Notes from
RESIDENTIAL LIGHTING: A MARKET IN TRANSFORMATION
Efficiency Program Stakeholder Workshop
March 30, 2010, Hyatt Regency, Boston, MA

Overview
This event was planned and organized by Northeast Energy Efficiency Partnerships (NEEP) with direction from and on behalf of the Northeast Residential Efficiency Program Sponsors. The purpose of this event was to offer the opportunity for stakeholders to residential energy efficient lighting programs to identify and discuss issues related to the residential lighting market as it becomes transformed and the implications for energy efficiency program planning, design and evaluation. This event was attended by 72 stakeholders to residential lighting programs including, efficiency program staff; lighting manufacturers, retailers, distributors; state and federal policy and regulatory interests; efficiency program evaluators; related marketing interests. Its objectives were as follows:

1. Establish understanding about residential lighting market and efficiency program dynamics
2. Identify and understand various perspectives and positions regarding residential lighting efficiency programs relative to program design, cost-effectiveness assumptions, and post-program determination of net savings attributable to programs
3. Discuss issues and principles to guide and inform future lighting programs

The morning session began with an introduction and short presentation by Ed Schmidt from NEEP: Framing the Status of the Residential Lighting Market. This was followed by a presentation by Toby Swope from D&R International for US DOE: Past, Present and Future of the CFL Market and Implications for Efficiency Program Design and Evaluation. This created the groundwork for the next two hours as an open forum for all participants to identify the issues to be addressed in the afternoon breakout sessions. Whenever possible, names of participants are noted.

Morning Presentations and Workshop: Past, Present and Future of the CFL Market and Implications for Efficiency Program Design and Evaluation
Facilitator: Linda Malik, NEEP (note taker: Dave Lis, NEEP)

Ed Schmidt's intro (see slides)
- Lighting programs have historically achieved ~80% of residential program savings….How can we go from 100 mph to zero over the next 5 years and have a smooth landing?
- Will the incandescent market going away with EISA?
- Should NTG really be approaching zero?
- Are we trying to get the CFL market to the point of sustainability or complete domination?
- Work together through discussion to expose points of agreement/disagreement. Once we have a common understanding, we are better prepared to move forward

Toby Swope's Presentation (see slides)
- The Present and possible future CFL Market
- Dichotomy of higher savings goals with declining of support for CFL spending
- Root causes of CFL market confusion
    - Supposedly "High" socket saturation
    - Stored CFLs will increase saturation
    - Market for general service has been transformed

  - EISA will finish job
- Still plenty of potential in general service…a ton in specialty
- Shipments peaked in 2007, and market share has been declining last two years
- Will EISA provide a complete transformation?
- Since EISA doesn't apply to sales, impacts will likely be delayed
- Higher efficiency Halogena lamps currently about $4
- Modified spectrum lamps (exempt from EISA)currently around $2
- EISA impact takeaways
  - Doesn't ban current incandescent outright
  - Phased approach
  - 60W likely not effected until end of 2014
- Will LEDs be ready for primetime? ~$50 entry price point… Right now, less efficient, more expensive
- Where is the market going to be after EISA?
  - Min scenario- 30% socket saturation in 2015
  - Max scenario- 60% socket saturation in 2015
  - In between- 47% in 2015
  - Delayed scenario- 43% in 2015
- In actuality, it's very hard to know where it will actually go?
- Possible alternatives are conceivable
- Recap-
  - Socket potential remains (70%)
  - Largest opportunity still lies in general service
  - Don't count on EISA to fully transform market
  - LEDs still several years off

Open floor Discussion

- PSNH- Do CFLs satisfy all of our lighting needs? CFL is not the solution for all sockets.
  - Any study out there show how many sockets can be met by CFL? Lisa Wilson NMR- Kema has study for CA (May be posted on CALMAC site). Duane Baldwin (Lockheed Martin)- we need this info.
- Burnetter (DOS)- Codes now moving CFLs into homes (50% required in NY)…….Can you clarify "other" competing products. Toby Swope responded- Halogenas, modified spectrum incandescent
- Lynn Hoefgen (NMR)- GE dropped its R&D of high incandescent and Phillips is solely focused on LED….Is there R&D going on for these products? ….Some, Sylvania continues to work on CFL and LED and Halogen.
- Glenn Reed- Question to industry…Come 2012, 2013, 2014, what should we expect to see on shelves? Sylvania- Lamp type availability will be market driven…halogen will be available but placement will be market drive
- Song- Any intelligence on Super CFL Spec in CA? Toby- don't know much
  - Jenna Canseco (KEMA)- consults with PG&E, super CFL still in development, last update in May, still working on it. Spec looks for fast start up, better CRI, smaller shape, dimmable
- Brad Steele (EFI)- Directed to Osram-Sylvania, will halogen price come down? If consumers are more familiar with halogen versus CFL, then the price will come down.
- Pete Feroli (APT)- Proposed NTG calculations include benefits achieved in other parts of the country.
- Brian Halliwell (Lights of America)- Thinks incandescent will be stockpiled around EISA years. New labeling requirements may create some confusion. Thinks LED will be a real replacement with affordability and dimming.

