DOE Issues Final Rule Designed to Eliminate EISA Backstop: Analysis of the Rule and Implications for Energy Efficiency Programs

Executive Summary

On September 5, 2019, DOE issued a final rule and a notice of proposed determination related to the 2007 Energy Independence and Security Act (EISA). The final rule states that the EISA 2020 backstop has not been triggered, allowing manufacturers and retailers to continue to produce and sell inefficient lighting products beyond January 1, 2020. While we anticipate that some actors will mount legal challenges to DOE's rule, the litigation could be prolonged, thus allowing halogens and incandescent lamps to be available for the foreseeable future. The final rule also rescinds the expanded definition of EISA to allow exemptions for specialty lamps such as globes, candelabras, and reflectors, as well as other lamps such as three-way and rough service.

DOE also notes that federal efficiency standards take precedence over state standards (federal preemption), stating that its decision invalidates state laws like those passed in Colorado, Vermont, Washington, and Nevada, as well as California where the standard is already in place.

Reactions were as anticipated, with the National Electrical Manufacturers Association (NEMA) publicly in favor of the final rule and in agreement that the backstop is not needed. The American Council for an Energy Efficient Economy (ACEEE), on the other hand, estimates that DOE's rule could cost consumers up to $14 billion annually in addition to the environmental and climate damage caused by unnecessary power generation.

The final rule and notice of proposed determination could have important implications for energy efficiency programs, altering the opportunity and need for continued support for LED lighting. Evaluations of multiple upstream lighting programs have demonstrated that LED market share increases as regions run more aggressive incentive programs, and prematurely terminating existing programs can lead to backsliding. While future lighting programs will not have the same impact that past programs once did, they can still make an important difference in supporting market transformation to LEDs, particularly in selected specialty styles where LED penetration still lags.

Key Outcomes of this Rule and Notice of Proposed Determination

The following are key points from the September 5, 2019 final rule and notice of proposed determination:

- **DOE takes a narrow interpretation of its authority to determine what is, and is not, a GSL.** In reversing its 2017 determination that a variety of reflector, decorative, and specialty lamps should be considered GSLs, DOE argues that the EISA legislation does not allow it to consider lamps that do not have medium screw bases, do not have the "pear" shape, or are not used in the same applications as GSLs to be GSLs. DOE also argues that some specialty lamp types should not be considered GSLs because they are subject to regulation under other processes.
- **The EISA backstop does not apply.** DOE argues that the backstop only applies if the Secretary of Energy determines that DOE should amend the energy conservation standards for GSLs but fails to do so by the January 1, 2017 deadline. Under this logic, the backstop does not apply if the Secretary has not yet made a determination, or if the Secretary determines that the standards do not need to be amended. As noted above, the Notice of Proposed Determination, also issued on September 5, 2019, argues that the standards do not need to be amended.
- **Federal preemption prevents states from imposing standards equivalent to the EISA backstop on their own.** Federal efficiency standards take precedence over state standards in cases where the federal government has either set a standard or explicitly ruled that a standard is not justified, although states can petition for exemptions to these rules. DOE argues that its decision would invalidate state laws like those passed in Colorado, Vermont, and Washington, and pending in Massachusetts that would adopt the 45 lm/W standard. California and Nevada have already received exemptions, but DOE argues that, since the backstop does not apply, the terms under which those exemptions would take effect do not apply.
- **The NOPD argues that energy conservation standards do not need to be amended based on a narrow view of the technologies being regulated.** In the proposed decision, DOE focuses on general service incandescent lamps (GSILs). In doing so, it takes the perspective that the technology it is regulating is limited to incandescent lamps, and therefore the efficient alternative must also be incandescent. DOE accepts manufacturers' arguments that because no incandescent or halogen lamp comes close to meeting the 45 lm/W standard, the standard is not technologically feasible and focuses its analysis on halogen infrared (HIR) technologies. DOE finds that mandating HIR technologies would not provide sufficient energy savings and would not be economically justified.

Multiple entities submitted comments in opposition to the Notice of Proposed Rulemaking (NOPR), from the which the final rule largely followed. These organizations included the Appliance Standards Awareness Project (ASAP), which had 13 co-signers largely made up of energy efficiency organizations including ACEEE, the Southeast Energy Efficiency Alliance (SEEA), and the Northeast Energy Efficiency Partnership (NEEP); the California Energy Commission; PG&E and SDG&E; the attorneys general of 15 states, Washington DC, and the City of New York; and four individual environmental groups. Supporters of the NOPR included NEMA and the American Lighting Association and three individual lighting manufacturers. Two key points the opposition groups made, which may form the basis of litigation challenging the rule, are:

- **Energy Policy and Conservation Act (EPCA) restrictions against "backsliding."** The EPCA prohibits DOE from changing existing energy conservation standards in a way that would allow for less efficiency and greater energy use. DOE argues that this does not apply to the current decision because it has not established a conservation standard for GSLs and the backstop does not apply. It also argues that both the 2017 decision and the September 5, 2019 decision were limited to changing definitions (i.e., they did not set standards).

