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Commercial & Industrial Lighting Lifetime and Peak Demand Savings Analysis: Alliance to Save Energy November Report

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The Alliance to Save Energy ("Alliance") issued a November 5th report titled:

Commercial & Industrial Lighting Lifetime and Peak Demand Savings Analysis ("Report")

The *Report* was prepared for Alliance and funded by GE Current in partnership with the DesignLights Consortium.

The *Report* notes that prior research has found that significant unrealized energy and demand savings potential exist for commercial and industrial light-emitting diode (LED) lighting and networked lighting controls. It contends, however, that such potential is underrepresented by the reliance on annual energy savings as a decision-making tool for utility energy efficiency programs.

The fact that energy efficiency measures can last for significant periods of time is stated to mean that lifetime savings (i.e., the sum of a measure's annual savings over its expected useful life) is a better representation of the lifetime economic value and environmental impact of a measure.

Peak demand savings is described as representing the demand (power) savings expected:

. . . during a utility's peak demand periods.

This is stated to often reflect the most important grid system impacts expected from a measure.

The *Report* was prepared to "better understand the lifetime and peak demand savings potential from commercial and industrial lighting efficiency measures."

Key Research Insights described in the *Report* include:

- TRM Measure Assumptions
- Many EE programs are underestimating benefits by using overly conservative assumptions for lighting control measure life and savings potential
- Lifetime Savings
- Focusing on annual (first-year) savings grossly underrepresents the true savings potential over the life of the measure.
- Annual (first-year) savings goals inadvertently encourage the promotion of short-lived measures.
- System Approach

- Treating LED-NLC as a system can improve cost-effectiveness since the NLC lifetime savings increase by 22%.
- Combining LED-NLC encourages integration with other building systems (e.g. HVAC).
- EE programs treat NLC as an independent measure from LED, with shorter lifetime measures.
- Peak Demand Reduction
- The potential peak demand savings from indoor LED combined with networked lighting controls is significant, since coincidence with summer peak is high in most areas.
- Summer peak savings could equal 5% of today's fossil fuel capacity by 2035.

A copy of the Report can be downloaded [here](#).