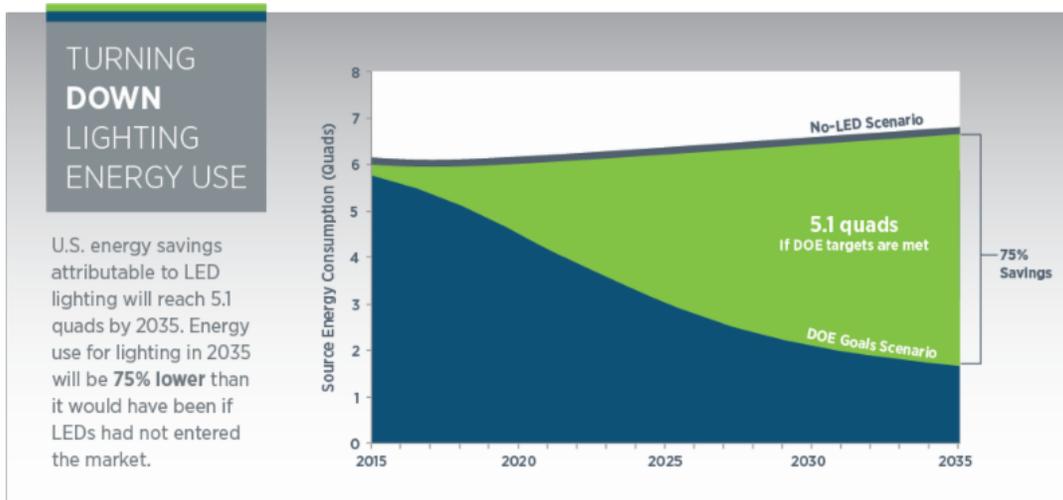


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## A New Forecast of Energy Savings from LED Lighting

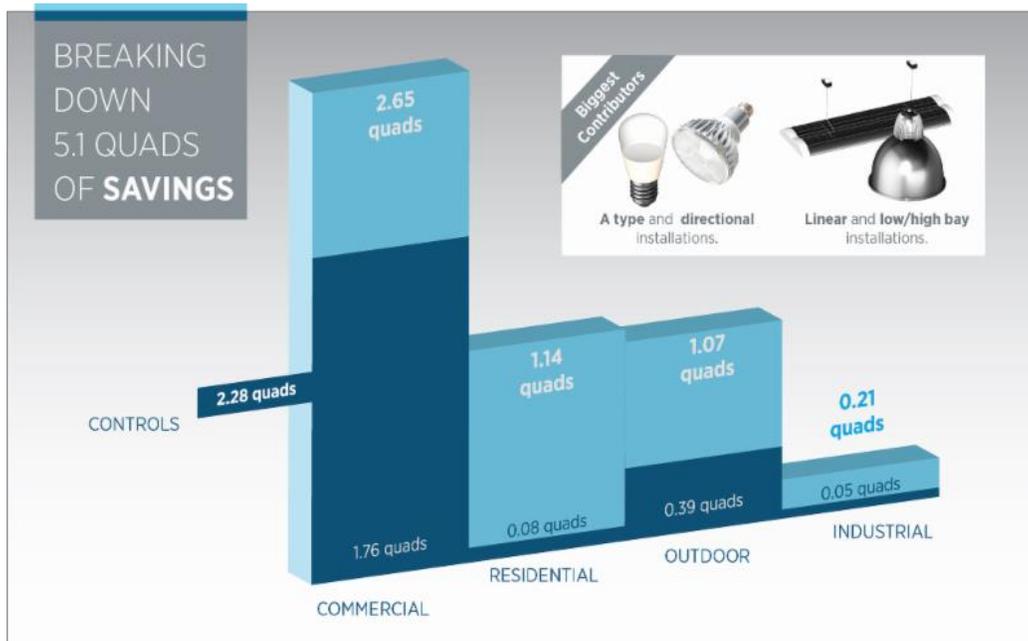
Today DOE published the latest edition of its biannual report, [Energy Savings Forecast of Solid-State Lighting in General Illumination Applications](#), and the findings are eye-opening. The report models the adoption of LEDs in the U.S. general-lighting market, along with associated energy savings, based on the full potential DOE has determined to be technically feasible over time. The new report uses an updated 2016 U.S. lighting-market model that's more finely tuned and granular than previous models, and extends the forecast period to 2035 from the 2030 limit that was used in previous editions. This *Posting* offers a sneak peek at key takeaways.

SSL doesn't just slow the growth rate for lighting-energy consumption; it turns the consumption curve downward — and that curve keeps going down through the extended forecast period. Whereas annual savings by 2030 had been estimated at 4.5 quads in previous forecasts (essentially cutting U.S. lighting energy use in half compared to where it would have been if LED lighting had not entered the market), the newest projection steps up that estimated savings to 5.1 quads in 2035, representing a 75% reduction in energy consumption versus a no-LED scenario. That savings is nearly equivalent to the total annual energy consumed by 45 million U.S. homes today, but it represents an even greater opportunity when the cumulative savings are considered. From 2015 to 2035, a total cumulative energy savings of 62 quads — equivalent to nearly \$630 billion in avoided energy costs — is possible if the DOE SSL Program goals for LED efficacy and connected lighting are achieved.



Energy savings in the near term will also be impressive. Various forecasts conclude that LED lighting will have tremendous growth over the remainder of this decade, reaching anywhere from a quarter to upwards of 80% of lighting sales by 2020. The new DOE report estimates that LEDs will constitute about 30% of U.S. lighting installations by 2020, which is on the conservative side compared to other forecasts. Regardless, the annual energy savings in 2020 estimated by DOE is substantial, topping 1.5 quads if DOE targets are met.

LED products will dominate every general lighting niche. By 2035, LED lamps and luminaires are anticipated to hold the majority of lighting installations for each of the niches examined, comprising 86% of installed stock across all categories (compared to only 6% in 2015).



By far the biggest energy savings will come from four product categories plus connected-lighting technology. As shown in the graphic above, most of the 5.1 quads of projected energy savings by 2035 will be attributable to two commercial lighting applications (linear and low/high-bay), one residential application (A-type), and one that crosses both residential and commercial (directional). Connected lighting and other control technologies will be essential in achieving these savings, accounting for almost 2.3 quads of the total.

The lighting-market model used in this year's report is more finely calibrated than previous models, since it incorporates additional years of historical LED market-share data. The enhanced model will be used not only in future DOE forecast reports, but also in our biennial market-snapshot report, [Adoption of Light-Emitting Diodes in Common Lighting Applications](#).

Though all forecasts lack certainty, the findings present a thorough overview of where the lighting market is currently headed and will be of use to manufacturers, suppliers, and

other lighting-industry stakeholders as the transition to LED technology moves forward. For a closer look at the findings, download the [full report](#).

Best regards,  
Jim Brodrick

As always, if you have questions or comments, you can reach us at [postings@akoyaonline.com](mailto:postings@akoyaonline.com).