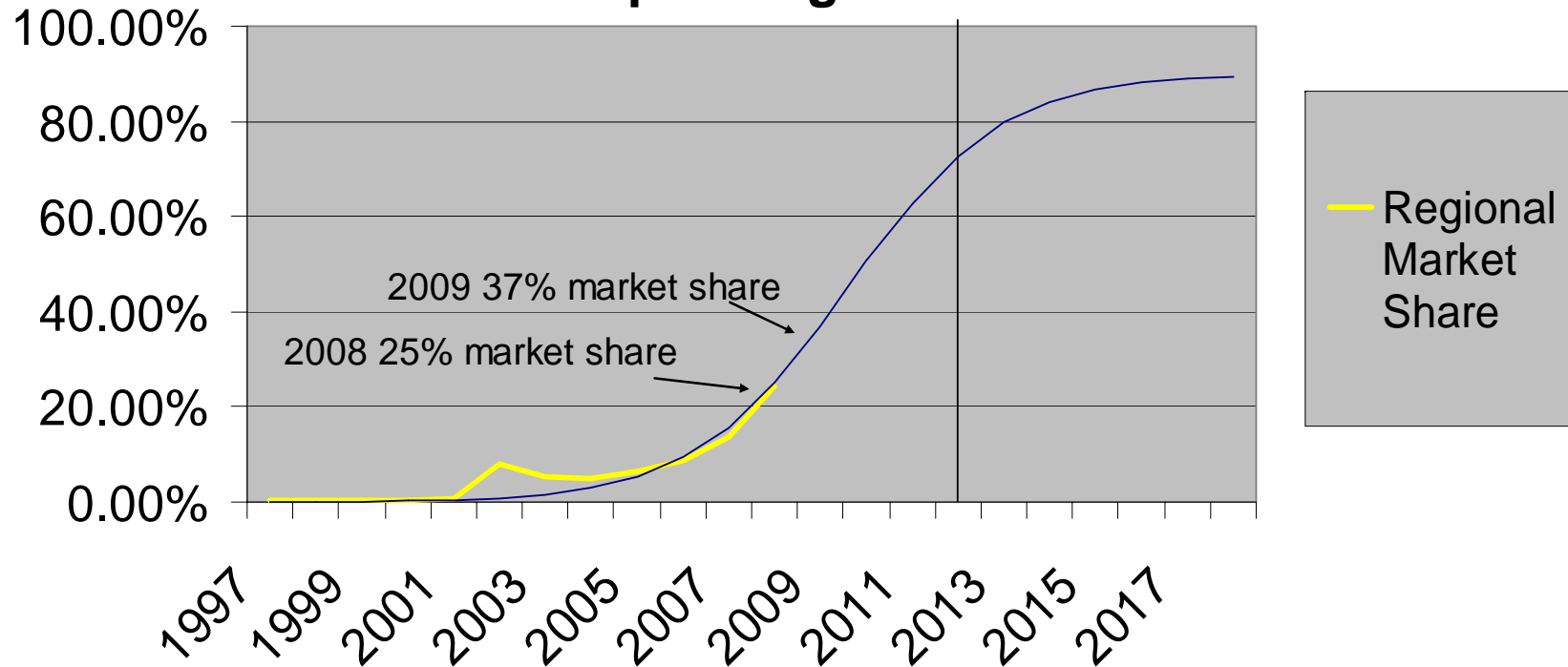


Forecasting the CFL Market

- Develop a Diffusion of Innovation Curve ('S' Curve) for CFLs
 - Fit the 'S' Curve through the existing historic data
 - market share data
 - Develop Terminus – EISA 2007
 - Lighting efficiency standards starting in 2012
 - Assume maximum CFL saturation at 90%
 - Assume 5 year lag period to reach maximum

2009 Forecast Under 'Normal' Conditions

Regional Share of Total Bulb Market w/ Corresponding 'S' Curves



- Under 'normal' market conditions, a 37% market share would have equated to approximately 30 MM CFL bulb sales in 2009

Extreme Market Conditions

- Actual Q1 and Q2 data results - estimates 8.5 MM in CFL sales for these two quarters
 - 38% drop from last year
- 2009 Forecast – Between 15 and 19 MM in sales (Market share is dropping)
 - Equates to \approx 46 aMW Total Regional Savings
 - Much lower due to high number of replacements
 - Hard to predict due to abnormal market conditions
 - May need to readjust the 'S' curve to better reflect market conditions



- Discussion