- **Environmental impacts and consumer costs of the rule.** Multiple opponents of the NOPR argued that it would have negative environmental impacts and impose costs on consumers by requiring additional power generation. DOE argues this is not the case because the market is already transforming toward LEDs. In making this argument, DOE cites NEMA data showing that, across all GSL products in the market, the average efficacy is already above the 45 lm/W standard. DOE's argument is, essentially, that, given market transformation, the standards will not affect the adoption of LEDs. According to the rule:

"This final rule does not affect the availability of efficient LED lamp types, and DOE anticipates that consumers will continue to purchase and install highly efficient lighting options. As such, there is nothing about this rule that will lead to the need for more power generation, increased emissions, or lost consumer benefits."

DOE also argues that this rule will not have an environmental impact because it addresses definitions only, and the definitions it affects have not yet taken effect (the expanded GSL definition established in 2017 was set to take effect in 2020).

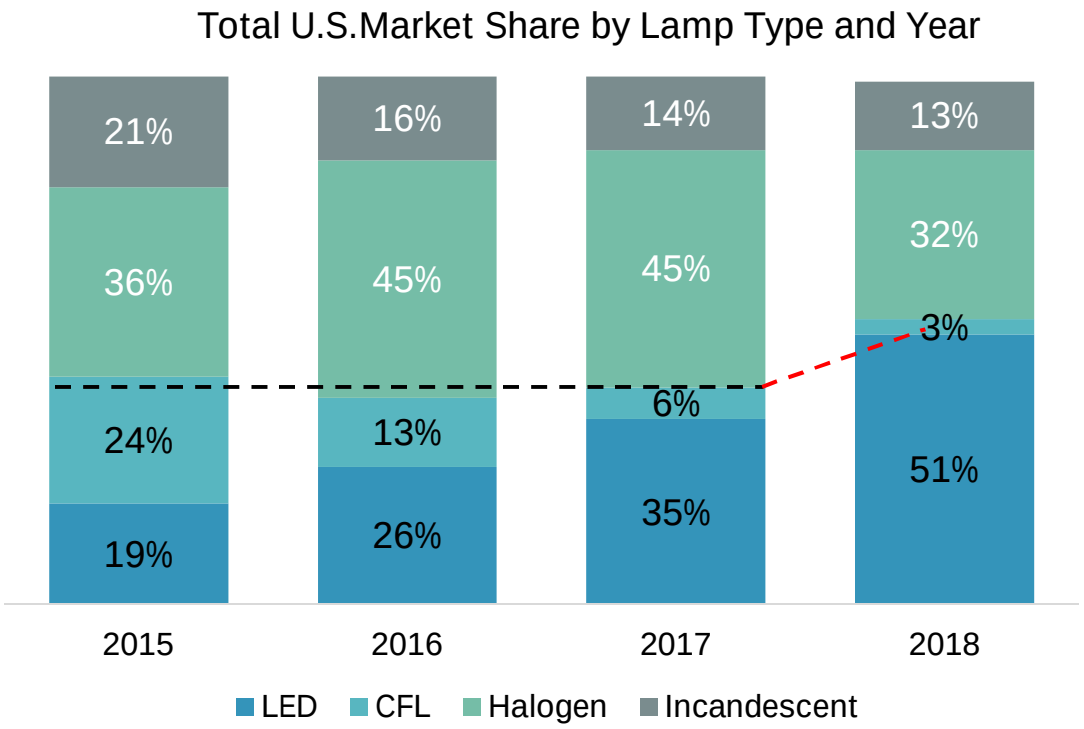
Impacts for Energy Efficiency Programs

While the final rule and notice of proposed determination could be interpreted to mean that energy efficiency lighting programs should continue with "business as usual," both DOE and NEMA also give indications that the lighting market is largely transformed and will continue to transform without DOE intervention. In fact, NEMA states that "The general service LED bulb now accounts for approximately 70 percent of the shipments in the general service lamp category. Because of their longer life, it is estimated that by the end of 2019, 80-84 percent of the general service lamp sockets will be occupied by LED and CFL." These statements would seem to indicate that, despite the rule and notice, that there is no need for energy efficiency lighting programs.