- NMR- national study is doable…programs have not been collecting data all along. Lesson moving forward; let's take some good measurements every year. TS- reason for presenting CA data…largest sample of in-home measured data
- Seth Craig-Snell (APT)- Evaluators currently collect room level lighting data by mail surveys and compare to some onsite verification. KEMA- mail surveys used in CA primarily. Lynn Hoefgen (NMR)- Surveys asking people what kinds of lighting are in what sockets? We ask for total, but understand most people will probably do it from kitchen table…not always a very strong relationship. CA studies are getting better.
- PSNH- how do we decide which technology (CFL, LED, specialty CFL) to promote? Pete Feroli- Depends on whether we are in the Market transformation or resource acquisition business? LED is expensive now, but programs could help move market….CFL more cost effective but not focused on future. Big question….big difference.
- Jon Linn- For next year's filings, do people feel like they have enough quality information to base their plans on? How are filings going for 2010/2011? NSTAR- working with current NTG figures. Programs generally see uncertainty around NTG, while regulators see precision. Effects program administrators greatly. NTG give PAs heartburn.
- Julie NEEP EM&V director-Developing common protocols…addressing net savings. Recurring issue in forum. Project being undertaken now. Scoping paper determining NTG issues. Due to be completed later this summer. EPA/DOE also looking at this through SEEAction. Will include recommended attribution models for programs.
- Lisa NMR- Was at recent AESP talk discussing cost effectiveness. Regulators comfortable with Uncertainty on supply side but much more uncomfortable with uncertainty with demand side resources.
- Kate Ringe Welch (NG)- NTG based on multi state study. In MA has very low NTG. Question becomes how to get CFLs in new households. May take more marketing/advertising. May be more expensive.
- Glenn Reed- in addition to marketing, we've gotten complacent with upstream mark down/buy downs, incentives may need to change.
- Seth APT- Thinks programs should get some credit for impacts caused by activity by programs in previous years. KEMA- CA just finished study looking at this question. Results should be available soon.
- Chris Badger (NJCEP)- How do we see the best way to spend money and most effectively leverage industry? Should we spread out the incentives throughout the year or in bursts? Stan Mertz- background in retail. Programs have been very seasonal. In actuality, market is very flat. Higher focus should be on year round campaigns. Message needs to be consistent year round. Retailers are going to be main driver of purchasing decisions.
- Lights of America- Always need to justify shelf space. MA/RI/CT going higher on incentives for specialties is wise.
- Tom Nasti (Lutron)- qualitative vs quantitative issue. Need to remember that a certain fraction of sockets in homes are the high use sockets. Programs should focus on these sockets. For the others, why aren't people installing CFLs in those sockets? Lynn- CA has done focus groups, NE has asked these questions. Might be time to revisit.
- PSNH- Could disposal issues be effecting CFL sales? Public hasn't been adequately educated about disposal. Has this created another barrier and caused downturn? Question to industry, are we creating infrastructure for disposal?
- Margaret Song- customers don't always know how to explain what they like? How do we affect customers going forward? Lynn-there has been some stagnation on consumer research.
- Corrina Lutz- Have customers become more price sensitive during downturn. Programs may need to look at price sensitivity more. Try to get larger group involved.

- Ruth Gay (UI)- lot of incentives on CFL. Is there a point in future when the price point is low enough consumers will buy CFL on their own? Delnegro- price point has already come down dramatically. Almost not a barrier anymore. Has become a light quality, dimming issue for consumers. Jon Linn- are we beyond price as determining factor? Feroli- still need for incentives, but need to drive retailers too. Need to influence upstream folks. Other parts of country has benefited greatly from program activity. Pete thinks prices around country are thanks to programs.
- Titus- actually been 30 years of CFL promotion. You're not getting credit for all those previous years of activity. NTG is looking at small timeframe. Do we deserve the credit for historic activity? Demonstrates importance of year by year measurement.
- NMR- Who takes credit for national effects? Impacts on nation are tough to sell to state level regulators. How the impacts are divided up among program states is near impossible. Maybe we need some regulators in here.
- Badger-Do you (industry) support an EEPS on a national scale? Silence.
- Kate- How should we define "hard to reach?" Any good info on messaging to these audiences? NJ-engaged creative approach

---

The afternoon session was delivered in two breakout sessions. Participants chose from Program Strategy Workshop #1: CFL Programs 2010-2015; or Program Strategy Workshop #2: Specialty CFL and LED Programming. The objectives of these sessions were to discuss potential barriers or challenges and offer next steps for potential program implementation. After the breakout sessions, the two groups convened once more to share its findings with full participant group.

