

Advanced Lighting Energy Savings and Application Support

PNNL's extensive history of evaluating lighting systems and their application affords its researchers a thorough understanding of the technology and how it affects realistic application. Our experience ranges from assessing single application issues to prioritizing large site programs with applicable technology choices and effective economic analysis. We specialize in:

Applying Advanced Lighting Technologies

Our staff have extensive knowledge of all lighting technologies, including LED. PNNL's nearly 10-year operation of the Solid State Lighting (SSL) LED program for the U.S. Department of Energy has developed complete understanding of how LEDs work and allows us to find the best applications for them.

Evaluating Technologies in the Field

Researchers at PNNL have expertise in effective field measurements of both interior and exterior lighting. This includes a practical understanding of the value and limitations of the data as well its appropriate use.

Developing Specifications for Applications

PNNL has developed lighting technology specifications for both interior and exterior applications. We can tailor energy and performance documents for Federal and commercial facility needs.

Realistic Economic Analysis

Our staff understand the power of an economic evaluation and we apply the most relevant methods as well as practical understanding of the technology and

PNNL provides complete and unbiased lighting technology evaluation and application guidance. We use our unique combination of technology expertise, evaluation proficiency, and decades of experience to support effective energy projects.



site. This results in realistic project valuations based on Federal and commercial operational needs.

Technology Testing

PNNL operates a nationally accredited lighting test laboratory that can provide accurate testing of non-standard lighting products for comparison and application evaluation.

Performing Facility and Energy Assessment Audits

PNNL has managed multiple large energy programs for the government and armed forces that include significant assessments of existing and retrofit lighting applications. As part of this work, we have developed effective information collection and auditing methods.

Although PNNL cannot recommend specific manufacturers products, we do apply our extensive lighting knowledge and experience to provide useful guidance that leads to putting the right products in the right applications for maximum energy savings.

A brief review of PNNL's lighting experience

PNNL began evaluating lighting energy savings for Federal agencies in the 1990s. Since then, our expertise has grown to encompass complete lighting assessment capabilities, including testing. We have played key roles in a wide range of projects that involve lighting, including:

- » **Military and Federal Agency Site Assessments.** PNNL has completed hundreds of facility and installation lighting evaluations from initial prioritization through project development. Our clients include the U.S. Army, U.S. Navy, U.S. Air Force, U.S. General Services Administration, U.S. Post Office, U.S. Department of Justice, U.S. National Park Service, the Federal Energy Management Program, and others.
- » **Building Alliance Support.** We provide ongoing technical support to the DOE Better Building Alliance. In this role, we apply our expertise to the development of advanced lighting application specifications and demonstration projects useful in lighting project evaluation.
- » **Lighting Industry Involvement and Recognition.** Many of our researchers are active members in lighting industry technical activities, including chairing Standards, Test Method, and Codes committees. Many also are nationally recognized in the lighting industry, authoring technical papers and participating as Fellows of the Illuminating Engineering Society.



- » **Energy Code Development.** Since the early 1990s, PNNL has led the building codes program for DOE which involves the development of nationally adopted lighting energy codes that drive building energy efficiency. Our work provides a thorough understanding of the basis for code requirements as well as their application to more efficient buildings.
- » **Lighting Product Standards and Test Methods Development.** PNNL is involved in the development of nationally applied lighting test methods as well as Federal lighting product standards, giving our researchers intimate knowledge of these requirements and their use in lighting applications.

For more information, contact:

Kelly Gordon

(503) 417.7558 | Kelly.Gordon@pnnl.gov

Todd Samuel

(509) 375.6707 | Todd.Samuel@pnnl.gov



Proudly Operated by **Battelle** *Since 1965*