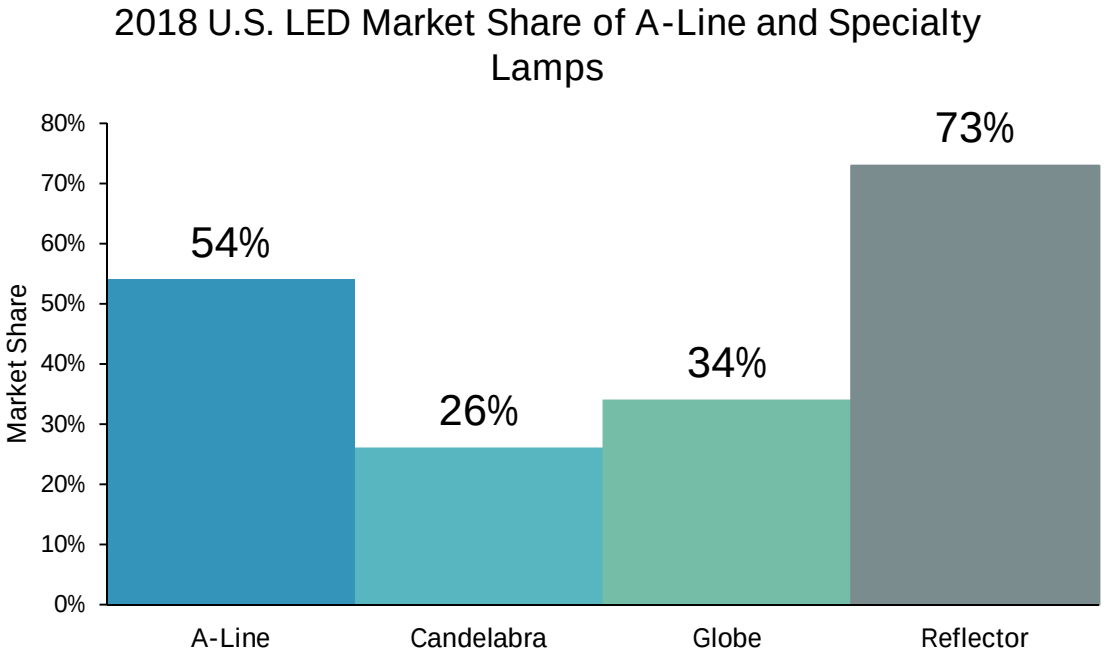
So which is it for lighting programs: business as usual or time to shut down? We think the answer is somewhere in between, with a valuable role remaining for lighting programs until LEDs truly become the dominant technology or the efficiency standards are enacted. We state this based on analysis of our full category sales data, as well as evidence from recent lighting program evaluations, including:

1. The NEMA figures overstate LED dominance. NEMA has developed their own definition of GSL, which is limited to EISA compliant A-lines between 310-2600 lumens. LEDs do represent the majority of sales in these channels, but a recent study in Massachusetts found that these lamps only represent about two-thirds of all available lamps in a home. In fact, in Massachusetts, which represents one of the most aggressive program states in the U.S., combined LED and CFL saturation for all lamps was at 57% in early 2019 (far from the 80-84% that NEMA predicts for the entire U.S. by the end of 2019).

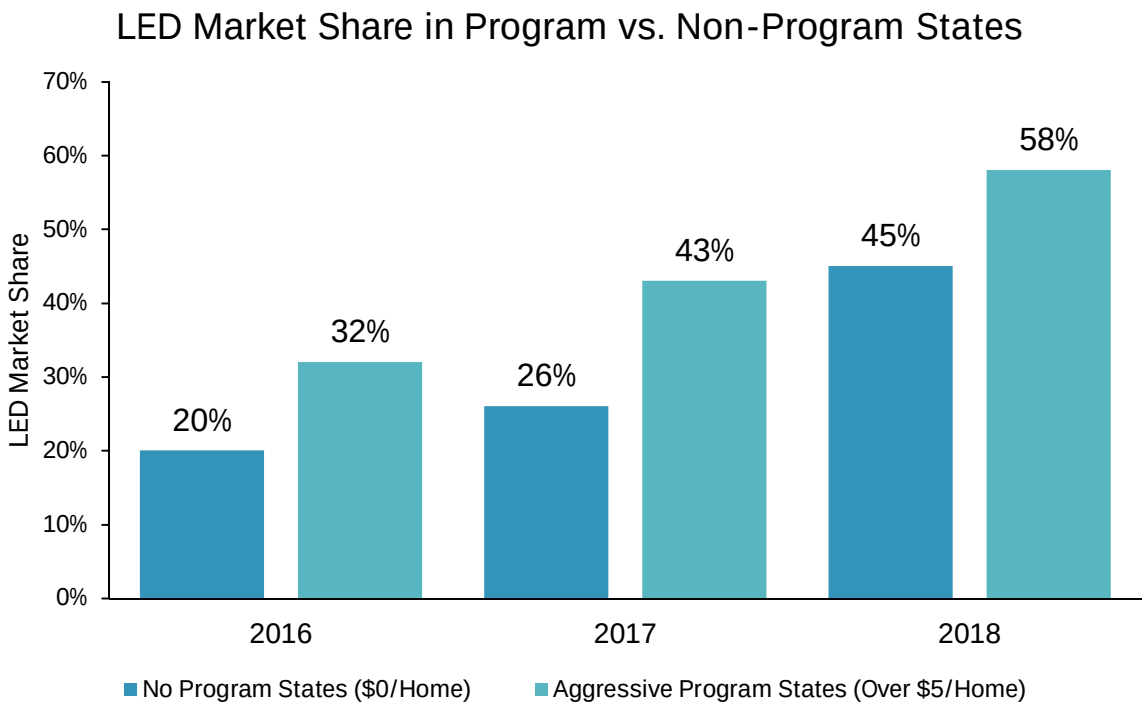
2. LED sales have been on an upward trajectory, but even when combined with CFL sales still made up just over 50% of all lamps sales in 2018. As shown below in Figure 1, which represents retail sales for all screw-based lamp styles and lumen bins, LEDs and CFLs combined had 54% market share in 2018. While this may considered "half full", it can also be interpreted as "half empty" with additional LED opportunity available.



