



# Northeast and Mid-Atlantic Residential Lighting Strategy: 2015 Update

**December 2015**



## Executive Summary

It has been a long journey working to transform the residential lighting market. NEEP's 2015 Update to the Northeast and Mid-Atlantic Residential Lighting Strategy presents the progress to-date in a market transformation framework and charts a path forward to complete transformation of this market. Using the August 2015 resource *The State of our Sockets* as a launching off point, this update summarizes key research and progress, trends and advances, and includes new analysis of the remaining savings opportunity for this market.

Efficient residential lighting, one of the longest standing efficiency program measures, saw several ground-shifting market developments since last year's analysis. Most notably, the introduction of lower-lifetime LEDs disrupted the market with their significantly lower price points and rocked the residential lighting world in the second half of 2015. Smart lighting products also are coming to market with exciting features and creating new market opportunities. Furthermore, the discussion of market trends has been clarified to speak not only to different technologies, but also to different applications and lamp-types, as not all trends apply to all products.

An update on the state of the market in the Northeast showed gaining socket saturation for LEDs and halogen products. Another layer of influence affecting the market is that of federal standards, EPA's ENERGY STAR program, and California Energy Commission state standards; 2015 was a significant year for activities from all of those agencies. Program Administrators also had a banner year, with a heightened number of programs promoting LEDs and over 13 million efficient lighting products promoted in the region in 2015. Along with the success of programs comes new evaluations and a deeper understanding of the impact program administrators are having on the market.

Looking forward, there are significant quantities of remaining savings in the residential lighting market. Through a Market Adoption Model analysis, we found that in aggregate, with a regional gross annual savings potential in the 2-3 TWh range, the regional savings from a transformed residential lighting market would have the equivalent annual impact of nearly 600 wind turbines installed or taking over half of a coal-fired power plant offline.

Achieving that significant level of regional savings means overcoming market barriers to accelerated adoption of efficient residential lighting. Presented in this update are the barriers that emerged as the greatest challenge for regional stakeholders as well as insight and analysis on each of the following barriers.

- Consumer confusion in selection of lighting products
- High comparative price of efficient alternatives
- Negative consumer perception about high efficiency lighting
- Efficiency program barriers, including misunderstandings across program lighting assumptions, inaccurate delta watt savings assumptions, and regulatory pushback based on limited understanding of EISA legislation

There are also several market opportunities to leverage at this time to transform the market, including:

- LEDs are exciting and desired
- Smart lighting



- ENERGY STAR Luminaire’s Specification: new bulb in a box savings opportunity
- Linear Fluorescent: Potential opportunities for improved efficiency
- National efforts moving forward

By working through these barriers and leveraging these opportunities, the region can achieve market transformation. The regional goal NEEP is putting forward is **to reach a socket saturation of 80-90 percent efficient quality lighting by 2022**. Over the course of the next 5 years, that could add up to over 15 TWh of total savings for the region in the timeframe. Socket saturation was selected as the metric by which to chart progress because it continues to be regularly measured with reliable evaluations and ultimately reflects the final impact on home energy consumption.

### Regional Goal:

*“Reach a socket saturation of 80-90% efficient quality lighting by 2022. Over the course of the next 7 years, that could add up to over 15TWh of total savings for the region.”*

Using theory of change methodology, we built a timeline for market transformation on which a series of market interventions can be represented. These are designed to either overcome existing market barriers or leverage emerging market opportunities to accelerate the adoption of efficient residential lighting and effectively transform the long term market in the Northeast and Mid-Atlantic. Market transformation, as established in our goal, is achievable by following the eight recommended strategies:

1. Continued PA support for energy efficient residential lighting
2. PAs transition portfolios in short term towards LEDs and in longer term towards specialty
3. PAs target LEDs in hard-to-reach markets
4. PAs consider including smart lighting in portfolios
5. PAs explore opportunities in residential linear products
6. Regional collaboration on residential lighting research
7. Regional coordination on data collection and sharing
8. Regional discussions on savings calculation inputs to ensure appropriate attribution

NEEP continues to see cost-effective savings from residential lighting products. The residential lighting market is far from transformed, and there is a lot of work to do to ensure customers are selecting the most efficient lighting products over their inefficient counterparts. NEEP’s role in the regional market transformation of efficient residential lighting will be to chart progress towards the goal as well as to report on market developments as they come.