Afternoon Workshop #1: CFL 2010-1015

Facilitator Linda Malik, NEEP (note taker: Natalie Hildt, NEEP)

Established objective: Establish a course of action for EE programs over the next 3-5 years

Net to gross issues

- Very hard to figure out the baseline
- What would have happened everyway
- Do participants know they are in program?
- Marketing issues

- Iqbal, NH PUC – Are the savings goals we are setting really achievable?
- Linda- for PAs- what do the goals look like?
- Birud, NSTAR – In Mass., regulators and PAs have developed 3 yr plan with 300 percent ramp up by 2012. From the lighting perspective – big question for us. Volatility in net to gross makes it very difficult. Is it the programs that aren't driving sales? Customer perceptions bc of buy-downs? What hoping to do with the lighting study this year is ID who the hard to reach people are.
- Kate Ringe-Welch - $1.40 spiral, $6 for specialty in MA. Trying to modify programs to bring net to gross up to reasonable levels and be cost effective. Looking at promoting specialty bulbs and having good rebates. Concern about the quality of the specialty lighting products that we are pushing. Also trying to find the hard to reach market- who are they, what are barriers? Trying retail and non-retail avenues. Lower income, non-English speaking and seniors citizens, could also be very high income bracket. Meanwhile – still have goals to achieve – can't stop the programs while you're studying.
- Lynn from NMR – Keep ratcheting up the bar. 25 percent saturation would have been great.

- Glenn Reed, VEIC - MA- 3 dif CFLs we've been looking at. To provide rationale for continuing to support the program divided up in different product segments. In RI- Similar issue. CT bit of back and forth. First weren't supporting upstream market, then looking at 1/3 higher socket saturation.
- Chris Badger, VEIC – In states where are active programs, those are affecting pricing levels for the nation- even in states where there are not programs.
- Peter Feroli, APT – Programs are always looked at individually, and you can't do that. Big boxes selling multipacks of bulbs in many states- that influences the nation. Last year we saw sales drop when we lowered incentive levels to a point insignificant to customers. When they went up again so did sales.
- Jack Schelling, PSNH – 2008 was a peak year, 20 percent over goal. Last year we went down – afraid if lower rebate further would have a bad affect on the market.
- Lisa Wilson-Wright from NMR – evidence that non-participating retailers like Walmart can try and match incentivized bulbs on a regional basis.
- Stanley, APT – able to talk with national retailers and suppliers to look bringing cost down. Retailers having an impact on their own financials by participating. Fear if we went to specialty only, wouldn't be worth their while.
- Birud- Natural gas price peak 07-09, that affected price of electricity – did that induce sales of CFLs?
- Lynn- would be nice to have sales data from manufacturers to see what regions of the country saw greatest sales over time – correlate that with mfg participation in programs
- Chris, VEIC – How do we creatively work with the industry, recognizing the standard CFL has come down so much in price. Maybe look at other issues – quality, transition to next generation?
- Peter F.– seems we're focusing on negative aspect of program, but we've been driving these programs. Everyone talking about lighting being old- we've done a lot to the market.
- Paul Vrabel, ICF from EPA and Energy Star- questioned saturation levels of CFLs
- Lisa answered that in CA about 33 percent med screw base non-specialty sockets
- Seth, APT –LEDs aren't yet there for all current CFL applications. Don't know what and when for non-directional luminaries. Talking about a product people don't want to think about.
- Birud- there has been considerable open dialogue between regulators, utilities and stakeholders.
- Kate – looking at segments – people, who've never bought a bulb, people who have a few bulbs- what's the best program design for this group that helps maximizing savings. A few bulbs in a house doesn't mean transformed.
- Christopher Kelly, OneChange- Project Porch Light – Lot of need for customer education- people who have bought one or two haven't thought about the rest of their house.
- Stan, APT – Used to work at Home Depot, really seeing the effect of the economy. Now is more expensive to "be green." How to keep customer feeling the pinch to keep adopting, or not back slide.
- Glenn Reid, VEIC- should be trying to get consumers to change out all bulbs- 200 % rate of return, money market is 1 percent.
- Libby, VEIC- KEMA just evaluated their marketing. People don't automatically equate CFL saves money as well as saving energy.
- Ruth Gay, UI – Need to look long term, not just year to year. Look at lifetime savings. Look at labeling so people see the savings comparison.
- Stephan Waldenburg – Mass Energy – What role can we expect PAs to have in terms of education? If they have to demonstrate cost effectiveness of programs.