3. **Selected specialty lamps, such as candelabras and globes, show lagging LED share.** As shown in Figure 2, LED share for candelabras (26%) and globes (34%) lagged behind the other styles. Interestingly, reflectors showed the highest LED market share (73%), indicating less program opportunity in this market.



4. LED shares in program states continued to outperform non-program states. Further indicating that the LED market is not yet fully transformed and self-sustaining, LED market share in the most aggressive program states (58%) continued to outpace LED shares in non-program states (43%), although the gap narrowed in 2018 (Figure 3). Note these differences exist even when we control for differences in household and demographic factors.



In summary, our recommendations largely remain the same as they were in August of 2018, prior to this decision: we think there is a role for program administrators to continue to support efficient lighting, even after January 1, 2020. Note that even if DOE were to lose a lawsuit (which could drag on for months or years) or there is a change in the political administration after the election in 2020, it is likely that there would be a lag in the application of any new standards. The final rule, in fact, even explicitly notes the millions of dollars in potential lost product if the standards were to immediately take effect.

It's also important to note, however, that future programs would have significantly reduced impacts compared to past programs for a number of reasons, including:

- **Lower Net-To-Gross (NTG):** There is clearly strong naturally occurring market adoption of LEDs, so states that use NTG ratios would need to apply decreasing NTG ratios.
- **Reduced measure lifetime:** Although the technical life of an ENERGY STAR LED is 15,000 hours (approximately 15 years), the lifetime used to estimate program impacts needs to be significantly reduced to recognize the likelihood that the socket filled by a program lamp would have had an LED installed anyway within a few years even in absence of the program.
- **Volume sales will decrease:** The increasing saturation and longer lifetime of LEDs means that fewer sockets will turn over naturally, leading to lower year-over-year

sales. Even direct installation programs will find less sockets in a home that contain inefficient lamps.

- **Gross savings could decrease:** As the saturation of efficient lamps increases, it is likely that the remaining sockets will be in lower-use areas, leading to declining hours of use and gross savings.

Despite these factors, there remain no residential measures to replace the magnitude or cost-effectiveness of lighting (note that commercial and industrial linear lighting remains an opportunity, but most portfolios try to keep an equitable balance between residential and commercial savings). In fact, the acquisition cost of residential lighting, even with a low NTG ratio and a significantly reduced lifetime, may still outperform many of the alternatives.

Note that CREED Light Tracker is keeping a close pulse on the market throughout 2019 and 2020. We are currently preparing to update our sales data analysis reports with 2019 data. We will also conduct a shelf-stocking analysis in non-program states in the summer of 2020 to assess the availability and sales of LEDs vs. incandescent and halogen alternatives. For more information on our upcoming research or how the recent DOE decisions might impact your programs, please contact Scott Dimetrosky at (303) 590-9888 x101, or email scottd@apexanalyticsllc.com.

About CREED

In order to solve a problem plaguing the energy efficiency industry for many years, in 2012 Apex Analytics created the Consortium for Retail Energy Efficiency Data (CREED). CREED serves as a consortium of program administrators, retailers, and manufacturers working together to collect the necessary data to better plan and evaluate energy efficiency programs. LightTracker is the first initiative of CREED, focusing on acquiring full-category lighting data, including incandescent, halogen, CFL, and LED bulb types, for all distribution channels and for the entire U.S. As a consortium, CREED speaks as one voice for the program administrators nationwide when requesting, collecting and reporting on the sales data needed by the energy efficiency community.

CREED currently has contracts with major utilities to develop a second initiative that will help monitor Commercial and Industrial energy efficient lighting sales. This initiative is working to obtain point of sale data from electrical distributors to foster better incentive programs from utilities. Over the last five years CREED LightTracker, has become the de facto source for residential lighting sales reporting and is used by utilities from California to Massachusetts.