

Lower cost of LEDs reduce profitability for manufacturing landscape

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Although residential and commercial industries are widely adopting energy-efficient light emitting diodes (LEDs), the drop in LED prices is driving away manufacturers because of decreased profitability, dramatically dislocating and restructuring the solid-state lighting marketplace, says a new National Academies of Sciences, Engineering, and Medicine [report](#).

Since the last Academies [report](#) in 2013 that assessed the state of [solid-state lighting](#)—which uses diodes, a semiconductor technology, as an alternative [light](#) source to incandescent bulbs—the annual residential installation of LED bulbs has increased sixfold between 2012 and 2014, from 13 million to 78 million. The report also cites the emergence of new applications for solid-state lighting that have the potential to create new markets and commercial opportunities for the industry, as well as add value to aspects related to quality of life. For example, product and [lighting designers](#) are exploring options that collect and process data from the illuminated environment and offer additional features to consumers.

Developing new products with multiple features that offer functions beyond illumination could promise higher margins for manufacturers, said the committee that conducted the study and wrote the new report. The report warns that the successful proliferation of such applications would not focus on the reduction of energy consumption alone, but the U.S. Department of Energy (DOE) should think of ways to continue to improve their efficiency, given their inevitable growth. The committee

recommended developing strategies for supporting broader research that enables more efficient use of light across all applications, with attention to both the lighting design process and the design of lighting products.

With the possible emergence of new applications for solid state lighting, both consumers and industry need to be more fully educated about the transformative and broader implications of solid state lighting, the report highlights. To achieve this, DOE should partner with industry, states, and utility companies to develop and implement a public outreach program to deploy [solid-state lighting](#).

Provided by National Academies of Sciences, Engineering, and Medicine

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