Themes

- Examined net to gross issues – how to quantify savings, issues of free ridership and spillover
- Still confusion on whether the market is transformed – what's transformation vs. domination?

- There is still a lot of room for savings through CFLs - People don't think the market is ready to go to all specialty
- Economy has had an effect on programs -Still looking for magic price point, still competing with incandescent
- Still need to make savings goals while evaluating and adapting programs for the market and preparing for next generation.
- Good marketing is effective. We need to put good messages out there. Coordinate PAs, mfgr, etc.
- Change out every socket- in NJ 50% of people who got free bulb waited for old one to burn out.
- Has industry done a disservice on picking all the low hanging fruit? Rest of savings will be more expensive to get.

Deliverables/Next Steps:

- Lighting report/study on hard to reach demographic
- Regional sales data acquisition to gauge effectiveness of programs - Engage with EPA to help programs gather industry sales data, aggregating various manufacturers. Creates more accurate NTG findings
- Retrospective paper/report on where we've been and how we got to where we are.
- Barriers & Solutions Report: Can PAs get credit for what they're doing? Current programs affecting the future market? Looking at one year is an artificial boundary.
    - Regulators could allow more flexibility up front in marketing, etc – but still need to quantify who programs have reached. They need to understand efficiency programs are constrained under current rules: now it will cost more and be harder to get remaining savings. Need creativity to get other savings.
- Keep integrated with whole house programs – work together to capture savings
- Case studies of lighting programs/successes throughout US

Afternoon Workshop #2: Specialty CFL and LED Programming

Facilitator: Margaret Song, Cape Light Compact (note taker: Sarah Eckstein, NEEP)

Specialty CFL's

- Discussed the current efforts of EE Programs surrounding specialty bulbs and CFLs in the NE region
- Stressed the importance of driving the market- promoting specialty bulbs
- A clearer consistent definition for 'Specialty CFLs' should be stated when designing programs to help distinguish product
- More emphasis is needed to focus on pushing the market. An idea that was mentioned was marketing specialty CFLs in retail stores
    - What is needed: Marketing and education outreach to consumers
        - Focusing on specialty bulbs for different applications (fixture types) – showing this to the customers with potentially hang tags or banners since they look the same – detailed in delivery,
        - Addressing the issue of mercury and improving quality
        - Measurement-lumens vs. watts (understanding for customers)
        - Observe what existing organizations/government agencies are already doing on the above topics and possibly coordinate together: a,b and c
    - Delivery:
        - Deliver marketing messages by partnering with big-box retail stores using hang-tag banners
        - Store demos

- Two challenges that were highlighted were Performance & Availability. Should PAs push testing or support a Super CFL of their own? What are the best ways to monitor new technology? Can we guarantee that new efficient products will stock the shelves at retail stores?
- Didn't have regulatory representation in the room but did touch upon the question of using a whole house approach-typically 40watt is not specific to multi-use
- The question that led us to our next topic was "Is the hype in LEDs distracting specialty CFLs?"

LEDs

Setting standards/requirements-product testing-LM-79 & LM-80- ENERGY STAR

- The need for programs and manufacturers to work together
- Manufacturers reiterated they are here as a resource for the programs
- Programs wish to be informed of how often new LED products develop with testing
- As programs are being developed have open communication with manufacturers to prepare them for LED qualifying products, etc., new technology
- Manufacturers need to look in the Retrofit market and think of how the consumers are going to use their products in applications
- Manufacturers stated there needs to be incentives to drive the market
- Encouraged programs to be more risk adverse with LED technology, conducting pilot studies etc.
- Need to retain consumer confidence in the technology
- Listed several marketing and education ideas for educating the consumer on LED technology
- Experiential Marketing-Demo products-see the product-feel comfortable with it ex: have manufacturers donate bulbs

Deliverables/Next Steps

- Develop a one pager for customers/vendors/manufacturers to let them know how to work with programs
- Work with manufacturers on an installation guide-quality bulbs used for specific applications
- work on developing a 'mythbuster' marketing piece that gains consumer's confidence yet caution them about the technology, FAQ's
- Form a "collaborative community network"-could be regional or national and for different audiences: manufacturers, programs to be a part of- Would be used as a platform for educating the consumer and sharing info on how and who is doing what

(*KEMA has a workshop engaging stakeholders in collaboration with CA referring to innovation within programs-more than happy to share their efforts. A follow-up conference call has been set up with sponsors.)